RTI Laboratories, Inc.

Date: *21-Oct.-11*

CLIENT: Shaw Environmental & Infrastructure, Inc.
Project: Kirtland AFB
CO#: 501
Tracking #: 140705-036A
Project No.: 140705
Prime Contract: W912DY-10-D0014
Task Order: 02
Lab Order: 1108688

CASE NARRATIVE

SAMPLE RECEIPT:
Samples were received at the RTI Laboratory, Livonia, MI via commercial delivery on 8/18/2011. Samples were received in good condition. The sample set consisted of 25 air samples.

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

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.

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

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

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

Signed: Charles O'Bryan, Director, Quality Management

Date: 10/21/2011

Shaw
Shaw E & I, Inc.

1108688

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV018
Page 1 of 3

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

Samples Shipment Date: 12 AUG 2011
Lab Destination: R11 Laboratories
Lab Contact: Mike Trucklin
Project Contact: Pamela Moss
Carrier/Waybill No: UPS:0323131091

Bill To: Shaw Environmental, Inc. - Accounts P
PO Box 98512,
Baton Rouge LA 70884

Report To: Pamela Moss
7804 Technology Way Suite 300
Denver CO 80237

Special Instructions:

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

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

1. Relinquished By (Signature/Affiliation) — Date: 8/12/11 Time: 1410
2. Relinquished By (Signature/Affiliation) — Date: Time:
3. Relinquished By (Signature/Affiliation) — Date: Time:

1. Received By (Signature/Affiliation) — Date: 8/15/11 Time: 1100
2. Received By (Signature/Affiliation) — Date: Time:
3. Received By (Signature/Affiliation) — Date: Time:

Comments:

	Sample No	Sample Name	Sample Date	Sample Time	Container	Cir Qty	Preservative	Requested Testing Program	Sample Vol	Units	Fil	CID	Condition On Receipt
1	[illegible]	[illegible]	[illegible]	13:39	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		68
	[illegible]	[illegible]	[illegible]	13:39	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
2	[illegible]	[illegible]	[illegible]	14:51	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		77
	[illegible]	[illegible]	[illegible]	14:51	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
3	[illegible]	[illegible]	[illegible]	15:44	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		79
	[illegible]	[illegible]	[illegible]	15:44	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
4	[illegible]	[illegible]	[illegible]	16:43	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by			N		45

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV018

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	Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Sample Vol	Units	Filt	CID	Condition On Receipt
	[illegible]	[illegible]	[illegible]	15:44	1 L Tedlar Bag	1	None Required	MA DEP, VOCs / TPH by TO-15 Fixed Gases by ASTM D2504			N		
5	[illegible]	[illegible]	[illegible]	9:26	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		78
	[illegible]	[illegible]	[illegible]	9:26	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
6	[illegible]	[illegible]	[illegible]	10:07	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		76
	[illegible]	[illegible]	[illegible]	10:07	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
7	[illegible]	[illegible]	[illegible]	10:50	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		74
	[illegible]	[illegible]	[illegible]	10:50	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
8	[illegible]	[illegible]	[illegible]	13:27	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		44
	[illegible]	[illegible]	[illegible]	13:27	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
9	[illegible]	[illegible]	[illegible]	14:20	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		33
	[illegible]	[illegible]	[illegible]	14:20	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
10	[illegible]	[illegible]	[illegible]	14:26	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		50
	[illegible]	[illegible]	[illegible]	14:26	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
11	[illegible]	[illegible]	[illegible]	15:14	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		42
	[illegible]	[illegible]	[illegible]	15:14	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
12	[illegible]	[illegible]	[illegible]	10:40	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		554
	[illegible]	[illegible]	[illegible]	10:40	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
13	[illegible]	[illegible]	[illegible]	13:47	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		621
	[illegible]	[illegible]	[illegible]	13:47	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
14	[illegible]	[illegible]	[illegible]	15:18	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		620
	[illegible]	[illegible]	[illegible]	15:18	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
15	[illegible]	[illegible]	[illegible]	11:41	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		609
	[illegible]	[illegible]	[illegible]	11:41	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
16	[illegible]	[illegible]	[illegible]	12:19	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		101
	[illegible]	[illegible]	[illegible]	12:19	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		
17	[illegible]	[illegible]	[illegible]	12:57	1 L BOTTLEVAC	1	None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		40
	[illegible]	[illegible]	[illegible]	12:57	1 L Tedlar Bag	1	None Required	Fixed Gases by ASTM D2504			N		

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No 140705.SV018
Page 3 of 3

Sample No	Sample Name	Sample Date	Sample Time	Container	Preservative	Requested Testing Program	Sample Vol	Units	Filt	CID	Condition On Receipt
18	[illegible]	[illegible]	12:57	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		534
	[illegible]	[illegible]	12:57	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
19	[illegible]	[illegible]	13:57	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		112
	[illegible]	[illegible]	13:57	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
20	[illegible]	[illegible]	15:36	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		604
	[illegible]	[illegible]	15:36	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
21	[illegible]	[illegible]	16:14	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		611
	[illegible]	[illegible]	16:14	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
22	[illegible]	[illegible]	9:03	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		613
	[illegible]	[illegible]	9:03	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
23	[illegible]	[illegible]	9:50	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		579
	[illegible]	[illegible]	9:50	1 L Tedlar Bag	1 None Required	Fixed Gases by ASTM D2504			N		
24	[illegible]	[illegible]	13:55	1 L BOTTLEVAC	1 None Required	Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15			N		558
25	[illegible]	[illegible]	13:55	1 L BOTTLEVAC	1 None Required	VOCs / TPH by TO-15			N		577

FROM:
RONDA BAILEY
(505) 897-9041
KAPLEY/TSHAVITZ & J, INC.
8100 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

50 LBS 1 OF 2
DWT: 23,23,13

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4264 0836

SHIP TO:
MICHAEL TRUCHAN
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
LIVONIA, MI 48150

REF 1: 140705
REF 2: ba010030

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

Fold here and place in label pouch

T - 10 Door : 1249
UPST 345870 MI 48150
MI 482 9-02

UPS GROUND

1Z10335E0342640836

P290190 1574323 Aug 16 23:21:51 2011 US 86059 N

WS2K59 HIP 7.0.1 BTLP2844L

RTI LABORATORIES
31628 GLENDALE ST
LIVONIA MI 48150

P: RED2 S: MNITE K3
19F - FL2

CUSTODY SEAL
DATE 4/2/12
SIGNATURE

www.ammara.com

FROM:
RONDA BAILEY
(505) 915-0645
KAFB BIFT/SHAW E&I INC
5237 RANDOLPH AVE SI
KIRTLAND AFB NM 87117

10 LBS 2 OF 2
DWT: 24.14.14

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4063 6247

SHIP TO:
MICHAEL TRUCHAN
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
LIVONIA MI 48150

REF 1:140705
REF 2:ba010030

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

Fold here and place in label pouch

T - 10 Door : 1249
MI 48150
UPST 345870 MI 482 9-02

UPS GROUND

1Z10335E0340636247

P280190 3178403 Aug 16 23:14:21 2011 US 06059 11

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MNITE 63
19F - FL2
1Z 103 35E 03 4063 6247

CUSTODY SEAL
DATE
SIGNATURE

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

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Sample Receipt Checklist

Client Name: **SHA04** Date and Time Received: **8/18/2011 11:00:00 AM**

Work Order Number **1108688** RcptNo: **1** Received by: **Christine Conradis**

Completed by: Reviewed by:

Completed Date: 8/18/2011 4:42:55 PM Reviewed Date: 8/23/2011 7:20:24 PM

Carrier name: UPS

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐	Not Present	☐
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container lables complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☐	No ☑		
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☐	No ☑		
Response when temperature is outside of range:	Not required			
Preservative added to bottles:				
Sample Temp. taken and recorded upon receipt?	Yes ☐	No ☑	To	°C
Water - Were bubbles absent in VOC vials?	Yes ☐	No ☐	No Vials	☑
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	No Water	☑
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☐	No ☑		
Traffic Report or Packing Lists present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☑	Sticker ☐	Not Present	☐
Airbill No:	1Z10335E0342640836			
Sample Tags Present?	Yes ☐	No ☑		
Sample Tags Listed on COC?	Yes ☐	No ☑		
Tag Numbers:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐

Case Number: SDG: SAS:

Adjusted? _____ Checked by

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

SampID	ContainerID	Type	Org pH	Adj pH	Req Min pH	Req Max pH
1108688-001A	Container-01 of 01	Bottle				
1108688-001B	Container-01 of 01	Bottle				
1108688-002A	Container-01 of 01	Bottle				
1108688-002B	Container-01 of 01	Bottle				
1108688-003A	Container-01 of 01	Bottle				
1108688-003B	Container-01 of 01	Bottle				
1108688-004A	Container-01 of 01	Bottle				
1108688-004B	Container-01 of 01	Bottle				
1108688-005A	Container-01 of 01	Bottle				
1108688-005B	Container-01 of 01	Bottle				
1108688-006A	Container-01 of 01	Bottle				
1108688-006B	Container-01 of 01	Bottle				
1108688-007A	Container-01 of 01	Bottle				
1108688-007B	Container-01 of 01	Bottle				
1108688-008A	Container-01 of 01	Bottle				
1108688-008B	Container-01 of 01	Bottle				
1108688-009A	Container-01 of 01	Bottle				
1108688-009B	Container-01 of 01	Bottle				
1108688-010A	Container-01 of 01	Bottle				
1108688-010B	Container-01 of 01	Bottle				
1108688-011A	Container-01 of 01	Bottle				
1108688-011B	Container-01 of 01	Bottle				
1108688-012A	Container-01 of 01	Bottle				
1108688-012B	Container-01 of 01	Bottle				
1108688-013A	Container-01 of 01	Bottle				
1108688-013B	Container-01 of 01	Bottle				
1108688-014A	Container-01 of 01	Bottle				
1108688-014B	Container-01 of 01	Bottle				
1108688-015A	Container-01 of 01	Bottle				
1108688-015B	Container-01 of 01	Bottle				
1108688-016A	Container-01 of 01	Bottle				
1108688-016B	Container-01 of 01	Bottle				
1108688-017A	Container-01 of 01	Bottle				
1108688-017B	Container-01 of 01	Bottle				

SampID	ContainerID	Type	Org pH	Adj pH	Req Min pH	Req Max pH
1108688-018A	Container-01 of 01	Bottle				
1108688-018B	Container-01 of 01	Bottle				
1108688-019A	Container-01 of 01	Bottle				
1108688-019B	Container-01 of 01	Bottle				
1108688-020A	Container-01 of 01	Bottle				
1108688-020B	Container-01 of 01	Bottle				
1108688-021A	Container-01 of 01	Bottle				
1108688-021B	Container-01 of 01	Bottle				
1108688-022A	Container-01 of 01	Bottle				
1108688-022B	Container-01 of 01	Bottle				
1108688-023A	Container-01 of 01	Bottle				
1108688-023B	Container-01 of 01	Bottle				
1108688-024A	Container-01 of 01	Bottle				
1108688-025A	Container-01 of 01	Bottle				

Adjusted? _____ Checked by _____

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

Client Contacted? ☐ Yes ☑ No ☐ NA Person Contacted: Comments:

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

Client Instructions:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Workorder Sample Summary

WO#: **1108688**

20-Oct-11

CLIENT: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1108688-001	VA0492		8/8/2011 1:39:00 PM	8/18/2011 11:00:00 AM	Air
1108688-001	VA0492		8/8/2011 1:39:00 PM	8/18/2011 11:00:00 AM	Air
1108688-002	VA0493		8/8/2011 2:31:00 PM	8/18/2011 11:00:00 AM	Air
1108688-002	VA0493		8/8/2011 2:31:00 PM	8/18/2011 11:00:00 AM	Air
1108688-003	VA0494		8/8/2011 3:44:00 PM	8/18/2011 11:00:00 AM	Air
1108688-003	VA0494		8/8/2011 3:44:00 PM	8/18/2011 11:00:00 AM	Air
1108688-004	VA0495		8/8/2011 3:44:00 PM	8/18/2011 11:00:00 AM	Air
1108688-004	VA0495		8/8/2011 3:44:00 PM	8/18/2011 11:00:00 AM	Air
1108688-005	VA0496		8/5/2011 9:26:00 AM	8/18/2011 11:00:00 AM	Air
1108688-005	VA0496		8/5/2011 9:26:00 AM	8/18/2011 11:00:00 AM	Air
1108688-006	VA0497		8/5/2011 10:07:00 AM	8/18/2011 11:00:00 AM	Air
1108688-006	VA0497		8/5/2011 10:07:00 AM	8/18/2011 11:00:00 AM	Air
1108688-007	VA0498		8/5/2011 10:50:00 AM	8/18/2011 11:00:00 AM	Air
1108688-007	VA0498		8/5/2011 10:50:00 AM	8/18/2011 11:00:00 AM	Air
1108688-008	VA0499		8/5/2011 1:27:00 PM	8/18/2011 11:00:00 AM	Air
1108688-008	VA0499		8/5/2011 1:27:00 PM	8/18/2011 11:00:00 AM	Air
1108688-009	VA0500		8/5/2011 2:20:00 PM	8/18/2011 11:00:00 AM	Air
1108688-009	VA0500		8/5/2011 2:20:00 PM	8/18/2011 11:00:00 AM	Air
1108688-010	VA0501		8/5/2011 2:20:00 PM	8/18/2011 11:00:00 AM	Air
1108688-010	VA0501		8/5/2011 2:20:00 PM	8/18/2011 11:00:00 AM	Air
1108688-011	VA0502		8/5/2011 3:14:00 PM	8/18/2011 11:00:00 AM	Air
1108688-011	VA0502		8/5/2011 3:14:00 PM	8/18/2011 11:00:00 AM	Air
1108688-012	VA0515		8/11/2011 10:40:00 AM	8/18/2011 11:00:00 AM	Air
1108688-012	VA0515		8/11/2011 10:40:00 AM	8/18/2011 11:00:00 AM	Air
1108688-013	VA0606		8/3/2011 2:47:00 PM	8/18/2011 11:00:00 AM	Air
1108688-013	VA0606		8/3/2011 2:47:00 PM	8/18/2011 11:00:00 AM	Air
1108688-014	VA0607		8/3/2011 3:19:00 PM	8/18/2011 11:00:00 AM	Air
1108688-014	VA0607		8/3/2011 3:19:00 PM	8/18/2011 11:00:00 AM	Air
1108688-015	VA0608		8/4/2011 11:41:00 AM	8/18/2011 11:00:00 AM	Air
1108688-015	VA0608		8/4/2011 11:41:00 AM	8/18/2011 11:00:00 AM	Air
1108688-016	VA0609		8/4/2011 12:19:00 PM	8/18/2011 11:00:00 AM	Air
1108688-016	VA0609		8/4/2011 12:19:00 PM	8/18/2011 11:00:00 AM	Air
1108688-017	VA0610		8/4/2011 12:57:00 PM	8/18/2011 11:00:00 AM	Air
1108688-017	VA0610		8/4/2011 12:57:00 PM	8/18/2011 11:00:00 AM	Air

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Workorder Sample Summary

WO#: **1108688**

20-Oct-11

CLIENT: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1108688-018	VA0611		8/4/2011 12:57:00 PM	8/18/2011 11:00:00 AM	Air
1108688-018	VA0611		8/4/2011 12:57:00 PM	8/18/2011 11:00:00 AM	Air
1108688-019	VA0612		8/4/2011 1:57:00 PM	8/18/2011 11:00:00 AM	Air
1108688-019	VA0612		8/4/2011 1:57:00 PM	8/18/2011 11:00:00 AM	Air
1108688-020	VA0675		8/2/2011 3:36:00 PM	8/18/2011 11:00:00 AM	Air
1108688-020	VA0675		8/2/2011 3:36:00 PM	8/18/2011 11:00:00 AM	Air
1108688-021	VA0676		8/2/2011 4:14:00 PM	8/18/2011 11:00:00 AM	Air
1108688-021	VA0676		8/2/2011 4:14:00 PM	8/18/2011 11:00:00 AM	Air
1108688-022	VA0677		8/3/2011 9:03:00 AM	8/18/2011 11:00:00 AM	Air
1108688-022	VA0677		8/3/2011 9:03:00 AM	8/18/2011 11:00:00 AM	Air
1108688-023	VA0678		8/3/2011 9:50:00 AM	8/18/2011 11:00:00 AM	Air
1108688-023	VA0678		8/3/2011 9:50:00 AM	8/18/2011 11:00:00 AM	Air
1108688-024	VA0686-R		8/10/2011 2:22:00 PM	8/18/2011 11:00:00 AM	Air
1108688-025	VA8035-TB		8/3/2011 12:00:00 PM	8/18/2011 11:00:00 AM	Air

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

DATES REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1108688-001A	VA0492	8/8/2011 1:39:00 PM	Air	Air-Phase Petroleum Hydrocarbons			8/31/2011 3:29:00 PM
				Volatile Organic Compounds			10/6/2011 10:40:00 PM
1108688-001B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 12:18:00 PM
1108688-002A	VA0493	8/8/2011 2:31:00 PM		Air-Phase Petroleum Hydrocarbons			8/31/2011 4:57:00 PM
				Volatile Organic Compounds			10/6/2011 11:25:00 PM
1108688-002B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 12:52:00 PM
1108688-003A	VA0494	8/8/2011 3:44:00 PM		Air-Phase Petroleum Hydrocarbons			9/1/2011 1:34:00 PM
				Volatile Organic Compounds			10/7/2011 7:52:00 AM
1108688-003B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 1:10:00 PM
1108688-004A	VA0495			Air-Phase Petroleum Hydrocarbons			9/1/2011 2:17:00 PM
				Volatile Organic Compounds			10/7/2011 8:34:00 AM
1108688-004B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 1:47:00 PM
1108688-005A	VA0496	8/5/2011 9:26:00 AM		Air-Phase Petroleum Hydrocarbons			9/1/2011 5:09:00 PM
				Volatile Organic Compounds			10/5/2011 9:27:00 AM
1108688-005B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 2:06:00 PM
1108688-006A	VA0497	8/5/2011 10:07:00 AM		Air-Phase Petroleum Hydrocarbons			8/30/2011 7:11:00 PM
				Volatile Organic Compounds			10/5/2011 1:14:00 PM
1108688-006B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 2:25:00 PM
1108688-007A	VA0498	8/5/2011 10:50:00 AM		Air-Phase Petroleum Hydrocarbons			8/30/2011 7:54:00 PM
				Volatile Organic Compounds			10/11/2011 12:16:00 AM
1108688-007B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 2:44:00 PM

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WO#: **1108688**

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Project: Kirtland AFB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1108688-008A	VA0499	8/5/2011 1:27:00 PM	Air	Air-Phase Petroleum Hydrocarbons			8/30/2011 8:36:00 PM
				Volatile Organic Compounds			10/5/2011 2:42:00 PM
1108688-008B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 3:23:00 PM
1108688-009A	VA0500	8/5/2011 2:20:00 PM		Air-Phase Petroleum Hydrocarbons			8/30/2011 9:21:00 PM
				Volatile Organic Compounds			10/5/2011 3:28:00 PM
1108688-009B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 3:44:00 PM
1108688-010A	VA0501			Air-Phase Petroleum Hydrocarbons			8/31/2011 12:59:00 PM
				Volatile Organic Compounds			10/5/2011 11:47:00 AM
1108688-010B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 4:03:00 PM
1108688-011A	VA0502	8/5/2011 3:14:00 PM		Air-Phase Petroleum Hydrocarbons			9/1/2011 3:42:00 PM
				Volatile Organic Compounds			10/7/2011 3:15:00 PM
1108688-011B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 5:03:00 PM
1108688-012A	VA0515	8/11/2011 10:40:00 AM		Air-Phase Petroleum Hydrocarbons			9/22/2011 5:17:00 PM
				Volatile Organic Compounds			9/22/2011 7:13:00 PM
1108688-012B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 5:23:00 PM
1108688-013A	VA0606	8/3/2011 2:47:00 PM		Air-Phase Petroleum Hydrocarbons			8/25/2011 9:28:00 PM
				Volatile Organic Compounds			10/5/2011 4:10:00 AM
1108688-013B				Noncondensable Gases and Light Hydrocarbons			8/29/2011 5:45:00 PM
1108688-014A	VA0607	8/3/2011 3:19:00 PM		Air-Phase Petroleum Hydrocarbons			8/25/2011 10:11:00 PM
				Volatile Organic Compounds			10/5/2011 4:54:00 AM
1108688-014B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 2:40:00 PM

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WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1108688-015A	VA0608	8/4/2011 11:41:00 AM	Air	Air-Phase Petroleum Hydrocarbons			8/25/2011 10:54:00 PM
				Volatile Organic Compounds			10/5/2011 5:39:00 AM
1108688-015B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 4:19:00 PM
1108688-016A	VA0609	8/4/2011 12:19:00 PM		Air-Phase Petroleum Hydrocarbons			8/25/2011 11:37:00 PM
				Volatile Organic Compounds			10/5/2011 5:03:00 PM
1108688-016B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 4:44:00 PM
1108688-017A	VA0610	8/4/2011 12:57:00 PM		Air-Phase Petroleum Hydrocarbons			8/30/2011 4:16:00 PM
				Volatile Organic Compounds			10/5/2011 7:11:00 AM
1108688-017B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 5:13:00 PM
1108688-018A	VA0611			Air-Phase Petroleum Hydrocarbons			8/30/2011 5:01:00 PM
				Volatile Organic Compounds			10/5/2011 7:56:00 AM
1108688-018B				Noncondensable Gases and Light Hydrocarbons			9/2/2011 1:42:00 PM
1108688-019A	VA0612	8/4/2011 1:57:00 PM		Air-Phase Petroleum Hydrocarbons			8/30/2011 5:46:00 PM
				Volatile Organic Compounds			10/5/2011 8:42:00 AM
1108688-019B				Noncondensable Gases and Light Hydrocarbons			9/2/2011 2:33:00 PM
1108688-020A	VA0675	8/2/2011 3:36:00 PM		Air-Phase Petroleum Hydrocarbons			8/25/2011 6:35:00 PM
				Volatile Organic Compounds			10/4/2011 11:03:00 PM
1108688-020B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 1:52:00 PM
1108688-021A	VA0676	8/2/2011 4:14:00 PM		Air-Phase Petroleum Hydrocarbons			8/25/2011 7:18:00 PM
				Volatile Organic Compounds			10/4/2011 11:47:00 PM
1108688-021B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 2:16:00 PM

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20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
1108688-022A	VA0677	8/3/2011 9:03:00 AM	Air	Air-Phase Petroleum Hydrocarbons			8/25/2011 8:01:00 PM
				Volatile Organic Compounds			10/5/2011 12:32:00 AM
1108688-022B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 5:36:00 PM
1108688-023A	VA0678	8/3/2011 9:50:00 AM		Air-Phase Petroleum Hydrocarbons			8/25/2011 8:45:00 PM
				Volatile Organic Compounds			10/5/2011 1:16:00 AM
1108688-023B				Noncondensable Gases and Light Hydrocarbons			9/1/2011 5:56:00 PM
1108688-024A	VA0686-R	8/10/2011 2:22:00 PM		Air-Phase Petroleum Hydrocarbons			9/1/2011 2:44:00 AM
				Volatile Organic Compounds			9/22/2011 7:09:00 AM
1108688-025A	VA8035-TB	8/3/2011 12:00:00 PM		Volatile Organic Compounds			10/5/2011 11:04:00 AM

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 1:39:00 PM

Project: Kirtland AFB

Lab ID: 1108688-001 **Matrix:** AIR

Client Sample ID VA0492

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.44	0.10		%	1	8/29/2011 12:18:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 12:18:00 PM
Methane	ND	0.50		%	1	8/29/2011 12:18:00 PM
Nitrogen	79	0.10		%	1	8/29/2011 12:18:00 PM
Oxygen	20	0.10		%	1	8/29/2011 12:18:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,3-Butadiene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
1,4-Dioxane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
2-Butanone	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
2-Hexanone	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
2-Propanol	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Acetone	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Benzene	1,400	800	H	ppbv	800	10/6/2011 10:40:00 PM
Benzyl chloride	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Bromodichloromethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Bromoform	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 1:39:00 PM

Project: Kirtland AFB

Lab ID: 1108688-001 **Matrix:** AIR

Client Sample ID VA0492

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Carbon disulfide	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Carbon tetrachloride	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Chlorobenzene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Chlorodibromomethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Chloroethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Chloroform	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Chloromethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Cyclohexane	1,900	1,600	H	ppbv	800	10/6/2011 10:40:00 PM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Ethanol	ND	4,000	H	ppbv	800	10/6/2011 10:40:00 PM
Ethyl acetate	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Ethylbenzene	ND	1,600	H	ppbv	800	10/6/2011 10:40:00 PM
Heptane	1,400	800	H	ppbv	800	10/6/2011 10:40:00 PM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/6/2011 10:40:00 PM
m,p-Xylene	ND	1,600	H	ppbv	800	10/6/2011 10:40:00 PM
Methylene chloride	ND	4,000	H	ppbv	800	10/6/2011 10:40:00 PM
Naphthalene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
n-Hexane	1,700	1,600	H	ppbv	800	10/6/2011 10:40:00 PM
o-Xylene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Propylene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Styrene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Tetrachloroethene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Tetrahydrofuran	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Toluene	2,200	800	H	ppbv	800	10/6/2011 10:40:00 PM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Trichloroethene	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Vinyl acetate	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM
Vinyl chloride	ND	800	H	ppbv	800	10/6/2011 10:40:00 PM

Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 1:39:00 PM

Project: Kirtland AFB

Lab ID: 1108688-001 **Matrix:** AIR

Client Sample ID VA0492

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	2,400	H	ppbv	800	10/6/2011 10:40:00 PM
Surr: 4-Bromofluorobenzene	115	70-130	H	%REC	800	10/6/2011 10:40:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	180,000	94,000		µg/m³	800	8/31/2011 3:29:00 PM
C9-C10 Aromatic Hydrocarbons	ND	110,000		µg/m³	800	8/31/2011 3:29:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	150,000		µg/m³	800	8/31/2011 3:29:00 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	800	8/31/2011 3:29:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 2:31:00 PM

Project: Kirtland AFB

Lab ID: 1108688-002 **Matrix:** AIR

Client Sample ID VA0493

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.32	0.10		%	1	8/29/2011 12:52:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 12:52:00 PM
Methane	ND	0.50		%	1	8/29/2011 12:52:00 PM
Nitrogen	80	0.10		%	1	8/29/2011 12:52:00 PM
Oxygen	19	0.10		%	1	8/29/2011 12:52:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,3-Butadiene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
1,4-Dioxane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
2-Butanone	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
2-Hexanone	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
2-Propanol	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Acetone	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Benzene	35,000	800	H	ppbv	800	10/6/2011 11:25:00 PM
Benzyl chloride	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Bromodichloromethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Bromoform	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 2:31:00 PM

Project: Kirtland AFB

Lab ID: 1108688-002 **Matrix:** AIR

Client Sample ID VA0493

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Carbon disulfide	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Carbon tetrachloride	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Chlorobenzene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Chlorodibromomethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Chloroethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Chloroform	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Chloromethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Cyclohexane	43,000	1,600	H	ppbv	800	10/6/2011 11:25:00 PM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Ethanol	ND	4,000	H	ppbv	800	10/6/2011 11:25:00 PM
Ethyl acetate	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Ethylbenzene	ND	1,600	H	ppbv	800	10/6/2011 11:25:00 PM
Heptane	7,800	800	H	ppbv	800	10/6/2011 11:25:00 PM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/6/2011 11:25:00 PM
m,p-Xylene	1,100	1,600	JH	ppbv	800	10/6/2011 11:25:00 PM
Methylene chloride	ND	4,000	H	ppbv	800	10/6/2011 11:25:00 PM
Naphthalene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
n-Hexane	42,000	1,600	H	ppbv	800	10/6/2011 11:25:00 PM
o-Xylene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Propylene	7,200	800	H	ppbv	800	10/6/2011 11:25:00 PM
Styrene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Tetrachloroethene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Tetrahydrofuran	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Toluene	36,000	800	H	ppbv	800	10/6/2011 11:25:00 PM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Trichloroethene	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Vinyl acetate	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM
Vinyl chloride	ND	800	H	ppbv	800	10/6/2011 11:25:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 2:31:00 PM

Project: Kirtland AFB

Lab ID: 1108688-002 **Matrix:** AIR

Client Sample ID VA0493

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	1,100	2,400	JH	ppbv	800	10/6/2011 11:25:00 PM
Surr: 4-Bromofluorobenzene	118	70-130	H	%REC	800	10/6/2011 11:25:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	4,700,000	940,000		µg/m³	8000	8/31/2011 4:57:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100,000		µg/m³	8000	8/31/2011 4:57:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000		µg/m³	8000	8/31/2011 4:57:00 PM
Surr: 4-Bromofluorobenzene	94.7	70-130		%REC	8000	8/31/2011 4:57:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-003 **Matrix:** AIR

Client Sample ID VA0494

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.28	0.10		%	1	8/29/2011 1:10:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 1:10:00 PM
Methane	ND	0.50		%	1	8/29/2011 1:10:00 PM
Nitrogen	80	0.10		%	1	8/29/2011 1:10:00 PM
Oxygen	18	0.10		%	1	8/29/2011 1:10:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,1,2,2-Tetrachloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,1,2-Trichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,1-Dichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,1-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2,4-Trichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2,4-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2-Dibromoethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2-Dichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,2-Dichloropropane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,3,5-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,3-Butadiene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,3-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,4-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
1,4-Dioxane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
2-Butanone	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
2-Hexanone	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
2-Propanol	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
4-Methyl-2-pentanone	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Acetone	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Benzene	93,000	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Benzyl chloride	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Bromodichloromethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Bromoform	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-003 **Matrix:** AIR

Client Sample ID VA0494

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Carbon disulfide	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Carbon tetrachloride	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Chlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Chlorodibromomethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Chloroethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Chloroform	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Chloromethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
cis-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
cis-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Cyclohexane	160,000	16,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Dichlorodifluoromethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Ethanol	ND	40,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Ethyl acetate	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Ethylbenzene	ND	16,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Heptane	41,000	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Hexachlorobutadiene	ND	16,000	H	ppbv	8000	10/7/2011 7:52:00 AM
m,p-Xylene	ND	16,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Methylene chloride	ND	40,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Naphthalene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
n-Hexane	170,000	16,000	H	ppbv	8000	10/7/2011 7:52:00 AM
o-Xylene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Propylene	17,000	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Styrene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
tert-Butyl Methyl Ether	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Tetrachloroethene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Tetrahydrofuran	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Toluene	140,000	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
trans-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
trans-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Trichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Trichlorofluoromethane	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Vinyl acetate	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Vinyl chloride	ND	8,000	H	ppbv	8000	10/7/2011 7:52:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-003 **Matrix:** AIR

Client Sample ID VA0494

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	24,000	H	ppbv	8000	10/7/2011 7:52:00 AM
Surr: 4-Bromofluorobenzene	117	70-130	H	%REC	8000	10/7/2011 7:52:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	9,900,000	940,000		µg/m³	8000	9/1/2011 1:34:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100,000		µg/m³	8000	9/1/2011 1:34:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000		µg/m³	8000	9/1/2011 1:34:00 PM
Surr: 4-Bromofluorobenzene	93.6	70-130		%REC	8000	9/1/2011 1:34:00 PM

Qualifiers:

**/X*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-004 **Matrix:** AIR

Client Sample ID VA0495

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.25	0.10		%	1	8/29/2011 1:47:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 1:47:00 PM
Methane	ND	0.50		%	1	8/29/2011 1:47:00 PM
Nitrogen	80	0.10		%	1	8/29/2011 1:47:00 PM
Oxygen	19	0.10		%	1	8/29/2011 1:47:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,1,2,2-Tetrachloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,1,2-Trichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,1-Dichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,1-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2,4-Trichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2,4-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2-Dibromoethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2-Dichloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,2-Dichloropropane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,3,5-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,3-Butadiene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,3-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,4-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
1,4-Dioxane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
2-Butanone	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
2-Hexanone	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
2-Propanol	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
4-Methyl-2-pentanone	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Acetone	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Benzene	89,000	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Benzyl chloride	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Bromodichloromethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Bromoform	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-004 **Matrix:** AIR

Client Sample ID VA0495

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Carbon disulfide	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Carbon tetrachloride	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Chlorobenzene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Chlorodibromomethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Chloroethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Chloroform	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Chloromethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
cis-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
cis-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Cyclohexane	120,000	16,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Dichlorodifluoromethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Ethanol	ND	40,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Ethyl acetate	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Ethylbenzene	ND	16,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Heptane	30,000	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Hexachlorobutadiene	ND	16,000	H	ppbv	8000	10/7/2011 8:34:00 AM
m,p-Xylene	ND	16,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Methylene chloride	ND	40,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Naphthalene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
n-Hexane	140,000	16,000	H	ppbv	8000	10/7/2011 8:34:00 AM
o-Xylene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Propylene	10,000	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Styrene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
tert-Butyl Methyl Ether	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Tetrachloroethene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Tetrahydrofuran	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Toluene	100,000	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
trans-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
trans-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Trichloroethene	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Trichlorofluoromethane	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Vinyl acetate	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Vinyl chloride	ND	8,000	H	ppbv	8000	10/7/2011 8:34:00 AM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/8/2011 3:44:00 PM

Project: Kirtland AFB

Lab ID: 1108688-004 **Matrix:** AIR

Client Sample ID VA0495

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	24,000	H	ppbv	8000	10/7/2011 8:34:00 AM
Surr: 4-Bromofluorobenzene	119	70-130	H	%REC	8000	10/7/2011 8:34:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	5,400,000	940,000		µg/m³	8000	9/1/2011 2:17:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100,000		µg/m³	8000	9/1/2011 2:17:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000		µg/m³	8000	9/1/2011 2:17:00 PM
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	8000	9/1/2011 2:17:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 9:26:00 AM

Project: Kirtland AFB

Lab ID: 1108688-005 **Matrix:** AIR

Client Sample ID VA0496

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.36	0.10		%	1	8/29/2011 2:06:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 2:06:00 PM
Methane	ND	0.50		%	1	8/29/2011 2:06:00 PM
Nitrogen	78	0.10		%	1	8/29/2011 2:06:00 PM
Oxygen	21	0.10		%	1	8/29/2011 2:06:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,1,2,2-Tetrachloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,1,2-Trichloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,1-Dichloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,1-Dichloroethene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2,4-Trichlorobenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2,4-Trimethylbenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2-Dibromoethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2-Dichlorobenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2-Dichloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,2-Dichloropropane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,3,5-Trimethylbenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,3-Butadiene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,3-Dichlorobenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,4-Dichlorobenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
1,4-Dioxane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
2-Butanone	20	16	H	ppbv	16	10/5/2011 9:27:00 AM
2-Hexanone	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
2-Propanol	110	16	H	ppbv	16	10/5/2011 9:27:00 AM
4-Methyl-2-pentanone	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Acetone	47	16	H	ppbv	16	10/5/2011 9:27:00 AM
Benzene	68	16	H	ppbv	16	10/5/2011 9:27:00 AM
Benzyl chloride	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Bromodichloromethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Bromoform	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

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Livonia, MI 48150
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 9:26:00 AM

Project: Kirtland AFB

Lab ID: 1108688-005 **Matrix:** AIR

Client Sample ID VA0496

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Carbon disulfide	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Carbon tetrachloride	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Chlorobenzene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Chlorodibromomethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Chloroethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Chloroform	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Chloromethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
cis-1,2-Dichloroethene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
cis-1,3-dichloropropene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Cyclohexane	57	32	H	ppbv	16	10/5/2011 9:27:00 AM
Dichlorodifluoromethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Ethanol	33	80	JH	ppbv	16	10/5/2011 9:27:00 AM
Ethyl acetate	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Ethylbenzene	16	32	JH	ppbv	16	10/5/2011 9:27:00 AM
Heptane	25	16	H	ppbv	16	10/5/2011 9:27:00 AM
Hexachlorobutadiene	ND	32	H	ppbv	16	10/5/2011 9:27:00 AM
m,p-Xylene	34	32	H	ppbv	16	10/5/2011 9:27:00 AM
Methylene chloride	ND	80	H	ppbv	16	10/5/2011 9:27:00 AM
Naphthalene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
n-Hexane	36	32	H	ppbv	16	10/5/2011 9:27:00 AM
o-Xylene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Propylene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Styrene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
tert-Butyl Methyl Ether	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Tetrachloroethene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Tetrahydrofuran	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Toluene	260	16	H	ppbv	16	10/5/2011 9:27:00 AM
trans-1,2-Dichloroethene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
trans-1,3-dichloropropene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Trichloroethene	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Trichlorofluoromethane	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Vinyl acetate	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM
Vinyl chloride	ND	16	H	ppbv	16	10/5/2011 9:27:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 9:26:00 AM

Project: Kirtland AFB

Lab ID: 1108688-005 **Matrix:** AIR

Client Sample ID VA0496

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	34	48	JH	ppbv	16	10/5/2011 9:27:00 AM
Surr: 4-Bromofluorobenzene	109	70-130	H	%REC	16	10/5/2011 9:27:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	3,400	940		µg/m³	8	9/1/2011 5:09:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100		µg/m³	8	9/1/2011 5:09:00 PM
C9-C12 Aliphatic Hydrocarbons	1,200	1,500	J	µg/m³	8	9/1/2011 5:09:00 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%REC	8	9/1/2011 5:09:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:07:00 AM

Project: Kirtland AFB

Lab ID: 1108688-006 **Matrix:** AIR

Client Sample ID VA0497

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.38	0.10		%	1	8/29/2011 2:25:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 2:25:00 PM
Methane	ND	0.50		%	1	8/29/2011 2:25:00 PM
Nitrogen	79	0.10		%	1	8/29/2011 2:25:00 PM
Oxygen	20	0.10		%	1	8/29/2011 2:25:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,1,2,2-Tetrachloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,1,2-Trichloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,1-Dichloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,1-Dichloroethene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2,4-Trichlorobenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2,4-Trimethylbenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2-Dibromoethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2-Dichlorobenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2-Dichloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,2-Dichloropropane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,3,5-Trimethylbenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,3-Butadiene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,3-Dichlorobenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,4-Dichlorobenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
1,4-Dioxane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
2-Butanone	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
2-Hexanone	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
2-Propanol	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
4-Methyl-2-pentanone	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Acetone	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Benzene	380	80	H	ppbv	80	10/5/2011 1:14:00 PM
Benzyl chloride	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Bromodichloromethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Bromoform	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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Livonia, MI 48150
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:07:00 AM

Project: Kirtland AFB

Lab ID: 1108688-006 **Matrix:** AIR

Client Sample ID VA0497

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Carbon disulfide	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Carbon tetrachloride	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Chlorobenzene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Chlorodibromomethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Chloroethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Chloroform	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Chloromethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
cis-1,2-Dichloroethene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
cis-1,3-dichloropropene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Cyclohexane	540	160	H	ppbv	80	10/5/2011 1:14:00 PM
Dichlorodifluoromethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Ethanol	ND	400	H	ppbv	80	10/5/2011 1:14:00 PM
Ethyl acetate	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Ethylbenzene	ND	160	H	ppbv	80	10/5/2011 1:14:00 PM
Heptane	260	80	H	ppbv	80	10/5/2011 1:14:00 PM
Hexachlorobutadiene	ND	160	H	ppbv	80	10/5/2011 1:14:00 PM
m,p-Xylene	ND	160	H	ppbv	80	10/5/2011 1:14:00 PM
Methylene chloride	ND	400	H	ppbv	80	10/5/2011 1:14:00 PM
Naphthalene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
n-Hexane	610	160	H	ppbv	80	10/5/2011 1:14:00 PM
o-Xylene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Propylene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Styrene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
tert-Butyl Methyl Ether	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Tetrachloroethene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Tetrahydrofuran	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Toluene	460	80	H	ppbv	80	10/5/2011 1:14:00 PM
trans-1,2-Dichloroethene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
trans-1,3-dichloropropene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Trichloroethene	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Trichlorofluoromethane	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Vinyl acetate	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM
Vinyl chloride	ND	80	H	ppbv	80	10/5/2011 1:14:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:07:00 AM

Project: Kirtland AFB

Lab ID: 1108688-006 **Matrix:** AIR

Client Sample ID VA0497

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	240	H	ppbv	80	10/5/2011 1:14:00 PM
Surr: 4-Bromofluorobenzene	114	70-130	H	%REC	80	10/5/2011 1:14:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	17,000	4,700		µg/m³	40	8/30/2011 7:11:00 PM
C9-C10 Aromatic Hydrocarbons	ND	5,300		µg/m³	40	8/30/2011 7:11:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	7,600		µg/m³	40	8/30/2011 7:11:00 PM
Surr: 4-Bromofluorobenzene	92.6	70-130		%REC	40	8/30/2011 7:11:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-007 **Matrix:** AIR

Client Sample ID VA0498

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.26	0.10		%	1	8/29/2011 2:44:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 2:44:00 PM
Methane	ND	0.50		%	1	8/29/2011 2:44:00 PM
Nitrogen	79	0.10		%	1	8/29/2011 2:44:00 PM
Oxygen	20	0.10		%	1	8/29/2011 2:44:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,1,2,2-Tetrachloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	23	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,1,2-Trichloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,1-Dichloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,1-Dichloroethene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2,4-Trichlorobenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2,4-Trimethylbenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2-Dibromoethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2-Dichlorobenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2-Dichloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,2-Dichloropropane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,3,5-Trimethylbenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,3-Butadiene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,3-Dichlorobenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,4-Dichlorobenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
1,4-Dioxane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
2-Butanone	93	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
2-Hexanone	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
2-Propanol	100	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
4-Methyl-2-pentanone	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Acetone	290	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Benzene	66	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Benzyl chloride	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Bromodichloromethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Bromoform	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-007 **Matrix:** AIR

Client Sample ID VA0498

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Carbon disulfide	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Carbon tetrachloride	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Chlorobenzene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Chlorodibromomethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Chloroethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Chloroform	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Chloromethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
cis-1,2-Dichloroethene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
cis-1,3-dichloropropene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Cyclohexane	31	16	H	ppbv	8	10/11/2011 12:16:00 AM
Dichlorodifluoromethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Ethanol	16	40	JH	ppbv	8	10/11/2011 12:16:00 AM
Ethyl acetate	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Ethylbenzene	9.3	16	JH	ppbv	8	10/11/2011 12:16:00 AM
Heptane	16	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Hexachlorobutadiene	ND	16	H	ppbv	8	10/11/2011 12:16:00 AM
m,p-Xylene	19	16	H	ppbv	8	10/11/2011 12:16:00 AM
Methylene chloride	ND	40	H	ppbv	8	10/11/2011 12:16:00 AM
Naphthalene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
n-Hexane	25	16	H	ppbv	8	10/11/2011 12:16:00 AM
o-Xylene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Propylene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Styrene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
tert-Butyl Methyl Ether	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Tetrachloroethene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Tetrahydrofuran	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Toluene	190	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
trans-1,2-Dichloroethene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
trans-1,3-dichloropropene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Trichloroethene	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Trichlorofluoromethane	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Vinyl acetate	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM
Vinyl chloride	ND	8.0	H	ppbv	8	10/11/2011 12:16:00 AM

Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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RTI LABORATORIES, INC.

RTI
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 10:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-007 **Matrix:** AIR

Client Sample ID VA0498

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	19	24	JH	ppbv	8	10/11/2011 12:16:00 AM
Surr: 4-Bromofluorobenzene	110	70-130	H	%REC	8	10/11/2011 12:16:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	7,600	4,700		µg/m³	40	8/30/2011 7:54:00 PM
C9-C10 Aromatic Hydrocarbons	ND	5,300		µg/m³	40	8/30/2011 7:54:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	7,600		µg/m³	40	8/30/2011 7:54:00 PM
Surr: 4-Bromofluorobenzene	92.5	70-130		%REC	40	8/30/2011 7:54:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 1:27:00 PM

Project: Kirtland AFB

Lab ID: 1108688-008 **Matrix:** AIR

Client Sample ID VA0499

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.47	0.10		%	1	8/29/2011 3:23:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 3:23:00 PM
Methane	ND	0.50		%	1	8/29/2011 3:23:00 PM
Nitrogen	79	0.10		%	1	8/29/2011 3:23:00 PM
Oxygen	20	0.10		%	1	8/29/2011 3:23:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,1,2,2-Tetrachloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,1,2-Trichloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,1-Dichloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,1-Dichloroethene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2,4-Trichlorobenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2,4-Trimethylbenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2-Dibromoethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2-Dichlorobenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2-Dichloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,2-Dichloropropane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,3,5-Trimethylbenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,3-Butadiene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,3-Dichlorobenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,4-Dichlorobenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
1,4-Dioxane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
2-Butanone	140	40	H	ppbv	40	10/5/2011 2:42:00 PM
2-Hexanone	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
2-Propanol	68	40	H	ppbv	40	10/5/2011 2:42:00 PM
4-Methyl-2-pentanone	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Acetone	370	40	H	ppbv	40	10/5/2011 2:42:00 PM
Benzene	130	40	H	ppbv	40	10/5/2011 2:42:00 PM
Benzyl chloride	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Bromodichloromethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Bromoform	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM

Qualifiers:

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 1:27:00 PM

Project: Kirtland AFB

Lab ID: 1108688-008 **Matrix:** AIR

Client Sample ID VA0499

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Carbon disulfide	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Carbon tetrachloride	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Chlorobenzene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Chlorodibromomethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Chloroethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Chloroform	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Chloromethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
cis-1,2-Dichloroethene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
cis-1,3-dichloropropene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Cyclohexane	74	80	JH	ppbv	40	10/5/2011 2:42:00 PM
Dichlorodifluoromethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Ethanol	ND	200	H	ppbv	40	10/5/2011 2:42:00 PM
Ethyl acetate	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Ethylbenzene	ND	80	H	ppbv	40	10/5/2011 2:42:00 PM
Heptane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Hexachlorobutadiene	ND	80	H	ppbv	40	10/5/2011 2:42:00 PM
m,p-Xylene	41	80	JH	ppbv	40	10/5/2011 2:42:00 PM
Methylene chloride	ND	200	H	ppbv	40	10/5/2011 2:42:00 PM
Naphthalene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
n-Hexane	51	80	JH	ppbv	40	10/5/2011 2:42:00 PM
o-Xylene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Propylene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Styrene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
tert-Butyl Methyl Ether	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Tetrachloroethene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Tetrahydrofuran	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Toluene	310	40	H	ppbv	40	10/5/2011 2:42:00 PM
trans-1,2-Dichloroethene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
trans-1,3-dichloropropene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Trichloroethene	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Trichlorofluoromethane	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Vinyl acetate	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM
Vinyl chloride	ND	40	H	ppbv	40	10/5/2011 2:42:00 PM

Qualifiers:

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Revision v1

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 1:27:00 PM

Project: Kirtland AFB

Lab ID: 1108688-008 **Matrix:** AIR

Client Sample ID VA0499

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	41	120	JH	ppbv	40	10/5/2011 2:42:00 PM
Surr: 4-Bromofluorobenzene	115	70-130	H	%REC	40	10/5/2011 2:42:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	16,000	4,700		µg/m³	40	8/30/2011 8:36:00 PM
C9-C10 Aromatic Hydrocarbons	ND	5,300		µg/m³	40	8/30/2011 8:36:00 PM
C9-C12 Aliphatic Hydrocarbons	1,700	7,600	J	µg/m³	40	8/30/2011 8:36:00 PM
Surr: 4-Bromofluorobenzene	98.2	70-130		%REC	40	8/30/2011 8:36:00 PM

Qualifiers:

*fX	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-009 **Matrix:** AIR

Client Sample ID VA0500

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.24	0.10		%	1	8/29/2011 3:44:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 3:44:00 PM
Methane	ND	0.50		%	1	8/29/2011 3:44:00 PM
Nitrogen	78	0.10		%	1	8/29/2011 3:44:00 PM
Oxygen	21	0.10		%	1	8/29/2011 3:44:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,3-Butadiene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
1,4-Dioxane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
2-Butanone	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
2-Hexanone	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
2-Propanol	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Acetone	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Benzene	13,000	800	H	ppbv	800	10/5/2011 3:28:00 PM
Benzyl chloride	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Bromodichloromethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Bromoform	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM

Qualifiers:

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Revision v1

RTI LABORATORIES, INC.

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-009 **Matrix:** AIR

Client Sample ID VA0500

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Carbon disulfide	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Carbon tetrachloride	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Chlorobenzene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Chlorodibromomethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Chloroethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Chloroform	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Chloromethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Cyclohexane	5,000	1,600	H	ppbv	800	10/5/2011 3:28:00 PM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Ethanol	ND	4,000	H	ppbv	800	10/5/2011 3:28:00 PM
Ethyl acetate	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Ethylbenzene	ND	1,600	H	ppbv	800	10/5/2011 3:28:00 PM
Heptane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/5/2011 3:28:00 PM
m,p-Xylene	ND	1,600	H	ppbv	800	10/5/2011 3:28:00 PM
Methylene chloride	ND	4,000	H	ppbv	800	10/5/2011 3:28:00 PM
Naphthalene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
n-Hexane	3,300	1,600	H	ppbv	800	10/5/2011 3:28:00 PM
o-Xylene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Propylene	990	800	H	ppbv	800	10/5/2011 3:28:00 PM
Styrene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Tetrachloroethene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Tetrahydrofuran	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Toluene	3,500	800	H	ppbv	800	10/5/2011 3:28:00 PM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Trichloroethene	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Vinyl acetate	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM
Vinyl chloride	ND	800	H	ppbv	800	10/5/2011 3:28:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
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Revision v1

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-009 **Matrix:** AIR

Client Sample ID VA0500

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	2,400	H	ppbv	800	10/5/2011 3:28:00 PM
Surr: 4-Bromofluorobenzene	120	70-130	H	%REC	800	10/5/2011 3:28:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	740,000	94,000		µg/m³	800	8/30/2011 9:21:00 PM
C9-C10 Aromatic Hydrocarbons	ND	110,000		µg/m³	800	8/30/2011 9:21:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	150,000		µg/m³	800	8/30/2011 9:21:00 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%REC	800	8/30/2011 9:21:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-010 **Matrix:** AIR

Client Sample ID VA0501

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.24	0.10		%	1	8/29/2011 4:03:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 4:03:00 PM
Methane	ND	0.50		%	1	8/29/2011 4:03:00 PM
Nitrogen	78	0.10		%	1	8/29/2011 4:03:00 PM
Oxygen	20	0.10		%	1	8/29/2011 4:03:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,1,2,2-Tetrachloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,1,2-Trichloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,1-Dichloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,1-Dichloroethene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2,4-Trichlorobenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2,4-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2-Dibromoethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2-Dichloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,2-Dichloropropane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,3,5-Trimethylbenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,3-Butadiene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,3-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,4-Dichlorobenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
1,4-Dioxane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
2-Butanone	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
2-Hexanone	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
2-Propanol	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
4-Methyl-2-pentanone	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Acetone	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Benzene	38,000	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Benzyl chloride	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Bromodichloromethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Bromoform	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-010 **Matrix:** AIR

Client Sample ID VA0501

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Carbon disulfide	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Carbon tetrachloride	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Chlorobenzene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Chlorodibromomethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Chloroethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Chloroform	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Chloromethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
cis-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
cis-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Cyclohexane	14,000	16,000	JH	ppbv	8000	10/5/2011 11:47:00 AM
Dichlorodifluoromethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Ethanol	ND	40,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Ethyl acetate	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Ethylbenzene	ND	16,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Heptane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Hexachlorobutadiene	ND	16,000	H	ppbv	8000	10/5/2011 11:47:00 AM
m,p-Xylene	ND	16,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Methylene chloride	ND	40,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Naphthalene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
n-Hexane	8,200	16,000	JH	ppbv	8000	10/5/2011 11:47:00 AM
o-Xylene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Propylene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Styrene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
tert-Butyl Methyl Ether	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Tetrachloroethene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Tetrahydrofuran	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Toluene	8,700	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
trans-1,2-Dichloroethene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
trans-1,3-dichloropropene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Trichloroethene	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Trichlorofluoromethane	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Vinyl acetate	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Vinyl chloride	ND	8,000	H	ppbv	8000	10/5/2011 11:47:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 2:20:00 PM

Project: Kirtland AFB

Lab ID: 1108688-010 **Matrix:** AIR

Client Sample ID VA0501

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	24,000	H	ppbv	8000	10/5/2011 11:47:00 AM
Surr: 4-Bromofluorobenzene	118	70-130	H	%REC	8000	10/5/2011 11:47:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	6,100,000	940,000		µg/m³	8000	8/31/2011 12:59:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100,000		µg/m³	8000	8/31/2011 12:59:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000		µg/m³	8000	8/31/2011 12:59:00 PM
Surr: 4-Bromofluorobenzene	95.4	70-130		%REC	8000	8/31/2011 12:59:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 3:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-011 **Matrix:** AIR

Client Sample ID VA0502

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.37	0.10		%	1	8/29/2011 5:03:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 5:03:00 PM
Methane	ND	0.50		%	1	8/29/2011 5:03:00 PM
Nitrogen	79	0.10		%	1	8/29/2011 5:03:00 PM
Oxygen	19	0.10		%	1	8/29/2011 5:03:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,1,2,2-Tetrachloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,1,2-Trichloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,1-Dichloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,1-Dichloroethene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2,4-Trichlorobenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2,4-Trimethylbenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2-Dibromoethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2-Dichlorobenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2-Dichloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,2-Dichloropropane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,3,5-Trimethylbenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,3-Butadiene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,3-Dichlorobenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,4-Dichlorobenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
1,4-Dioxane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
2-Butanone	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
2-Hexanone	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
2-Propanol	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
4-Methyl-2-pentanone	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Acetone	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Benzene	460,000	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Benzyl chloride	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Bromodichloromethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Bromoform	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 3:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-011 **Matrix:** AIR

Client Sample ID VA0502

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Carbon disulfide	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Carbon tetrachloride	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Chlorobenzene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Chlorodibromomethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Chloroethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Chloroform	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Chloromethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
cis-1,2-Dichloroethene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
cis-1,3-dichloropropene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Cyclohexane	920,000	40,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Dichlorodifluoromethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Ethanol	ND	100,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Ethyl acetate	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Ethylbenzene	ND	40,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Heptane	440,000	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Hexachlorobutadiene	ND	40,000	H	ppbv	20000	10/7/2011 3:15:00 PM
m,p-Xylene	24,000	40,000	JH	ppbv	20000	10/7/2011 3:15:00 PM
Methylene chloride	ND	100,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Naphthalene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
n-Hexane	1,000,000	40,000	H	ppbv	20000	10/7/2011 3:15:00 PM
o-Xylene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Propylene	20,000	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Styrene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
tert-Butyl Methyl Ether	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Tetrachloroethene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Tetrahydrofuran	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Toluene	530,000	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
trans-1,2-Dichloroethene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
trans-1,3-dichloropropene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Trichloroethene	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Trichlorofluoromethane	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Vinyl acetate	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM
Vinyl chloride	ND	20,000	H	ppbv	20000	10/7/2011 3:15:00 PM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/5/2011 3:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-011 **Matrix:** AIR

Client Sample ID VA0502

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	24,000	60,000	JH	ppbv	20000	10/7/2011 3:15:00 PM
Surr: 4-Bromofluorobenzene	110	70-130	H	%REC	20000	10/7/2011 3:15:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	41,000,000	2,300,000		µg/m³	20000	9/1/2011 3:42:00 PM
C9-C10 Aromatic Hydrocarbons	ND	2,700,000		µg/m³	20000	9/1/2011 3:42:00 PM
C9-C12 Aliphatic Hydrocarbons	700,000	3,800,000	J	µg/m³	20000	9/1/2011 3:42:00 PM
Surr: 4-Bromofluorobenzene	95.7	70-130		%REC	20000	9/1/2011 3:42:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/11/2011 10:40:00 AM

Project: Kirtland AFB

Lab ID: 1108688-012 **Matrix:** AIR

Client Sample ID VA0515

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.71	0.10		%	1	8/29/2011 5:23:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 5:23:00 PM
Methane	ND	0.50		%	1	8/29/2011 5:23:00 PM
Nitrogen	78	0.10		%	1	8/29/2011 5:23:00 PM
Oxygen	19	0.10		%	1	8/29/2011 5:23:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,1,2,2-Tetrachloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,1,2-Trichloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,1-Dichloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,1-Dichloroethene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2,4-Trichlorobenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2,4-Trimethylbenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2-Dibromoethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2-Dichlorobenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2-Dichloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,2-Dichloropropane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,3,5-Trimethylbenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,3-Butadiene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,3-Dichlorobenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,4-Dichlorobenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
1,4-Dioxane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
2-Butanone	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
2-Hexanone	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
2-Propanol	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
4-Methyl-2-pentanone	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Acetone	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Benzene	910,000	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Benzyl chloride	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Bromodichloromethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Bromoform	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/11/2011 10:40:00 AM

Project: Kirtland AFB

Lab ID: 1108688-012 **Matrix:** AIR

Client Sample ID VA0515

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Carbon disulfide	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Carbon tetrachloride	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Chlorobenzene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Chlorodibromomethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Chloroethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Chloroform	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Chloromethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
cis-1,2-Dichloroethene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
cis-1,3-dichloropropene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Cyclohexane	1,500,000	40,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Dichlorodifluoromethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Ethanol	ND	100,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Ethyl acetate	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Ethylbenzene	ND	40,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Heptane	760,000	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Hexachlorobutadiene	ND	40,000	H	ppbv	20000	9/22/2011 7:13:00 PM
m,p-Xylene	31,000	40,000	JH	ppbv	20000	9/22/2011 7:13:00 PM
Methylene chloride	ND	100,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Naphthalene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
n-Hexane	1,800,000	40,000	H	ppbv	20000	9/22/2011 7:13:00 PM
o-Xylene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Propylene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Styrene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
tert-Butyl Methyl Ether	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Tetrachloroethene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Tetrahydrofuran	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Toluene	670,000	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
trans-1,2-Dichloroethene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
trans-1,3-dichloropropene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Trichloroethene	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Trichlorofluoromethane	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Vinyl acetate	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM
Vinyl chloride	ND	20,000	H	ppbv	20000	9/22/2011 7:13:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/11/2011 10:40:00 AM

Project: Kirtland AFB

Lab ID: 1108688-012 **Matrix:** AIR

Client Sample ID VA0515

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	31,000	60,000	JH	ppbv	20000	9/22/2011 7:13:00 PM
Surr: 4-Bromofluorobenzene	104	70-130	H	%REC	20000	9/22/2011 7:13:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	45,000,000	2,300,000	H	µg/m³	20000	9/22/2011 5:17:00 PM
C9-C10 Aromatic Hydrocarbons	ND	2,700,000	H	µg/m³	20000	9/22/2011 5:17:00 PM
C9-C12 Aliphatic Hydrocarbons	910,000	3,800,000	JH	µg/m³	20000	9/22/2011 5:17:00 PM
Surr: 4-Bromofluorobenzene	101	70-130	H	%REC	20000	9/22/2011 5:17:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 2:47:00 PM

Project: Kirtland AFB

Lab ID: 1108688-013 **Matrix:** AIR

Client Sample ID VA0606

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.16	0.10		%	1	8/29/2011 5:45:00 PM
Carbon Monoxide	ND	0.10		%	1	8/29/2011 5:45:00 PM
Methane	ND	0.50		%	1	8/29/2011 5:45:00 PM
Nitrogen	78	0.10		%	1	8/29/2011 5:45:00 PM
Oxygen	21	0.10		%	1	8/29/2011 5:45:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	18	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,3-Butadiene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
1,4-Dioxane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
2-Butanone	31	10	H	ppbv	10	10/5/2011 4:10:00 AM
2-Hexanone	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
2-Propanol	18	10	H	ppbv	10	10/5/2011 4:10:00 AM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Acetone	59	10	H	ppbv	10	10/5/2011 4:10:00 AM
Benzene	11	10	H	ppbv	10	10/5/2011 4:10:00 AM
Benzyl chloride	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Bromodichloromethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Bromoform	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 2:47:00 PM

Project: Kirtland AFB

Lab ID: 1108688-013 **Matrix:** AIR

Client Sample ID VA0606

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Carbon disulfide	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Carbon tetrachloride	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Chlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Chlorodibromomethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Chloroethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Chloroform	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Chloromethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Cyclohexane	28	20	H	ppbv	10	10/5/2011 4:10:00 AM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Ethanol	29	50	JH	ppbv	10	10/5/2011 4:10:00 AM
Ethyl acetate	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Ethylbenzene	ND	20	H	ppbv	10	10/5/2011 4:10:00 AM
Heptane	11	10	H	ppbv	10	10/5/2011 4:10:00 AM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/5/2011 4:10:00 AM
m,p-Xylene	ND	20	H	ppbv	10	10/5/2011 4:10:00 AM
Methylene chloride	ND	50	H	ppbv	10	10/5/2011 4:10:00 AM
Naphthalene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
n-Hexane	12	20	JH	ppbv	10	10/5/2011 4:10:00 AM
o-Xylene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Propylene	12	10	H	ppbv	10	10/5/2011 4:10:00 AM
Styrene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Tetrachloroethene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Tetrahydrofuran	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Toluene	35	10	H	ppbv	10	10/5/2011 4:10:00 AM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Trichloroethene	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Vinyl acetate	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM
Vinyl chloride	ND	10	H	ppbv	10	10/5/2011 4:10:00 AM

Qualifiers:

**/X*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 2:47:00 PM

Project: Kirtland AFB

Lab ID: 1108688-013 **Matrix:** AIR

Client Sample ID VA0606

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/5/2011 4:10:00 AM
Surr: 4-Bromofluorobenzene	108	70-130	H	%REC	10	10/5/2011 4:10:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	5,600	1,200		µg/m³	10	8/25/2011 9:28:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 9:28:00 PM
C9-C12 Aliphatic Hydrocarbons	2,000	1,900		µg/m³	10	8/25/2011 9:28:00 PM
Surr: 4-Bromofluorobenzene	97.6	70-130		%REC	10	8/25/2011 9:28:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 3:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-014 **Matrix:** AIR

Client Sample ID VA0607

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.15	0.10		%	1	9/1/2011 2:40:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 2:40:00 PM
Methane	ND	0.50		%	1	9/1/2011 2:40:00 PM
Nitrogen	78	0.10		%	1	9/1/2011 2:40:00 PM
Oxygen	20	0.10		%	1	9/1/2011 2:40:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	26	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,3-Butadiene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
1,4-Dioxane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
2-Butanone	23	10	H	ppbv	10	10/5/2011 4:54:00 AM
2-Hexanone	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
2-Propanol	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Acetone	44	10	H	ppbv	10	10/5/2011 4:54:00 AM
Benzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Benzyl chloride	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Bromodichloromethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Bromoform	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 3:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-014 **Matrix:** AIR

Client Sample ID VA0607

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Carbon disulfide	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Carbon tetrachloride	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Chlorobenzene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Chlorodibromomethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Chloroethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Chloroform	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Chloromethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Cyclohexane	25	20	H	ppbv	10	10/5/2011 4:54:00 AM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Ethanol	29	50	JH	ppbv	10	10/5/2011 4:54:00 AM
Ethyl acetate	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Ethylbenzene	ND	20	H	ppbv	10	10/5/2011 4:54:00 AM
Heptane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/5/2011 4:54:00 AM
m,p-Xylene	ND	20	H	ppbv	10	10/5/2011 4:54:00 AM
Methylene chloride	ND	50	H	ppbv	10	10/5/2011 4:54:00 AM
Naphthalene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
n-Hexane	ND	20	H	ppbv	10	10/5/2011 4:54:00 AM
o-Xylene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Propylene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Styrene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Tetrachloroethene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Tetrahydrofuran	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Toluene	27	10	H	ppbv	10	10/5/2011 4:54:00 AM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Trichloroethene	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Vinyl acetate	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM
Vinyl chloride	ND	10	H	ppbv	10	10/5/2011 4:54:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 3:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-014 **Matrix:** AIR

Client Sample ID VA0607

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/5/2011 4:54:00 AM
Surr: 4-Bromofluorobenzene	109	70-130	H	%REC	10	10/5/2011 4:54:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	5,300	1,200		µg/m³	10	8/25/2011 10:11:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 10:11:00 PM
C9-C12 Aliphatic Hydrocarbons	1,800	1,900	J	µg/m³	10	8/25/2011 10:11:00 PM
Surr: 4-Bromofluorobenzene	96.7	70-130		%REC	10	8/25/2011 10:11:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Livonia, MI 48150
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 11:41:00 AM

Project: Kirtland AFB

Lab ID: 1108688-015 **Matrix:** AIR

Client Sample ID VA0608

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.14	0.10		%	1	9/1/2011 4:19:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 4:19:00 PM
Methane	ND	0.50		%	1	9/1/2011 4:19:00 PM
Nitrogen	79	0.10		%	1	9/1/2011 4:19:00 PM
Oxygen	20	0.10		%	1	9/1/2011 4:19:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	38	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,3-Butadiene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
1,4-Dioxane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
2-Butanone	28	10	H	ppbv	10	10/5/2011 5:39:00 AM
2-Hexanone	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
2-Propanol	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Acetone	57	10	H	ppbv	10	10/5/2011 5:39:00 AM
Benzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Benzyl chloride	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Bromodichloromethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Bromoform	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 11:41:00 AM

Project: Kirtland AFB

Lab ID: 1108688-015 **Matrix:** AIR

Client Sample ID VA0608

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Carbon disulfide	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Carbon tetrachloride	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Chlorobenzene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Chlorodibromomethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Chloroethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Chloroform	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Chloromethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Cyclohexane	18	20	JH	ppbv	10	10/5/2011 5:39:00 AM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Ethanol	47	50	JH	ppbv	10	10/5/2011 5:39:00 AM
Ethyl acetate	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Ethylbenzene	ND	20	H	ppbv	10	10/5/2011 5:39:00 AM
Heptane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/5/2011 5:39:00 AM
m,p-Xylene	ND	20	H	ppbv	10	10/5/2011 5:39:00 AM
Methylene chloride	ND	50	H	ppbv	10	10/5/2011 5:39:00 AM
Naphthalene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
n-Hexane	ND	20	H	ppbv	10	10/5/2011 5:39:00 AM
o-Xylene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Propylene	11	10	H	ppbv	10	10/5/2011 5:39:00 AM
Styrene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Tetrachloroethene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Tetrahydrofuran	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Toluene	33	10	H	ppbv	10	10/5/2011 5:39:00 AM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Trichloroethene	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Vinyl acetate	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM
Vinyl chloride	ND	10	H	ppbv	10	10/5/2011 5:39:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 11:41:00 AM

Project: Kirtland AFB

Lab ID: 1108688-015 **Matrix:** AIR

Client Sample ID VA0608

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/5/2011 5:39:00 AM
Surr: 4-Bromofluorobenzene	106	70-130	H	%REC	10	10/5/2011 5:39:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	4,300	1,200		µg/m³	10	8/25/2011 10:54:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 10:54:00 PM
C9-C12 Aliphatic Hydrocarbons	1,800	1,900	J	µg/m³	10	8/25/2011 10:54:00 PM
Surr: 4-Bromofluorobenzene	95.0	70-130		%REC	10	8/25/2011 10:54:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-016 **Matrix:** AIR

Client Sample ID VA0609

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.24	0.10		%	1	9/1/2011 4:44:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 4:44:00 PM
Methane	ND	0.50		%	1	9/1/2011 4:44:00 PM
Nitrogen	79	0.10		%	1	9/1/2011 4:44:00 PM
Oxygen	20	0.10		%	1	9/1/2011 4:44:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,3-Butadiene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
1,4-Dioxane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
2-Butanone	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
2-Hexanone	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
2-Propanol	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Acetone	1,200	800	H	ppbv	800	10/5/2011 5:03:00 PM
Benzene	5,600	800	H	ppbv	800	10/5/2011 5:03:00 PM
Benzyl chloride	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Bromodichloromethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Bromoform	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-016 **Matrix:** AIR

Client Sample ID VA0609

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Carbon disulfide	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Carbon tetrachloride	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Chlorobenzene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Chlorodibromomethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Chloroethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Chloroform	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Chloromethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Cyclohexane	6,800	1,600	H	ppbv	800	10/5/2011 5:03:00 PM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Ethanol	ND	4,000	H	ppbv	800	10/5/2011 5:03:00 PM
Ethyl acetate	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Ethylbenzene	ND	1,600	H	ppbv	800	10/5/2011 5:03:00 PM
Heptane	4,900	800	H	ppbv	800	10/5/2011 5:03:00 PM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/5/2011 5:03:00 PM
m,p-Xylene	ND	1,600	H	ppbv	800	10/5/2011 5:03:00 PM
Methylene chloride	14,000	4,000	H	ppbv	800	10/5/2011 5:03:00 PM
Naphthalene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
n-Hexane	9,800	1,600	H	ppbv	800	10/5/2011 5:03:00 PM
o-Xylene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Propylene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Styrene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Tetrachloroethene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Tetrahydrofuran	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Toluene	7,700	800	H	ppbv	800	10/5/2011 5:03:00 PM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Trichloroethene	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Vinyl acetate	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM
Vinyl chloride	ND	800	H	ppbv	800	10/5/2011 5:03:00 PM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:19:00 PM

Project: Kirtland AFB

Lab ID: 1108688-016 **Matrix:** AIR

Client Sample ID VA0609

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	2,400	H	ppbv	800	10/5/2011 5:03:00 PM
Surr: 4-Bromofluorobenzene	109	70-130	H	%REC	800	10/5/2011 5:03:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	4,800	1,200		µg/m³	10	8/25/2011 11:37:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 11:37:00 PM
C9-C12 Aliphatic Hydrocarbons	1,800	1,900	J	µg/m³	10	8/25/2011 11:37:00 PM
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	10	8/25/2011 11:37:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-017 **Matrix:** AIR

Client Sample ID VA0610

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.11	0.10		%	1	9/1/2011 5:13:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 5:13:00 PM
Methane	ND	0.50		%	1	9/1/2011 5:13:00 PM
Nitrogen	79	0.10		%	1	9/1/2011 5:13:00 PM
Oxygen	20	0.10		%	1	9/1/2011 5:13:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,3-Butadiene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
1,4-Dioxane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
2-Butanone	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
2-Hexanone	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
2-Propanol	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Acetone	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Benzene	15,000	800	H	ppbv	800	10/5/2011 7:11:00 AM
Benzyl chloride	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Bromodichloromethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Bromoform	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-017 **Matrix:** AIR

Client Sample ID VA0610

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Carbon disulfide	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Carbon tetrachloride	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Chlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Chlorodibromomethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Chloroethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Chloroform	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Chloromethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Cyclohexane	21,000	1,600	H	ppbv	800	10/5/2011 7:11:00 AM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Ethanol	ND	4,000	H	ppbv	800	10/5/2011 7:11:00 AM
Ethyl acetate	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Ethylbenzene	ND	1,600	H	ppbv	800	10/5/2011 7:11:00 AM
Heptane	4,600	800	H	ppbv	800	10/5/2011 7:11:00 AM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/5/2011 7:11:00 AM
m,p-Xylene	ND	1,600	H	ppbv	800	10/5/2011 7:11:00 AM
Methylene chloride	2,000	4,000	JH	ppbv	800	10/5/2011 7:11:00 AM
Naphthalene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
n-Hexane	28,000	1,600	H	ppbv	800	10/5/2011 7:11:00 AM
o-Xylene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Propylene	2,700	800	H	ppbv	800	10/5/2011 7:11:00 AM
Styrene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Tetrachloroethene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Tetrahydrofuran	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Toluene	22,000	800	H	ppbv	800	10/5/2011 7:11:00 AM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Trichloroethene	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Vinyl acetate	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM
Vinyl chloride	ND	800	H	ppbv	800	10/5/2011 7:11:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-017 **Matrix:** AIR

Client Sample ID VA0610

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	2,400	H	ppbv	800	10/5/2011 7:11:00 AM
Surr: 4-Bromofluorobenzene	123	70-130	H	%REC	800	10/5/2011 7:11:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	1,400,000	94,000		µg/m³	800	8/30/2011 4:16:00 PM
C9-C10 Aromatic Hydrocarbons	ND	110,000		µg/m³	800	8/30/2011 4:16:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	150,000		µg/m³	800	8/30/2011 4:16:00 PM
Surr: 4-Bromofluorobenzene	95.6	70-130		%REC	800	8/30/2011 4:16:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-018 **Matrix:** AIR

Client Sample ID VA0611

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.10	0.10		%	1	9/2/2011 1:42:00 PM
Carbon Monoxide	ND	0.10		%	1	9/2/2011 1:42:00 PM
Methane	ND	0.50		%	1	9/2/2011 1:42:00 PM
Nitrogen	79	0.10		%	1	9/2/2011 1:42:00 PM
Oxygen	20	0.10		%	1	9/2/2011 1:42:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,1-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,1-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2-Dibromoethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2-Dichloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,2-Dichloropropane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,3-Butadiene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
1,4-Dioxane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
2-Butanone	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
2-Hexanone	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
2-Propanol	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Acetone	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Benzene	9,400	800	H	ppbv	800	10/5/2011 7:56:00 AM
Benzyl chloride	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Bromodichloromethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Bromoform	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM

Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-018 **Matrix:** AIR

Client Sample ID VA0611

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Carbon disulfide	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Carbon tetrachloride	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Chlorobenzene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Chlorodibromomethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Chloroethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Chloroform	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Chloromethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Cyclohexane	13,000	1,600	H	ppbv	800	10/5/2011 7:56:00 AM
Dichlorodifluoromethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Ethanol	ND	4,000	H	ppbv	800	10/5/2011 7:56:00 AM
Ethyl acetate	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Ethylbenzene	ND	1,600	H	ppbv	800	10/5/2011 7:56:00 AM
Heptane	2,900	800	H	ppbv	800	10/5/2011 7:56:00 AM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	10/5/2011 7:56:00 AM
m,p-Xylene	ND	1,600	H	ppbv	800	10/5/2011 7:56:00 AM
Methylene chloride	ND	4,000	H	ppbv	800	10/5/2011 7:56:00 AM
Naphthalene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
n-Hexane	18,000	1,600	H	ppbv	800	10/5/2011 7:56:00 AM
o-Xylene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Propylene	1,700	800	H	ppbv	800	10/5/2011 7:56:00 AM
Styrene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Tetrachloroethene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Tetrahydrofuran	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Toluene	12,000	800	H	ppbv	800	10/5/2011 7:56:00 AM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Trichloroethene	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Trichlorofluoromethane	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Vinyl acetate	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM
Vinyl chloride	ND	800	H	ppbv	800	10/5/2011 7:56:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 12:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-018 **Matrix:** AIR

Client Sample ID VA0611

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	2,400	H	ppbv	800	10/5/2011 7:56:00 AM
Surr: 4-Bromofluorobenzene	123	70-130	H	%REC	800	10/5/2011 7:56:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	1,100,000	94,000		µg/m³	800	8/30/2011 5:01:00 PM
C9-C10 Aromatic Hydrocarbons	ND	110,000		µg/m³	800	8/30/2011 5:01:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	150,000		µg/m³	800	8/30/2011 5:01:00 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%REC	800	8/30/2011 5:01:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 1:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-019 **Matrix:** AIR

Client Sample ID VA0612

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.12	0.10		%	1	9/2/2011 2:33:00 PM
Carbon Monoxide	ND	0.10		%	1	9/2/2011 2:33:00 PM
Methane	ND	0.50		%	1	9/2/2011 2:33:00 PM
Nitrogen	79	0.10		%	1	9/2/2011 2:33:00 PM
Oxygen	20	0.10		%	1	9/2/2011 2:33:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,1,2,2-Tetrachloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,1,2-Trichloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,1-Dichloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,1-Dichloroethene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2,4-Trichlorobenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2,4-Trimethylbenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2-Dibromoethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2-Dichlorobenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2-Dichloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,2-Dichloropropane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,3,5-Trimethylbenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,3-Butadiene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,3-Dichlorobenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,4-Dichlorobenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
1,4-Dioxane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
2-Butanone	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
2-Hexanone	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
2-Propanol	2,000	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
4-Methyl-2-pentanone	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Acetone	2,600	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Benzene	78,000	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Benzyl chloride	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Bromodichloromethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Bromoform	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 1:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-019 **Matrix:** AIR

Client Sample ID VA0612

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Carbon disulfide	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Carbon tetrachloride	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Chlorobenzene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Chlorodibromomethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Chloroethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Chloroform	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Chloromethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
cis-1,2-Dichloroethene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
cis-1,3-dichloropropene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Cyclohexane	77,000	3,200	H	ppbv	1600	10/5/2011 8:42:00 AM
Dichlorodifluoromethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Ethanol	ND	8,000	H	ppbv	1600	10/5/2011 8:42:00 AM
Ethyl acetate	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Ethylbenzene	2,000	3,200	JH	ppbv	1600	10/5/2011 8:42:00 AM
Heptane	24,000	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Hexachlorobutadiene	ND	3,200	H	ppbv	1600	10/5/2011 8:42:00 AM
m,p-Xylene	3,400	3,200	H	ppbv	1600	10/5/2011 8:42:00 AM
Methylene chloride	36,000	8,000	H	ppbv	1600	10/5/2011 8:42:00 AM
Naphthalene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
n-Hexane	97,000	3,200	H	ppbv	1600	10/5/2011 8:42:00 AM
o-Xylene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Propylene	4,700	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Styrene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
tert-Butyl Methyl Ether	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Tetrachloroethene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Tetrahydrofuran	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Toluene	87,000	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
trans-1,2-Dichloroethene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
trans-1,3-dichloropropene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Trichloroethene	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Trichlorofluoromethane	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Vinyl acetate	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM
Vinyl chloride	ND	1,600	H	ppbv	1600	10/5/2011 8:42:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/4/2011 1:57:00 PM

Project: Kirtland AFB

Lab ID: 1108688-019 **Matrix:** AIR

Client Sample ID VA0612

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	3,400	4,800	JH	ppbv	1600	10/5/2011 8:42:00 AM
Surr: 4-Bromofluorobenzene	112	70-130	H	%REC	1600	10/5/2011 8:42:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	19,000,000	940,000		µg/m³	8000	8/30/2011 5:46:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,100,000		µg/m³	8000	8/30/2011 5:46:00 PM
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000		µg/m³	8000	8/30/2011 5:46:00 PM
Surr: 4-Bromofluorobenzene	92.8	70-130		%REC	8000	8/30/2011 5:46:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 3:36:00 PM

Project: Kirtland AFB

Lab ID: 1108688-020 **Matrix:** AIR

Client Sample ID VA0675

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.10	0.10		%	1	9/1/2011 1:52:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 1:52:00 PM
Methane	ND	0.50		%	1	9/1/2011 1:52:00 PM
Nitrogen	78	0.10		%	1	9/1/2011 1:52:00 PM
Oxygen	21	0.10		%	1	9/1/2011 1:52:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,3-Butadiene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
1,4-Dioxane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
2-Butanone	26	10	H	ppbv	10	10/4/2011 11:03:00 PM
2-Hexanone	10	10	H	ppbv	10	10/4/2011 11:03:00 PM
2-Propanol	15	10	H	ppbv	10	10/4/2011 11:03:00 PM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Acetone	43	10	H	ppbv	10	10/4/2011 11:03:00 PM
Benzene	15	10	H	ppbv	10	10/4/2011 11:03:00 PM
Benzyl chloride	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Bromodichloromethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Bromoform	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 3:36:00 PM

Project: Kirtland AFB

Lab ID: 1108688-020 **Matrix:** AIR

Client Sample ID VA0675

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Carbon disulfide	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Carbon tetrachloride	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Chlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Chlorodibromomethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Chloroethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Chloroform	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Chloromethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Cyclohexane	34	20	H	ppbv	10	10/4/2011 11:03:00 PM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Ethanol	38	50	JH	ppbv	10	10/4/2011 11:03:00 PM
Ethyl acetate	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Ethylbenzene	ND	20	H	ppbv	10	10/4/2011 11:03:00 PM
Heptane	14	10	H	ppbv	10	10/4/2011 11:03:00 PM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/4/2011 11:03:00 PM
m,p-Xylene	ND	20	H	ppbv	10	10/4/2011 11:03:00 PM
Methylene chloride	ND	50	H	ppbv	10	10/4/2011 11:03:00 PM
Naphthalene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
n-Hexane	16	20	JH	ppbv	10	10/4/2011 11:03:00 PM
o-Xylene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Propylene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Styrene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Tetrachloroethene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Tetrahydrofuran	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Toluene	47	10	H	ppbv	10	10/4/2011 11:03:00 PM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Trichloroethene	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Vinyl acetate	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM
Vinyl chloride	ND	10	H	ppbv	10	10/4/2011 11:03:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 3:36:00 PM

Project: Kirtland AFB

Lab ID: 1108688-020 **Matrix:** AIR

Client Sample ID VA0675

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/4/2011 11:03:00 PM
Surr: 4-Bromofluorobenzene	112	70-130	H	%REC	10	10/4/2011 11:03:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	6,300	1,200		µg/m³	10	8/25/2011 6:35:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 6:35:00 PM
C9-C12 Aliphatic Hydrocarbons	2,800	1,900		µg/m³	10	8/25/2011 6:35:00 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%REC	10	8/25/2011 6:35:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 4:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-021 **Matrix:** AIR

Client Sample ID VA0676

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.096	0.10	J	%	1	9/1/2011 2:16:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 2:16:00 PM
Methane	ND	0.50		%	1	9/1/2011 2:16:00 PM
Nitrogen	78	0.10		%	1	9/1/2011 2:16:00 PM
Oxygen	21	0.10		%	1	9/1/2011 2:16:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,3-Butadiene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
1,4-Dioxane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
2-Butanone	23	10	H	ppbv	10	10/4/2011 11:47:00 PM
2-Hexanone	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
2-Propanol	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Acetone	44	10	H	ppbv	10	10/4/2011 11:47:00 PM
Benzene	15	10	H	ppbv	10	10/4/2011 11:47:00 PM
Benzyl chloride	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Bromodichloromethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Bromoform	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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RTI LABORATORIES, INC.

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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 4:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-021 **Matrix:** AIR

Client Sample ID VA0676

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Carbon disulfide	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Carbon tetrachloride	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Chlorobenzene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Chlorodibromomethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Chloroethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Chloroform	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Chloromethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Cyclohexane	27	20	H	ppbv	10	10/4/2011 11:47:00 PM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Ethanol	35	50	JH	ppbv	10	10/4/2011 11:47:00 PM
Ethyl acetate	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Ethylbenzene	ND	20	H	ppbv	10	10/4/2011 11:47:00 PM
Heptane	11	10	H	ppbv	10	10/4/2011 11:47:00 PM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/4/2011 11:47:00 PM
m,p-Xylene	ND	20	H	ppbv	10	10/4/2011 11:47:00 PM
Methylene chloride	ND	50	H	ppbv	10	10/4/2011 11:47:00 PM
Naphthalene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
n-Hexane	13	20	JH	ppbv	10	10/4/2011 11:47:00 PM
o-Xylene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Propylene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Styrene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Tetrachloroethene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Tetrahydrofuran	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Toluene	42	10	H	ppbv	10	10/4/2011 11:47:00 PM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Trichloroethene	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Vinyl acetate	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM
Vinyl chloride	ND	10	H	ppbv	10	10/4/2011 11:47:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/2/2011 4:14:00 PM

Project: Kirtland AFB

Lab ID: 1108688-021 **Matrix:** AIR

Client Sample ID VA0676

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/4/2011 11:47:00 PM
Surr: 4-Bromofluorobenzene	110	70-130	H	%REC	10	10/4/2011 11:47:00 PM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	5,700	1,200		µg/m³	10	8/25/2011 7:18:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 7:18:00 PM
C9-C12 Aliphatic Hydrocarbons	2,500	1,900		µg/m³	10	8/25/2011 7:18:00 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%REC	10	8/25/2011 7:18:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:03:00 AM

Project: Kirtland AFB

Lab ID: 1108688-022 **Matrix:** AIR

Client Sample ID VA0677

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.10	0.10		%	1	9/1/2011 5:36:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 5:36:00 PM
Methane	ND	0.50		%	1	9/1/2011 5:36:00 PM
Nitrogen	78	0.10		%	1	9/1/2011 5:36:00 PM
Oxygen	21	0.10		%	1	9/1/2011 5:36:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,3-Butadiene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
1,4-Dioxane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
2-Butanone	13	10	H	ppbv	10	10/5/2011 12:32:00 AM
2-Hexanone	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
2-Propanol	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Acetone	26	10	H	ppbv	10	10/5/2011 12:32:00 AM
Benzene	15	10	H	ppbv	10	10/5/2011 12:32:00 AM
Benzyl chloride	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Bromodichloromethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Bromoform	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:03:00 AM

Project: Kirtland AFB

Lab ID: 1108688-022 **Matrix:** AIR

Client Sample ID VA0677

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Carbon disulfide	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Carbon tetrachloride	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Chlorobenzene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Chlorodibromomethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Chloroethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Chloroform	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Chloromethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Cyclohexane	20	20	H	ppbv	10	10/5/2011 12:32:00 AM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Ethanol	20	50	JH	ppbv	10	10/5/2011 12:32:00 AM
Ethyl acetate	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Ethylbenzene	ND	20	H	ppbv	10	10/5/2011 12:32:00 AM
Heptane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/5/2011 12:32:00 AM
m,p-Xylene	ND	20	H	ppbv	10	10/5/2011 12:32:00 AM
Methylene chloride	ND	50	H	ppbv	10	10/5/2011 12:32:00 AM
Naphthalene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
n-Hexane	ND	20	H	ppbv	10	10/5/2011 12:32:00 AM
o-Xylene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Propylene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Styrene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Tetrachloroethene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Tetrahydrofuran	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Toluene	53	10	H	ppbv	10	10/5/2011 12:32:00 AM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Trichloroethene	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Vinyl acetate	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM
Vinyl chloride	ND	10	H	ppbv	10	10/5/2011 12:32:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:03:00 AM

Project: Kirtland AFB

Lab ID: 1108688-022 **Matrix:** AIR

Client Sample ID VA0677

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/5/2011 12:32:00 AM
Surr: 4-Bromofluorobenzene	111	70-130	H	%REC	10	10/5/2011 12:32:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	4,600	1,200		µg/m³	10	8/25/2011 8:01:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 8:01:00 PM
C9-C12 Aliphatic Hydrocarbons	1,600	1,900	J	µg/m³	10	8/25/2011 8:01:00 PM
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	10	8/25/2011 8:01:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-023 **Matrix:** AIR

Client Sample ID VA0678

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NONCONDENSABLE GASES AND LIGHT HYDROCARBONS				**ASTM-D2504**		Analyst: **MB**
Carbon dioxide	0.068	0.10	J	%	1	9/1/2011 5:56:00 PM
Carbon Monoxide	ND	0.10		%	1	9/1/2011 5:56:00 PM
Methane	ND	0.50		%	1	9/1/2011 5:56:00 PM
Nitrogen	77	0.10		%	1	9/1/2011 5:56:00 PM
Oxygen	21	0.10		%	1	9/1/2011 5:56:00 PM
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,1,2,2-Tetrachloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,1,2-Trichloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,1-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,1-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2,4-Trichlorobenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2,4-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2-Dibromoethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2-Dichloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,2-Dichloropropane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,3,5-Trimethylbenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,3-Butadiene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,3-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,4-Dichlorobenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
1,4-Dioxane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
2-Butanone	16	10	H	ppbv	10	10/5/2011 1:16:00 AM
2-Hexanone	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
2-Propanol	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
4-Methyl-2-pentanone	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Acetone	27	10	H	ppbv	10	10/5/2011 1:16:00 AM
Benzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Benzyl chloride	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Bromodichloromethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Bromoform	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-023 **Matrix:** AIR

Client Sample ID VA0678

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Bromomethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Carbon disulfide	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Carbon tetrachloride	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Chlorobenzene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Chlorodibromomethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Chloroethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Chloroform	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Chloromethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
cis-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
cis-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Cyclohexane	15	20	JH	ppbv	10	10/5/2011 1:16:00 AM
Dichlorodifluoromethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Ethanol	22	50	JH	ppbv	10	10/5/2011 1:16:00 AM
Ethyl acetate	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Ethylbenzene	ND	20	H	ppbv	10	10/5/2011 1:16:00 AM
Heptane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Hexachlorobutadiene	ND	20	H	ppbv	10	10/5/2011 1:16:00 AM
m,p-Xylene	ND	20	H	ppbv	10	10/5/2011 1:16:00 AM
Methylene chloride	ND	50	H	ppbv	10	10/5/2011 1:16:00 AM
Naphthalene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
n-Hexane	ND	20	H	ppbv	10	10/5/2011 1:16:00 AM
o-Xylene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Propylene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Styrene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
tert-Butyl Methyl Ether	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Tetrachloroethene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Tetrahydrofuran	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Toluene	22	10	H	ppbv	10	10/5/2011 1:16:00 AM
trans-1,2-Dichloroethene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
trans-1,3-dichloropropene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Trichloroethene	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Trichlorofluoromethane	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Vinyl acetate	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM
Vinyl chloride	ND	10	H	ppbv	10	10/5/2011 1:16:00 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
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RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 9:50:00 AM

Project: Kirtland AFB

Lab ID: 1108688-023 **Matrix:** AIR

Client Sample ID VA0678

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
Xylenes, Total	ND	30	H	ppbv	10	10/5/2011 1:16:00 AM
Surr: 4-Bromofluorobenzene	110	70-130	H	%REC	10	10/5/2011 1:16:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	3,700	1,200		µg/m³	10	8/25/2011 8:45:00 PM
C9-C10 Aromatic Hydrocarbons	ND	1,300		µg/m³	10	8/25/2011 8:45:00 PM
C9-C12 Aliphatic Hydrocarbons	1,400	1,900	J	µg/m³	10	8/25/2011 8:45:00 PM
Surr: 4-Bromofluorobenzene	96.8	70-130		%REC	10	8/25/2011 8:45:00 PM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/10/2011 2:22:00 PM

Project: Kirtland AFB

Lab ID: 1108688-024 **Matrix:** AIR

Client Sample ID VA0686-R

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,1,2,2-Tetrachloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,1,2-Trichloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,1-Dichloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,1-Dichloroethene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2,4-Trichlorobenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2,4-Trimethylbenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2-Dibromoethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2-Dichlorobenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2-Dichloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,2-Dichloropropane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,3,5-Trimethylbenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,3-Butadiene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,3-Dichlorobenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,4-Dichlorobenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
1,4-Dioxane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
2-Butanone	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
2-Hexanone	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
2-Propanol	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
4-Methyl-2-pentanone	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Acetone	1,500	800	H	ppbv	800	9/22/2011 7:09:00 AM
Benzene	26,000	800	H	ppbv	800	9/22/2011 7:09:00 AM
Benzyl chloride	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Bromodichloromethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Bromoform	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Bromomethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Carbon disulfide	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Carbon tetrachloride	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Chlorobenzene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Chlorodibromomethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Chloroethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Chloroform	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Chloromethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
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RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/10/2011 2:22:00 PM

Project: Kirtland AFB

Lab ID: 1108688-024 **Matrix:** AIR

Client Sample ID VA0686-R

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
cis-1,2-Dichloroethene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
cis-1,3-dichloropropene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Cyclohexane	9,500	1,600	H	ppbv	800	9/22/2011 7:09:00 AM
Dichlorodifluoromethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Ethanol	ND	4,000	H	ppbv	800	9/22/2011 7:09:00 AM
Ethyl acetate	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Ethylbenzene	1,000	1,600	JH	ppbv	800	9/22/2011 7:09:00 AM
Heptane	2,700	800	H	ppbv	800	9/22/2011 7:09:00 AM
Hexachlorobutadiene	ND	1,600	H	ppbv	800	9/22/2011 7:09:00 AM
m,p-Xylene	1,700	1,600	H	ppbv	800	9/22/2011 7:09:00 AM
Methylene chloride	2,700	4,000	JH	ppbv	800	9/22/2011 7:09:00 AM
Naphthalene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
n-Hexane	6,000	1,600	H	ppbv	800	9/22/2011 7:09:00 AM
o-Xylene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Propylene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Styrene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
tert-Butyl Methyl Ether	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Tetrachloroethene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Tetrahydrofuran	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Toluene	21,000	800	H	ppbv	800	9/22/2011 7:09:00 AM
trans-1,2-Dichloroethene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
trans-1,3-dichloropropene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Trichloroethene	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Trichlorofluoromethane	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Vinyl acetate	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Vinyl chloride	ND	800	H	ppbv	800	9/22/2011 7:09:00 AM
Xylenes, Total	1,700	2,400	JH	ppbv	800	9/22/2011 7:09:00 AM
Surr: 4-Bromofluorobenzene	110	70-130	H	%REC	800	9/22/2011 7:09:00 AM
MASS APH AIR AIR-PHASE PETROLEUM HYDROCARBONS				**MA_APH**		Analyst: **RH3**
C5-C8 Aliphatic Hydrocarbons	290,000	94,000		µg/m³	800	9/1/2011 2:44:00 AM
C9-C10 Aromatic Hydrocarbons	ND	110,000		µg/m³	800	9/1/2011 2:44:00 AM
C9-C12 Aliphatic Hydrocarbons	ND	150,000		µg/m³	800	9/1/2011 2:44:00 AM

Qualifiers:

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J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/10/2011 2:22:00 PM

Project: Kirtland AFB

Lab ID: 1108688-024 **Matrix:** AIR

Client Sample ID VA0686-R

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MASS APH AIR				**MA_APH**		Analyst: **RH3**
AIR-PHASE PETROLEUM HYDROCARBONS						
Surr: 4-Bromofluorobenzene	97.4	70-130		%REC	800	9/1/2011 2:44:00 AM

Qualifiers:				
	*/X	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Estimated concentration	M	Manual Integration used to determine area response
	ND	Not Detected at the Reporting Limit	PL	Permit Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 12:00:00 PM

Project: Kirtland AFB

Lab ID: 1108688-025 **Matrix:** AIR

Client Sample ID VA8035-TB

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
1,1,1-Trichloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,1,2,2-Tetrachloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,1,2-Trichloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,1-Dichloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,1-Dichloroethene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2,4-Trichlorobenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2,4-Trimethylbenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2-Dibromoethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2-Dichlorobenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2-Dichloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,2-Dichloropropane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,3,5-Trimethylbenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,3-Butadiene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,3-Dichlorobenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,4-Dichlorobenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
1,4-Dioxane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
2-Butanone	1,400	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
2-Hexanone	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
2-Propanol	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
4-Methyl-2-pentanone	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Acetone	11,000	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Benzene	2,100	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Benzyl chloride	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Bromodichloromethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Bromoform	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Bromomethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Carbon disulfide	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Carbon tetrachloride	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Chlorobenzene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Chlorodibromomethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Chloroethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Chloroform	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Chloromethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM

Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response
ND	Not Detected at the Reporting Limit	PL	Permit Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

Revision v1

RTI LABORATORIES, INC.

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Website: www.rtilabs.com

Analytical Report

(consolidated)

WO#: **1108688**

Date Reported: **10/20/2011**

CLIENT: Shaw Environmental & Infrastructure, Inc **Collection Date:** 8/3/2011 12:00:00 PM

Project: Kirtland AFB

Lab ID: 1108688-025 **Matrix:** AIR

Client Sample ID VA8035-TB

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS				**TO-15**		Analyst: **RH3**
cis-1,2-Dichloroethene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
cis-1,3-dichloropropene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Cyclohexane	ND	2,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Dichlorodifluoromethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Ethanol	ND	5,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Ethyl acetate	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Ethylbenzene	ND	2,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Heptane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Hexachlorobutadiene	ND	2,000	H	ppbv	1000	10/5/2011 11:04:00 AM
m,p-Xylene	1,200	2,000	JH	ppbv	1000	10/5/2011 11:04:00 AM
Methylene chloride	78,000	5,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Naphthalene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
n-Hexane	12,000	2,000	H	ppbv	1000	10/5/2011 11:04:00 AM
o-Xylene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Propylene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Styrene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
tert-Butyl Methyl Ether	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Tetrachloroethene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Tetrahydrofuran	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Toluene	6,700	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
trans-1,2-Dichloroethene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
trans-1,3-dichloropropene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Trichloroethene	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Trichlorofluoromethane	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Vinyl acetate	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Vinyl chloride	ND	1,000	H	ppbv	1000	10/5/2011 11:04:00 AM
Xylenes, Total	1,200	3,000	JH	ppbv	1000	10/5/2011 11:04:00 AM
Surr: 4-Bromofluorobenzene	112	70-130	H	%REC	1000	10/5/2011 11:04:00 AM

Qualifiers:

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42461**

Sample ID: **MBLK 082511A VOA** SampType: **MBLK** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42461**
Client ID: **PBW** Batch ID: **R42461** TestNo: **MA_APH** Analysis Date: **8/25/2011** SeqNo: **822175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	33	120									J
C9-C10 Aromatic Hydrocarbons	ND	130									
C9-C12 Aliphatic Hydrocarbons	ND	190									
Surr: 4-Bromofluorobenzene	87		89.50		97.5	70	130				

Sample ID: **1108344-012ADUP** SampType: **DUP** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42461**
Client ID: **ZZZZZZ** Batch ID: **R42461** TestNo: **MA_APH** Analysis Date: **8/25/2011** SeqNo: **822177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	6,200	4,700						5,452	12.6	30	
C9-C10 Aromatic Hydrocarbons	ND	5,300						0	0	30	
C9-C12 Aliphatic Hydrocarbons	ND	7,600						0	0	30	
Surr: 4-Bromofluorobenzene	3,600		3,580		102	70	130		0	30	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42540**

Sample ID: **MBLK 083011 VOA9** SampType: **MBLK** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42540**
Client ID: **PBW** Batch ID: **R42540** TestNo: **MA_APH** Analysis Date: **8/30/2011** SeqNo: **824400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	46	120									J
C9-C10 Aromatic Hydrocarbons	ND	130									
C9-C12 Aliphatic Hydrocarbons	ND	190									
Surr: 4-Bromofluorobenzene	86		89.50		95.6	70	130				

Sample ID: **1108899-037ADUP** SampType: **DUP** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42540**
Client ID: **ZZZZZZ** Batch ID: **R42540** TestNo: **MA_APH** Analysis Date: **8/30/2011** SeqNo: **824402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	7,100	4,700						5,864	18.9	30	
C9-C10 Aromatic Hydrocarbons	ND	5,300						0	0	30	
C9-C12 Aliphatic Hydrocarbons	ND	7,600						0	0	30	
Surr: 4-Bromofluorobenzene	3,400		3,580		94.2	70	130		0	30	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R42572**

Sample ID: **MBLK 083111 VOA9** SampType: **MBLK** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42572**

Client ID: **PBW** Batch ID: **R42572** TestNo: **MA_APH** Analysis Date: **8/31/2011** SeqNo: **825011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	39	120									J
C9-C10 Aromatic Hydrocarbons	ND	130									
C9-C12 Aliphatic Hydrocarbons	ND	190									
Surr: 4-Bromofluorobenzene	84		89.50		94.1	70	130				

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42638**

Sample ID: **MBLK 090111 VOA9** SampType: **MBLK** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42638**
Client ID: **PBW** Batch ID: **R42638** TestNo: **MA_APH** Analysis Date: **9/1/2011** SeqNo: **826580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	44	120									J
C9-C10 Aromatic Hydrocarbons	ND	130									
C9-C12 Aliphatic Hydrocarbons	ND	190									
Surr: 4-Bromofluorobenzene	86		89.50		96.0	70	130				

Sample ID: **1108899-022ADUP** SampType: **DUP** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42638**
Client ID: **ZZZZZZ** Batch ID: **R42638** TestNo: **MA_APH** Analysis Date: **9/1/2011** SeqNo: **826590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	35,000	4,700						32,840	6.69	30	
C9-C10 Aromatic Hydrocarbons	ND	5,300						0	0	30	
C9-C12 Aliphatic Hydrocarbons	6,500	7,600						6,425	1.02	30	J
Surr: 4-Bromofluorobenzene	3,400		3,580		94.6	70	130		0	30	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42684**

Sample ID: **mblk** SampType: **MBLK** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42684**
Client ID: **PBW** Batch ID: **R42684** TestNo: **ASTM-D2504** Analysis Date: **8/29/2011** SeqNo: **827961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	ND	0.10									
Carbon Monoxide	ND	0.10									
Methane	ND	0.50									
Nitrogen	ND	0.10									
Oxygen	ND	0.10									

Sample ID: **lcs** SampType: **LCS** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42684**
Client ID: **LCSW** Batch ID: **R42684** TestNo: **ASTM-D2504** Analysis Date: **8/29/2011** SeqNo: **827963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	2.8	0.10	2.500	0	113	70	130	2.820	0	0	
Carbon Monoxide	2.6	0.10	2.500	0	103	70	130	2.568	0.737	0	
Methane	2.0	0.50	2.000	0	97.6	70	130	1.916	1.81	0	
Nitrogen	2.6	0.10	2.500	0	102	70	130	2.622	2.63	0	
Oxygen	2.6	0.10	2.500	0	105	70	130	2.624	0.114	0	

Sample ID: **1108688-010bdup** SampType: **DUP** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42684**
Client ID: **VA0501** Batch ID: **R42684** TestNo: **ASTM-D2504** Analysis Date: **8/29/2011** SeqNo: **827975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	0.24	0.10						0.2360	0.423	20	
Carbon Monoxide	ND	0.10						0	0	20	
Methane	ND	0.50						0	0	20	
Nitrogen	79	0.10						78.17	0.499	20	
Oxygen	21	0.10						20.48	0.127	20	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42685**

Sample ID: **mblk** SampType: **MBLK** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42685**
Client ID: **PBW** Batch ID: **R42685** TestNo: **ASTM-D2504** Analysis Date: **9/1/2011** SeqNo: **828009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	ND	0.10									
Carbon Monoxide	ND	0.10									
Methane	ND	0.50									
Nitrogen	ND	0.10									
Oxygen	ND	0.10									

Sample ID: **lcs** SampType: **LCS** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42685**
Client ID: **LCSW** Batch ID: **R42685** TestNo: **ASTM-D2504** Analysis Date: **9/1/2011** SeqNo: **828011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	2.7	0.10	2.500	0	108	70	130	2.784	2.66	0	
Carbon Monoxide	2.6	0.10	2.500	0	104	70	130	2.589	0.193	0	
Methane	2.0	0.50	2.000	0	98.3	70	130	1.963	0.153	0	
Nitrogen	2.7	0.10	2.500	0	106	70	130	2.583	2.67	0	
Oxygen	2.7	0.10	2.500	0	106	70	130	2.630	0.871	0	

Sample ID: **1108688-023bdup** SampType: **DUP** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42685**
Client ID: **VA0678** Batch ID: **R42685** TestNo: **ASTM-D2504** Analysis Date: **9/1/2011** SeqNo: **828022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	0.076	0.10						0.06800	11.1	20	J
Carbon Monoxide	ND	0.10						0	0	20	
Methane	ND	0.50						0	0	20	
Nitrogen	78	0.10						77.50	0.0297	20	
Oxygen	21	0.10						20.74	0.0868	20	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42686**

Sample ID: **mblk** SampType: **MBLK** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42686**
Client ID: **PBW** Batch ID: **R42686** TestNo: **ASTM-D2504** Analysis Date: **9/2/2011** SeqNo: **827997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	ND	0.10									
Carbon Monoxide	ND	0.10									
Methane	ND	0.50									
Nitrogen	ND	0.10									
Oxygen	ND	0.10									

Sample ID: **lcs** SampType: **LCS** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42686**
Client ID: **LCSW** Batch ID: **R42686** TestNo: **ASTM-D2504** Analysis Date: **9/2/2011** SeqNo: **827999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	2.8	0.10	2.500	0	111	70	130	2.762	0.0362	0	
Carbon Monoxide	2.6	0.10	2.500	0	102	70	130	2.582	0.817	0	
Methane	1.9	0.50	2.000	0	96.4	70	130	1.963	1.80	0	
Nitrogen	2.6	0.10	2.500	0	102	70	130	2.569	0.546	0	
Oxygen	2.6	0.10	2.500	0	104	70	130	2.621	0.766	0	

Sample ID: **1108899-018bdup** SampType: **DUP** TestCode: **ASTM-D2504** Units: **%** Prep Date: RunNo: **42686**
Client ID: **ZZZZZZ** Batch ID: **R42686** TestNo: **ASTM-D2504** Analysis Date: **9/2/2011** SeqNo: **828006**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon dioxide	0.21	0.10						0.2100	0	20	
Carbon Monoxide	ND	0.10						0	0	20	
Methane	ND	0.50						0	0	20	
Nitrogen	79	0.10						79.59	0.289	20	
Oxygen	19	0.10						19.18	0.329	20	

Qualifiers:
*/X Value exceeds Maximum Contaminant Level
J Estimated concentration
R RPD outside accepted recovery limits
E Value above quantitation range
M Manual Integration used to determine area response
RL Reporting Limit
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

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Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: R42963

Sample ID: **BLK VOA1 092111** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**
Client ID: **PBW** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Butadiene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	1.0									
2-Hexanone	ND	1.0									
2-Propanol	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	1.0									
Benzene	ND	1.0									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									

Qualifiers:

**/X*	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42963**

Sample ID: **BLK VOA1 092111** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**
Client ID: **PBW** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chlorodibromomethane	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Cyclohexane	ND	2.0									
Dichlorodifluoromethane	ND	1.0									
Ethanol	ND	5.0									
Ethyl acetate	ND	1.0									
Ethylbenzene	ND	2.0									
Heptane	ND	1.0									
Hexachlorobutadiene	ND	2.0									
m,p-Xylene	ND	2.0									
Methylene chloride	ND	5.0									
Naphthalene	ND	1.0									
n-Hexane	ND	2.0									
o-Xylene	ND	1.0									
Propylene	ND	1.0									
Styrene	ND	1.0									
tert-Butyl Methyl Ether	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42963**

Sample ID: **BLK VOA1 092111** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**
Client ID: **PBW** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	ND	1.0									
Toluene	ND	1.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	14		12.50		110	70	130				

Sample ID: **1108899-019ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**
Client ID: **ZZZZZZ** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	40						0	0	25	H
1,1,2,2-Tetrachloroethane	ND	40						0	0	25	H
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	40						0	0	25	H
1,1,2-Trichloroethane	ND	40						0	0	25	H
1,1-Dichloroethane	ND	40						0	0	25	H
1,1-Dichloroethene	ND	40						0	0	25	H
1,2,4-Trichlorobenzene	ND	40						0	0	25	H
1,2,4-Trimethylbenzene	ND	40						0	0	25	H
1,2-Dibromoethane	ND	40						0	0	25	H
1,2-Dichlorobenzene	ND	40						0	0	25	H
1,2-Dichloroethane	ND	40						0	0	25	H

Qualifiers:
- */X Value exceeds Maximum Contaminant Level
- J Estimated concentration
- R RPD outside accepted recovery limits
- E Value above quantitation range
- M Manual Integration used to determine area response
- RL Reporting Limit
- H Holding times for preparation or analysis exceede
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R42963**

Sample ID: **1108899-019ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**

Client ID: **ZZZZZZ** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	40						0	0	25	H
1,3,5-Trimethylbenzene	ND	40						0	0	25	H
1,3-Butadiene	ND	40						0	0	25	H
1,3-Dichlorobenzene	ND	40						0	0	25	H
1,4-Dichlorobenzene	ND	40						0	0	25	H
1,4-Dioxane	ND	40						0	0	25	H
2-Butanone	ND	40						0	0	25	H
2-Hexanone	ND	40						0	0	25	H
2-Propanol	ND	40						0	0	25	H
4-Methyl-2-pentanone	ND	40						0	0	25	H
Acetone	ND	40						0	0	25	H
Benzene	630	40						564.4	11.3	25	H
Benzyl chloride	ND	40						0	0	25	H
Bromodichloromethane	ND	40						0	0	25	H
Bromoform	ND	40						0	0	25	H
Bromomethane	ND	40						0	0	25	H
Carbon disulfide	ND	40						0	0	25	H
Carbon tetrachloride	ND	40						0	0	25	H
Chlorobenzene	ND	40						0	0	25	H
Chlorodibromomethane	ND	40						0	0	25	H
Chloroethane	ND	40						0	0	25	H
Chloroform	ND	40						0	0	25	H
Chloromethane	ND	40						0	0	25	H
cis-1,2-Dichloroethene	ND	40						0	0	25	H
cis-1,3-dichloropropene	ND	40						0	0	25	H
Cyclohexane	750	80						685.6	8.87	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R42963**

Sample ID: **1108899-019ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **42963**
Client ID: **ZZZZZZ** Batch ID: **R42963** TestNo: **TO-15** Analysis Date: **9/21/2011** SeqNo: **835672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	40						0	0	25	H
Ethanol	ND	200						0	0	25	H
Ethyl acetate	ND	40						0	0	25	H
Ethylbenzene	53	80						51.20	3.83	25	JH
Heptane	500	40						496.0	0.402	25	H
Hexachlorobutadiene	ND	80						0	0	25	H
m,p-Xylene	110	80						106.4	2.96	25	H
Methylene chloride	ND	200						0	0	25	H
Naphthalene	ND	40						0	0	25	H
n-Hexane	580	80						505.2	13.1	25	H
o-Xylene	ND	40						0	0	25	H
Propylene	ND	40						0	0	25	H
Styrene	ND	40						0	0	25	H
tert-Butyl Methyl Ether	ND	40						0	0	25	H
Tetrachloroethene	ND	40						0	0	25	H
Tetrahydrofuran	ND	40						0	0	25	H
Toluene	1,600	40						1,416	9.57	25	H
trans-1,2-Dichloroethene	ND	40						0	0	25	H
trans-1,3-dichloropropene	ND	40						0	0	25	H
Trichloroethene	ND	40						0	0	25	H
Trichlorofluoromethane	ND	40						0	0	25	H
Vinyl acetate	ND	40						0	0	25	H
Vinyl chloride	ND	40						0	0	25	H
Xylenes, Total	110	120						106.4	2.96	25	JH
Surr: 4-Bromofluorobenzene	520		500.0		104	70	130		0	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: R42997

Sample ID: **BLK1 092111 VOA9** SampType: **MBLK** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42997**
Client ID: **PBW** Batch ID: **R42997** TestNo: **MA_APH** Analysis Date: **9/21/2011** SeqNo: **836505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	100	120									J
C9-C10 Aromatic Hydrocarbons	ND	130									
C9-C12 Aliphatic Hydrocarbons	ND	190									
Surr: 4-Bromofluorobenzene	91		89.50		102	70	130				

Sample ID: **1108899-036ADUP** SampType: **DUP** TestCode: **MA_APH** Units: **µg/m³** Prep Date: RunNo: **42997**
Client ID: **ZZZZZZ** Batch ID: **R42997** TestNo: **MA_APH** Analysis Date: **9/22/2011** SeqNo: **836519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
C5-C8 Aliphatic Hydrocarbons	6,700,000	940,000						6,886,000	2.63	30	H
C9-C10 Aromatic Hydrocarbons	ND	1,100,000						0	0	30	H
C9-C12 Aliphatic Hydrocarbons	ND	1,500,000						0	0	30	H
Surr: 4-Bromofluorobenzene	740,000		716,000		103	70	130		0	30	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43000**

Sample ID: **BLK VOA1 092211** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**
Client ID: **PBW** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Butadiene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	1.0									
2-Hexanone	ND	1.0									
2-Propanol	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	1.0									
Benzene	ND	1.0									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R43000**

Sample ID: **BLK VOA1 092211** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**

Client ID: **PBW** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chlorodibromomethane	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Cyclohexane	ND	2.0									
Dichlorodifluoromethane	ND	1.0									
Ethanol	ND	5.0									
Ethyl acetate	ND	1.0									
Ethylbenzene	ND	2.0									
Heptane	ND	1.0									
Hexachlorobutadiene	ND	2.0									
m,p-Xylene	ND	2.0									
Methylene chloride	ND	5.0									
Naphthalene	ND	1.0									
n-Hexane	ND	2.0									
o-Xylene	ND	1.0									
Propylene	ND	1.0									
Styrene	ND	1.0									
tert-Butyl Methyl Ether	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43000**

Sample ID: **BLK VOA1 092211** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**
Client ID: **PBW** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	ND	1.0									
Toluene	ND	1.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	13		12.50		107	70	130				

Sample ID: **1108899-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**
Client ID: **ZZZZZZ** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	40						0	0	25	H
1,1,2,2-Tetrachloroethane	ND	40						0	0	25	H
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	40						0	0	25	H
1,1,2-Trichloroethane	ND	40						0	0	25	H
1,1-Dichloroethane	ND	40						0	0	25	H
1,1-Dichloroethene	ND	40						0	0	25	H
1,2,4-Trichlorobenzene	ND	40						0	0	25	H
1,2,4-Trimethylbenzene	ND	40						0	0	25	H
1,2-Dibromoethane	ND	40						0	0	25	H
1,2-Dichlorobenzene	ND	40						0	0	25	H
1,2-Dichloroethane	ND	40						0	0	25	H

Qualifiers:
- */X Value exceeds Maximum Contaminant Level
- J Estimated concentration
- R RPD outside accepted recovery limits
- E Value above quantitation range
- M Manual Integration used to determine area response
- RL Reporting Limit
- H Holding times for preparation or analysis exceeds
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43000**

Sample ID: **1108899-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**
Client ID: **ZZZZZZ** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	40						0	0	25	H
1,3,5-Trimethylbenzene	ND	40						0	0	25	H
1,3-Butadiene	ND	40						0	0	25	H
1,3-Dichlorobenzene	ND	40						0	0	25	H
1,4-Dichlorobenzene	ND	40						0	0	25	H
1,4-Dioxane	ND	40						0	0	25	H
2-Butanone	ND	40						0	0	25	H
2-Hexanone	ND	40						0	0	25	H
2-Propanol	ND	40						0	0	25	H
4-Methyl-2-pentanone	ND	40						0	0	25	H
Acetone	48	40						48.40	1.67	25	H
Benzene	960	40						902.8	5.77	25	H
Benzyl chloride	ND	40						0	0	25	H
Bromodichloromethane	ND	40						0	0	25	H
Bromoform	ND	40						0	0	25	H
Bromomethane	ND	40						0	0	25	H
Carbon disulfide	ND	40						0	0	25	H
Carbon tetrachloride	ND	40						0	0	25	H
Chlorobenzene	ND	40						0	0	25	H
Chlorodibromomethane	ND	40						0	0	25	H
Chloroethane	ND	40						0	0	25	H
Chloroform	ND	40						0	0	25	H
Chloromethane	ND	40						0	0	25	H
cis-1,2-Dichloroethene	ND	40						0	0	25	H
cis-1,3-dichloropropene	ND	40						0	0	25	H
Cyclohexane	1,800	80						1,659	6.44	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43000**

Sample ID: **1108899-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43000**
Client ID: **ZZZZZZ** Batch ID: **R43000** TestNo: **TO-15** Analysis Date: **9/22/2011** SeqNo: **836582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	40						0	0	25	H
Ethanol	ND	200						0	0	25	H
Ethyl acetate	ND	40						0	0	25	H
Ethylbenzene	56	80						58.40	4.20	25	JH
Heptane	1,300	40						1,348	3.56	25	H
Hexachlorobutadiene	ND	80						0	0	25	H
m,p-Xylene	200	80						204.0	3.59	25	H
Methylene chloride	ND	200						0	0	25	H
Naphthalene	ND	40						0	0	25	H
n-Hexane	1,200	80						993.2	15.2	25	H
o-Xylene	51	40						52.00	2.33	25	H
Propylene	ND	40						0	0	25	H
Styrene	ND	40						0	0	25	H
tert-Butyl Methyl Ether	ND	40						0	0	25	H
Tetrachloroethene	ND	40						0	0	25	H
Tetrahydrofuran	ND	40						0	0	25	H
Toluene	2,100	40						2,276	5.75	25	H
trans-1,2-Dichloroethene	ND	40						0	0	25	H
trans-1,3-dichloropropene	ND	40						0	0	25	H
Trichloroethene	ND	40						0	0	25	H
Trichlorofluoromethane	ND	40						0	0	25	H
Vinyl acetate	ND	40						0	0	25	H
Vinyl chloride	ND	40						0	0	25	H
Xylenes, Total	250	120						256.0	3.34	25	H
Surr: 4-Bromofluorobenzene	440		500.0		87.5	70	130		0	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43244**

Sample ID: **Blank VOA1 10041** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**
Client ID: **PBW** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/4/2011** SeqNo: **843281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Butadiene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	1.0									
2-Hexanone	ND	1.0									
2-Propanol	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	1.0									
Benzene	ND	1.0									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: R43244

Sample ID: **Blank VOA1 10041** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**
Client ID: **PBW** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/4/2011** SeqNo: **843281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chlorodibromomethane	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Cyclohexane	ND	2.0									
Dichlorodifluoromethane	ND	1.0									
Ethanol	ND	5.0									
Ethyl acetate	ND	1.0									
Ethylbenzene	ND	2.0									
Heptane	ND	1.0									
Hexachlorobutadiene	ND	2.0									
m,p-Xylene	ND	2.0									
Methylene chloride	ND	5.0									
Naphthalene	ND	1.0									
n-Hexane	ND	2.0									
o-Xylene	ND	1.0									
Propylene	ND	1.0									
Styrene	ND	1.0									
tert-Butyl Methyl Ether	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43244**

Sample ID: **Blank VOA1 10041** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**
Client ID: **PBW** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/4/2011** SeqNo: **843281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	ND	1.0									
Toluene	ND	1.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	14		12.50		113	70	130				

Sample ID: **1108688-010ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**
Client ID: **VA0501** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/5/2011** SeqNo: **844663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	8,000						0	0	25	H
1,1,2,2-Tetrachloroethane	ND	8,000						0	0	25	H
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000						0	0	25	H
1,1,2-Trichloroethane	ND	8,000						0	0	25	H
1,1-Dichloroethane	ND	8,000						0	0	25	H
1,1-Dichloroethene	ND	8,000						0	0	25	H
1,2,4-Trichlorobenzene	ND	8,000						0	0	25	H
1,2,4-Trimethylbenzene	ND	8,000						0	0	25	H
1,2-Dibromoethane	ND	8,000						0	0	25	H
1,2-Dichlorobenzene	ND	8,000						0	0	25	H
1,2-Dichloroethane	ND	8,000						0	0	25	H

Qualifiers:
- */X Value exceeds Maximum Contaminant Level
- J Estimated concentration
- R RPD outside accepted recovery limits
- E Value above quantitation range
- M Manual Integration used to determine area response
- RL Reporting Limit
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R43244**

Sample ID: **1108688-010ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**

Client ID: **VA0501** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/5/2011** SeqNo: **844663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	8,000						0	0	25	H
1,3,5-Trimethylbenzene	ND	8,000						0	0	25	H
1,3-Butadiene	ND	8,000						0	0	25	H
1,3-Dichlorobenzene	ND	8,000						0	0	25	H
1,4-Dichlorobenzene	ND	8,000						0	0	25	H
1,4-Dioxane	ND	8,000						0	0	25	H
2-Butanone	ND	8,000						0	0	25	H
2-Hexanone	ND	8,000						0	0	25	H
2-Propanol	ND	8,000						0	0	25	H
4-Methyl-2-pentanone	ND	8,000						0	0	25	H
Acetone	ND	8,000						0	0	25	H
Benzene	37,000	8,000						37,840	2.35	25	H
Benzyl chloride	ND	8,000						0	0	25	H
Bromodichloromethane	ND	8,000						0	0	25	H
Bromoform	ND	8,000						0	0	25	H
Bromomethane	ND	8,000						0	0	25	H
Carbon disulfide	ND	8,000						0	0	25	H
Carbon tetrachloride	ND	8,000						0	0	25	H
Chlorobenzene	ND	8,000						0	0	25	H
Chlorodibromomethane	ND	8,000						0	0	25	H
Chloroethane	ND	8,000						0	0	25	H
Chloroform	ND	8,000						0	0	25	H
Chloromethane	ND	8,000						0	0	25	H
cis-1,2-Dichloroethene	ND	8,000						0	0	25	H
cis-1,3-dichloropropene	ND	8,000						0	0	25	H
Cyclohexane	14,000	16,000						14,000	3.49	25	JH

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43244**

Sample ID: **1108688-010ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43244**
Client ID: **VA0501** Batch ID: **R43244** TestNo: **TO-15** Analysis Date: **10/5/2011** SeqNo: **844663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	8,000						0	0	25	H
Ethanol	ND	40,000						0	0	25	H
Ethyl acetate	ND	8,000						0	0	25	H
Ethylbenzene	ND	16,000						0	0	25	H
Heptane	ND	8,000						0	0	25	H
Hexachlorobutadiene	ND	16,000						0	0	25	H
m,p-Xylene	ND	16,000						0	0	25	H
Methylene chloride	ND	40,000						0	0	25	H
Naphthalene	ND	8,000						0	0	25	H
n-Hexane	8,200	16,000						8,240	0.976	25	JH
o-Xylene	ND	8,000						0	0	25	H
Propylene	ND	8,000						0	0	25	H
Styrene	ND	8,000						0	0	25	H
tert-Butyl Methyl Ether	ND	8,000						0	0	25	H
Tetrachloroethene	ND	8,000						0	0	25	H
Tetrahydrofuran	ND	8,000						0	0	25	H
Toluene	8,400	8,000						8,720	3.74	25	H
trans-1,2-Dichloroethene	ND	8,000						0	0	25	H
trans-1,3-dichloropropene	ND	8,000						0	0	25	H
Trichloroethene	ND	8,000						0	0	25	H
Trichlorofluoromethane	ND	8,000						0	0	25	H
Vinyl acetate	ND	8,000						0	0	25	H
Vinyl chloride	ND	8,000						0	0	25	H
Xylenes, Total	ND	24,000						0	0	25	H
Surr: 4-Bromofluorobenzene	120,000		100,000		117	70	130		0	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: R43330

Sample ID: **BLANK VOA1 10061** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**
Client ID: **PBW** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/6/2011** SeqNo: **845957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Butadiene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	1.0									
2-Hexanone	ND	1.0									
2-Propanol	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	1.0									
Benzene	ND	1.0									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: R43330

Sample ID: **BLANK VOA1 10061** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**
Client ID: **PBW** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/6/2011** SeqNo: **845957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chlorodibromomethane	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Cyclohexane	ND	2.0									
Dichlorodifluoromethane	ND	1.0									
Ethanol	ND	5.0									
Ethyl acetate	ND	1.0									
Ethylbenzene	ND	2.0									
Heptane	ND	1.0									
Hexachlorobutadiene	ND	2.0									
m,p-Xylene	ND	2.0									
Methylene chloride	ND	5.0									
Naphthalene	ND	1.0									
n-Hexane	ND	2.0									
o-Xylene	ND	1.0									
Propylene	ND	1.0									
Styrene	ND	1.0									
tert-Butyl Methyl Ether	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB
BatchID: **R43330**

Sample ID: **BLANK VOA1 10061** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**
Client ID: **PBW** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/6/2011** SeqNo: **845957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	ND	1.0									
Toluene	ND	1.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	14		12.50		114	70	130				

Sample ID: **1109555-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**
Client ID: **ZZZZZZ** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/7/2011** SeqNo: **845969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	8,000						0	0	25	H
1,1,2,2-Tetrachloroethane	ND	8,000						0	0	25	H
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000						0	0	25	H
1,1,2-Trichloroethane	ND	8,000						0	0	25	H
1,1-Dichloroethane	ND	8,000						0	0	25	H
1,1-Dichloroethene	ND	8,000						0	0	25	H
1,2,4-Trichlorobenzene	ND	8,000						0	0	25	H
1,2,4-Trimethylbenzene	ND	8,000						0	0	25	H
1,2-Dibromoethane	ND	8,000						0	0	25	H
1,2-Dichlorobenzene	ND	8,000						0	0	25	H
1,2-Dichloroethane	ND	8,000						0	0	25	H

Qualifiers:
*/X Value exceeds Maximum Contaminant Level
J Estimated concentration
R RPD outside accepted recovery limits
E Value above quantitation range
M Manual Integration used to determine area response
RL Reporting Limit
H Holding times for preparation or analysis exceede
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

RTI LABORATORIES, INC.

RTI
31628 Glendale St.
Livonia, MI 48150
TEL: 7344228000 FAX: 7344225342
Website: www.rtilabs.com

QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R43330**

Sample ID: **1109555-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**

Client ID: **ZZZZZZ** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/7/2011** SeqNo: **845969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	8,000						0	0	25	H
1,3,5-Trimethylbenzene	ND	8,000						0	0	25	H
1,3-Butadiene	ND	8,000						0	0	25	H
1,3-Dichlorobenzene	ND	8,000						0	0	25	H
1,4-Dichlorobenzene	ND	8,000						0	0	25	H
1,4-Dioxane	ND	8,000						0	0	25	H
2-Butanone	ND	8,000						0	0	25	H
2-Hexanone	ND	8,000						0	0	25	H
2-Propanol	ND	8,000						0	0	25	H
4-Methyl-2-pentanone	ND	8,000						0	0	25	H
Acetone	ND	8,000						0	0	25	H
Benzene	19,000	8,000						19,360	1.67	25	H
Benzyl chloride	ND	8,000						0	0	25	H
Bromodichloromethane	ND	8,000						0	0	25	H
Bromoform	ND	8,000						0	0	25	H
Bromomethane	ND	8,000						0	0	25	H
Carbon disulfide	ND	8,000						0	0	25	H
Carbon tetrachloride	ND	8,000						0	0	25	H
Chlorobenzene	ND	8,000						0	0	25	H
Chlorodibromomethane	ND	8,000						0	0	25	H
Chloroethane	ND	8,000						0	0	25	H
Chloroform	ND	8,000						0	0	25	H
Chloromethane	ND	8,000						0	0	25	H
cis-1,2-Dichloroethene	ND	8,000						0	0	25	H
cis-1,3-dichloropropene	ND	8,000						0	0	25	H
Cyclohexane	10,000	16,000						10,080	0.791	25	JH

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43330**

Sample ID: **1109555-001ADUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43330**
Client ID: **ZZZZZZ** Batch ID: **R43330** TestNo: **TO-15** Analysis Date: **10/7/2011** SeqNo: **845969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	8,000						0	0	25	H
Ethanol	ND	40,000						0	0	25	H
Ethyl acetate	ND	8,000						0	0	25	H
Ethylbenzene	ND	16,000						0	0	25	H
Heptane	ND	8,000						0	0	25	H
Hexachlorobutadiene	ND	16,000						0	0	25	H
m,p-Xylene	ND	16,000						0	0	25	H
Methylene chloride	ND	40,000						0	0	25	H
Naphthalene	ND	8,000						0	0	25	H
n-Hexane	12,000	16,000						11,440	1.39	25	JH
o-Xylene	ND	8,000						0	0	25	H
Propylene	ND	8,000						0	0	25	H
Styrene	ND	8,000						0	0	25	H
tert-Butyl Methyl Ether	ND	8,000						0	0	25	H
Tetrachloroethene	ND	8,000						0	0	25	H
Tetrahydrofuran	ND	8,000						0	0	25	H
Toluene	36,000	8,000						36,320	0.442	25	H
trans-1,2-Dichloroethene	ND	8,000						0	0	25	H
trans-1,3-dichloropropene	ND	8,000						0	0	25	H
Trichloroethene	ND	8,000						0	0	25	H
Trichlorofluoromethane	ND	8,000						0	0	25	H
Vinyl acetate	ND	8,000						0	0	25	H
Vinyl chloride	ND	8,000						0	0	25	H
Xylenes, Total	ND	24,000						0	0	25	H
Surr: 4-Bromofluorobenzene	110,000		100,000		114	70	130		0	25	H

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43399**

Sample ID: **BLANK VOA1 10101** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**
Client ID: **PBW** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/10/2011** SeqNo: **847558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0									
1,1,2,2-Tetrachloroethane	ND	1.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0									
1,1,2-Trichloroethane	ND	1.0									
1,1-Dichloroethane	ND	1.0									
1,1-Dichloroethene	ND	1.0									
1,2,4-Trichlorobenzene	ND	1.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,2-Dibromoethane	ND	1.0									
1,2-Dichlorobenzene	ND	1.0									
1,2-Dichloroethane	ND	1.0									
1,2-Dichloropropane	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									
1,3-Butadiene	ND	1.0									
1,3-Dichlorobenzene	ND	1.0									
1,4-Dichlorobenzene	ND	1.0									
1,4-Dioxane	ND	1.0									
2-Butanone	ND	1.0									
2-Hexanone	ND	1.0									
2-Propanol	ND	1.0									
4-Methyl-2-pentanone	ND	1.0									
Acetone	ND	1.0									
Benzene	ND	1.0									
Benzyl chloride	ND	1.0									
Bromodichloromethane	ND	1.0									
Bromoform	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeds
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43399**

Sample ID: **BLANK VOA1 10101** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**
Client ID: **PBW** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/10/2011** SeqNo: **847558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	1.0									
Carbon disulfide	ND	1.0									
Carbon tetrachloride	ND	1.0									
Chlorobenzene	ND	1.0									
Chlorodibromomethane	ND	1.0									
Chloroethane	ND	1.0									
Chloroform	ND	1.0									
Chloromethane	ND	1.0									
cis-1,2-Dichloroethene	ND	1.0									
cis-1,3-dichloropropene	ND	1.0									
Cyclohexane	ND	2.0									
Dichlorodifluoromethane	ND	1.0									
Ethanol	ND	5.0									
Ethyl acetate	ND	1.0									
Ethylbenzene	ND	2.0									
Heptane	ND	1.0									
Hexachlorobutadiene	ND	2.0									
m,p-Xylene	ND	2.0									
Methylene chloride	ND	5.0									
Naphthalene	ND	1.0									
n-Hexane	ND	2.0									
o-Xylene	ND	1.0									
Propylene	ND	1.0									
Styrene	ND	1.0									
tert-Butyl Methyl Ether	ND	1.0									
Tetrachloroethene	ND	1.0									

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: 1108688
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB
BatchID: R43399

Sample ID: **BLANK VOA1 10101** SampType: **MBLK** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**
Client ID: **PBW** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/10/2011** SeqNo: **847558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrahydrofuran	ND	1.0									
Toluene	ND	1.0									
trans-1,2-Dichloroethene	ND	1.0									
trans-1,3-dichloropropene	ND	1.0									
Trichloroethene	ND	1.0									
Trichlorofluoromethane	ND	1.0									
Vinyl acetate	ND	1.0									
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	3.0									
Surr: 4-Bromofluorobenzene	15		12.50		116	70	130				

Sample ID: **1109988-013BDUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**
Client ID: **ZZZZZZ** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/11/2011** SeqNo: **847575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	8,000						0	0	25	
1,1,2,2-Tetrachloroethane	ND	8,000						0	0	25	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8,000						0	0	25	
1,1,2-Trichloroethane	ND	8,000						0	0	25	
1,1-Dichloroethane	ND	8,000						0	0	25	
1,1-Dichloroethene	ND	8,000						0	0	25	
1,2,4-Trichlorobenzene	ND	8,000						0	0	25	
1,2,4-Trimethylbenzene	ND	8,000						0	0	25	
1,2-Dibromoethane	ND	8,000						0	0	25	
1,2-Dichlorobenzene	ND	8,000						0	0	25	
1,2-Dichloroethane	ND	8,000						0	0	25	

Qualifiers:
- */X Value exceeds Maximum Contaminant Level
- J Estimated concentration
- R RPD outside accepted recovery limits
- E Value above quantitation range
- M Manual Integration used to determine area response
- RL Reporting Limit
- H Holding times for preparation or analysis exceeds
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**

20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

BatchID: **R43399**

Sample ID: **1109988-013BDUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**

Client ID: **ZZZZZZ** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/11/2011** SeqNo: **847575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	8,000						0	0	25	
1,3,5-Trimethylbenzene	ND	8,000						0	0	25	
1,3-Butadiene	ND	8,000						0	0	25	
1,3-Dichlorobenzene	ND	8,000						0	0	25	
1,4-Dichlorobenzene	ND	8,000						0	0	25	
1,4-Dioxane	ND	8,000						0	0	25	
2-Butanone	ND	8,000						0	0	25	
2-Hexanone	ND	8,000						0	0	25	
2-Propanol	ND	8,000						0	0	25	
4-Methyl-2-pentanone	ND	8,000						0	0	25	
Acetone	ND	8,000						0	0	25	
Benzene	130,000	8,000						127,400	0.501	25	
Benzyl chloride	ND	8,000						0	0	25	
Bromodichloromethane	ND	8,000						0	0	25	
Bromoform	ND	8,000						0	0	25	
Bromomethane	ND	8,000						0	0	25	
Carbon disulfide	ND	8,000						0	0	25	
Carbon tetrachloride	ND	8,000						0	0	25	
Chlorobenzene	ND	8,000						0	0	25	
Chlorodibromomethane	ND	8,000						0	0	25	
Chloroethane	ND	8,000						0	0	25	
Chloroform	ND	8,000						0	0	25	
Chloromethane	ND	8,000						0	0	25	
cis-1,2-Dichloroethene	ND	8,000						0	0	25	
cis-1,3-dichloropropene	ND	8,000						0	0	25	
Cyclohexane	340,000	16,000						338,200	1.29	25	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **1108688**
20-Oct-11

Client: Shaw Environmental & Infrastructure, Inc
Project: Kirtland AFB

BatchID: **R43399**

Sample ID: **1109988-013BDUP** SampType: **DUP** TestCode: **EPA_TO15** Units: **ppbv** Prep Date: RunNo: **43399**
Client ID: **ZZZZZZ** Batch ID: **R43399** TestNo: **TO-15** Analysis Date: **10/11/2011** SeqNo: **847575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	8,000						0	0	25	
Ethanol	ND	40,000						0	0	25	
Ethyl acetate	ND	8,000						0	0	25	
Ethylbenzene	ND	16,000						0	0	25	
Heptane	180,000	8,000						178,800	0.980	25	
Hexachlorobutadiene	ND	16,000						0	0	25	
m,p-Xylene	15,000	16,000						15,520	1.04	25	J
Methylene chloride	ND	40,000						0	0	25	
Naphthalene	ND	8,000						0	0	25	
n-Hexane	210,000	16,000						203,700	2.52	25	
o-Xylene	ND	8,000						0	0	25	
Propylene	ND	8,000						0	0	25	
Styrene	ND	8,000						0	0	25	
tert-Butyl Methyl Ether	ND	8,000						0	0	25	
Tetrachloroethene	ND	8,000						0	0	25	
Tetrahydrofuran	ND	8,000						0	0	25	
Toluene	220,000	8,000						219,700	0.0728	25	
trans-1,2-Dichloroethene	ND	8,000						0	0	25	
trans-1,3-dichloropropene	ND	8,000						0	0	25	
Trichloroethene	ND	8,000						0	0	25	
Trichlorofluoromethane	ND	8,000						0	0	25	
Vinyl acetate	ND	8,000						0	0	25	
Vinyl chloride	ND	8,000						0	0	25	
Xylenes, Total	15,000	24,000						15,520	1.04	25	J
Surr: 4-Bromofluorobenzene	120,000		100,000		116	70	130		0	25	

Qualifiers:

*X	Value exceeds Maximum Contaminant Level	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Estimated concentration	M	Manual Integration used to determine area response	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits

RTI Laboratories

Run ID: **VOA1_110921A** **Run No.:** 42963

Analytical Run Date: 9/21/2011 **InstrumentID:** VOA1

Analyst: Rachel Hill **Column:**

Calibration ID: 42924 **Column ID:** 0.25mm, 1.4umFT

Column Length: 30m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 VOA1 092111	BFB_TUNE	TUNE	R42963	9/21/2011 3:13:00 PM	Robert Lynch		
CCV VOA1 092111	EPA_TO15	CCV	R42963	9/21/2011 4:41:00 PM	Robert Lynch		
RLVS1 VOA1 09211	EPA_TO15	RLVS	R42963	9/21/2011 5:23:00 PM	Robert Lynch		
BLK VOA1 092111	EPA_TO15	MBLK	R42963	9/21/2011 6:32:00 PM	Robert Lynch		
1108899-019A	EPA_TO15	SAMP	R42963	9/21/2011 7:16:00 PM	Robert Lynch	H	
1108899-019ADUP	EPA_TO15	DUP	R42963	9/21/2011 8:00:00 PM	Robert Lynch	H	
1108899-020A	EPA_TO15	SAMP	R42963	9/21/2011 8:50:00 PM	Robert Lynch	H	
1108899-021A	EPA_TO15	SAMP	R42963	9/21/2011 9:33:00 PM	Robert Lynch	H	
1108899-022A	EPA_TO15	SAMP	R42963	9/21/2011 10:17:00 PM	Robert Lynch	H	
1108899-023A	EPA_TO15	SAMP	R42963	9/21/2011 11:02:00 PM	Robert Lynch	H	
1108899-024A	EPA_TO15	SAMP	R42963	9/21/2011 11:49:00 PM	Robert Lynch	H	
1108899-027A	EPA_TO15	SAMP	R42963	9/22/2011 2:11:00 AM	Robert Lynch	H	
1108899-028A	EPA_TO15	SAMP	R42963	9/22/2011 3:02:00 AM	Robert Lynch	H	
1108899-029A	EPA_TO15	SAMP	R42963	9/22/2011 3:52:00 AM	Robert Lynch	H	
1108899-031A	EPA_TO15	SAMP	R42963	9/22/2011 5:30:00 AM	Robert Lynch	H	
1108899-032A	EPA_TO15	SAMP	R42963	9/22/2011 6:21:00 AM	Robert Lynch	H	
1108688-024A	EPA_TO15	SAMP	R42963	9/22/2011 7:09:00 AM	Robert Lynch	H	
1108899-025A	EPA_TO15	SAMP	R42963	9/22/2011 8:20:00 AM	Robert Lynch	H	
1108899-030A	EPA_TO15	SAMP	R42963	9/22/2011 9:05:00 AM	Robert Lynch	H	
1108899-033A	EPA_TO15	SAMP	R42963	9/22/2011 9:56:00 AM	Robert Lynch	H	
1108899-034A	EPA_TO15	SAMP	R42963	9/22/2011 10:47:00 AM	Robert Lynch	H	
1108899-026A	EPA_TO15	SAMP	R42963	9/22/2011 1:05:00 PM	Robert Lynch	H	
RLVS2 VOA1 09211	EPA_TO15	RLVS	R42963	9/22/2011 2:32:00 PM	Robert Lynch		

RTI Laboratories

ANALYTICAL RUN Summary

20-Oct-11

RunNo 42963

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
835667	BFB1 VOA1 092111	BFB_TUNE	TUNE	\1\DATA\092111	9/21/2011 3:13:0	1	R42963		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0	0		0	0	0	0	0	0	0%	0	2	0%	
174	M		98.9	98.9		0	0	0	0	0	0	0%	50	120	0%	
175	M		6.6	6.6		0	0	0	0	0	0	0%	4	9	0%	
176	M		99.1	99.1		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.1	6.1		0	0	0	0	0	0	0%	5	9	0%	
50	M		24.8	24.8		0	0	0	0	0	0	0%	8	40	0%	
75	M		48.7	48.7		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		6.5	6.5		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
835668	CCV VOA1 092111	EPA_TO15	CCV	\1\DATA\092111	9/21/2011 4:41:0	1	R42963		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
1,1,1-Trichloroethane	A	ppbv	10.72	10.72		9.6	0	0	0.107	1	0	112%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	9.28	9.28		10	0	0	0.211	1	0	93%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	10.79	10.79		9.8	0	0	0.108	1	0	110%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	9.17	9.17		9.8	0	0	0.2	1	0	94%	70	130	0%	
1,1-Dichloroethane	A	ppbv	10.67	10.67		9.7	0	0	0.111	1	0	110%	70	130	0%	
1,1-Dichloroethene	A	ppbv	11.16	11.16		9.9	0	0	0.097	1	0	113%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	6.69	6.69		9.1	0	0	0.271	1	0	74%	70	130	0%	
1,2,4-Trimethylbenzene	A	ppbv	8.4	8.4		9.8	0	0	0.245	1	0	86%	70	130	0%	
1,2-Dibromoethane	A	ppbv	8.77	8.77		9.6	0	0	0.186	1	0	91%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	8.61	8.61		9.7	0	0	0.208	1	0	89%	70	130	0%	
1,2-Dichloroethane	A	ppbv	10.47	10.47		9.7	0	0	0.196	1	0	108%	70	130	0%	
1,2-Dichloropropane	A	ppbv	9.79	9.79		9.8	0	0	0.224	1	0	100%	70	130	0%	
1,3,5-Trimethylbenzene	A	ppbv	8.44	8.44		9.7	0	0	0.24	1	0	87%	70	130	0%	
1,3-Butadiene	A	ppbv	11.14	11.14		9.8	0	0	0.152	1	0	114%	70	130	0%	
1,3-Dichlorobenzene	A	ppbv	8.57	8.57		9.7	0	0	0.202	1	0	88%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
835668	CCV VOA1 092111	EPA_TO15	CCV	\1\DATA\092111	9/21/2011 4:41:0	1	R42963		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
1,4-Dichlorobenzene	A	ppbv	8.49	8.49		9.6	0	0	0.194	1	0	88%	70	130	0%	
1,4-Dioxane	A	ppbv	9.32	9.32		9.6	0	0	0.128	1	0	97%	70	130	0%	
2-Butanone	A	ppbv	11.05	11.05		9.9	0	0	0.287	1	0	112%	70	130	0%	
2-Hexanone	A	ppbv	9.77	9.77		9.8	0	0	0.135	1	0	100%	70	130	0%	
2-Propanol	A	ppbv	11.13	11.13		10.1	0	0	0.329	1	0	110%	70	130	0%	
4-Methyl-2-pentanone	A	ppbv	9.87	9.87		10	0	0	0.157	1	0	99%	70	130	0%	
Acetone	A	ppbv	10.81	10.81		10	0	0	0.43	1	0	108%	70	130	0%	
Benzene	A	ppbv	10.18	10.18		9.6	0	0	0.126	1	0	106%	70	130	0%	
Benzyl chloride	A	ppbv	8.95	8.95		9.7	0	0	0.155	1	0	92%	70	130	0%	
Bromodichloromethane	A	ppbv	9.21	9.21		9.6	0	0	0.156	1	0	96%	70	130	0%	
Bromoform	A	ppbv	8.7	8.7		9.6	0	0	0.197	1	0	91%	70	130	0%	
Bromomethane	A	ppbv	8.37	8.37		9.3	0	0	0.075	1	0	90%	70	130	0%	
Carbon disulfide	A	ppbv	10.69	10.69		9.7	0	0	0.093	1	0	110%	70	130	0%	
Carbon tetrachloride	A	ppbv	9.6	9.6		9.5	0	0	0.114	1	0	101%	70	130	0%	M
Chlorobenzene	A	ppbv	9.46	9.46		9.9	0	0	0.275	1	0	96%	70	130	0%	
Chlorodibromomethane	A	ppbv	8.75	8.75		9.2	0	0	0.165	1	0	95%	70	130	0%	
Chloroethane	A	ppbv	10.23	10.23		9.8	0	0	0.063	1	0	104%	70	130	0%	
Chloroform	A	ppbv	11.08	11.08		9.4	0	0	0.126	1	0	118%	70	130	0%	
Chloromethane	A	ppbv	12.05	12.05		9.8	0	0	0.104	1	0	123%	70	130	0%	M
cis-1,2-Dichloroethene	A	ppbv	10.35	10.35		9.8	0	0	0.107	1	0	106%	70	130	0%	
cis-1,3-dichloropropene	A	ppbv	9.12	9.12		9.5	0	0	0.166	1	0	96%	70	130	0%	
Cyclohexane	A	ppbv	11.76	11.76		9.8	0	0	0.684	2	0	120%	70	130	0%	
Dichlorodifluoromethane	A	ppbv	9.74	9.74		9.2	0	0	0.086	1	0	106%	70	130	0%	
Ethanol	A	ppbv	9.47	9.47		9.2	0	0	1.962	5	0	103%	70	130	0%	
Ethyl acetate	A	ppbv	11.08	11.08		9.8	0	0	0.157	1	0	113%	70	130	0%	
Ethylbenzene	A	ppbv	9.59	9.59		9.8	0	0	0.737	2	0	98%	70	130	0%	
Heptane	A	ppbv	10.9	10.9		9.9	0	0	0.249	1	0	110%	70	130	0%	
Hexachlorobutadiene	A	ppbv	6.8	6.8		9.4	0	0	0.374	2	0	72%	70	130	0%	
m,p-Xylene	A	ppbv	19.68	19.68		19.2	0	0	0.524	2	0	103%	70	130	0%	
Methylene chloride	A	ppbv	11.34	11.34		10	0	0	2.077	5	0	113%	70	130	0%	
n-Hexane	A	ppbv	11.2	11.2		10.1	0	0	0.692	2	0	111%	70	130	0%	
Naphthalene	A	ppbv	7.19	7.19		9.2	0	0	0.247	1	0	78%	70	130	0%	
o-Xylene	A	ppbv	9.45	9.45		10	0	0	0.258	1	0	95%	70	130	0%	
Propylene	A	ppbv	11.41	11.41		10.2	0	0	0.075	1	0	112%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
835668	CCV VOA1 092111	EPA_TO15	CCV	\1\DATA\092111	9/21/2011 4:41:0	1	R42963		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Styrene	A	ppbv	9.02	9.02		9.8	0	0	0.263	1	0	92%	70	130	0%	
tert-Butyl Methyl Ether	A	ppbv	10.03	10.03		9.9	0	0	0.228	1	0	101%	70	130	0%	
Tetrachloroethene	A	ppbv	9.05	9.05		9.6	0	0	0.148	1	0	94%	70	130	0%	
Tetrahydrofuran	A	ppbv	11.35	11.35		10	0	0	0.201	1	0	114%	70	130	0%	
Toluene	A	ppbv	9.5	9.5		9.8	0	0	0.158	1	0	97%	70	130	0%	
trans-1,2-Dichloroethene	A	ppbv	10.84	10.84		9.8	0	0	0.117	1	0	111%	70	130	0%	
trans-1,3-dichloropropene	A	ppbv	8.63	8.63		9.1	0	0	0.171	1	0	95%	70	130	0%	
Trichloroethene	A	ppbv	9.3	9.3		9.6	0	0	0.119	1	0	97%	70	130	0%	
Trichlorofluoromethane	A	ppbv	10.03	10.03		9.6	0	0	0.148	1	0	104%	70	130	0%	
Vinyl acetate	A	ppbv	11.19	11.19		9.9	0	0	0.266	1	0	113%	70	130	0%	
Vinyl chloride	A	ppbv	10.66	10.66		9.4	0	0	0.072	1	0	113%	70	130	0%	
Xylenes, Total	C	ppbv	29.13	29.13		29.2	0	0	0.782	3	0	100%	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		1.25	0	0	0	0	0	1000%			0%	
Chlorobenzene-d5	I	ppbv	12.5	12.5		12.5	0	0	0	0	0	100%			0%	
4-Bromofluorobenzene	S	ppbv	11.75	11.75		12.5	0	0	0	0	0	94%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
835669	RLVS1 VOA1 09211	EPA_TO15	RLVS	\1\DATA\092111	9/21/2011 5:23:0	1	R42963		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	0.81	0.81		0.996	0	0	0.107	1	0	81%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	1.19	1.19		1	0	0	0.211	1	0	119%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	0.87	0.87		0.98	0	0	0.108	1	0	89%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	0.86	0.86		0.98	0	0	0.2	1	0	88%	70	130	0%	
1,1-Dichloroethane	A	ppbv	1.01	1.01		0.97	0	0	0.111	1	0	104%	70	130	0%	
1,1-Dichloroethene	A	ppbv	0.98	0.98		0.99	0	0	0.097	1	0	99%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	1.52	1.52		0.91	0	0	0.271	1	0	167%	70	130	0%	S
1,2,4-Trimethylbenzene	A	ppbv	1.36	1.36		0.98	0	0	0.245	1	0	139%	70	130	0%	S
1,2-Dibromoethane	A	ppbv	0.87	0.87		0.96	0	0	0.186	1	0	91%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	1.5	1.5		0.97	0	0	0.208	1	0	155%	70	130	0%	S
1,2-Dichloroethane	A	ppbv	1.06	1.06		0.97	0	0	0.196	1	0	109%	70	130	0%	
1,2-Dichloropropane	A	ppbv	0.92	0.92		0.98	0	0	0.224	1	0	94%	70	130	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\092111\09211103.D Vial: 3
Acq On : 21 Sep 2011 4:41 pm Operator: RACHEL HILL
Sample : CCV VOA1 092111 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	80	0.00
2	T	Propylene	1.225	1.370	-11.8	83	0.00
3	T	Dichlorodifluoromethane	3.092	3.273	-5.9	80	0.00
4	T	1,2-Dichloro-1,2,2,2-tetraf	2.025	2.147	-6.0	80	0.00
5	T	Chloromethane	1.302	1.651	-26.8	91	0.00
6	T	Vinyl chloride	1.810	2.053	-13.4	78	0.00
7	T	1,3-Butadiene	1.413	1.606	-13.7	77	0.00
8	T	Bromomethane	1.349	1.215	9.9	76	0.00
9	T	Chloroethane	0.710	0.789	-11.1	83	0.00
10	T	Trichlorofluoromethane	2.933	3.065	-4.5	78	0.00
11	T	Ethanol	0.281	0.289	-2.8	88	0.00
12	T	Freon113	2.328	2.562	-10.1	76	0.00
13	T	1,1-Dichloroethene	1.971	2.222	-12.7	82	0.00
14	T	Acetone	1.875	2.027	-8.1	71	0.00
15	T	Carbon disulfide	3.079	3.393	-10.2	82	0.00
16	T	2-Propanol	1.628	1.794	-10.2	76	0.00
17	T	Methylene chloride	1.493	1.694	-13.5	80	0.00
18	T	tert-Butyl Methyl Ether	2.561	2.595	-1.3	67	0.00
19	T	trans-1,2-Dichloroethene	1.844	2.041	-10.7	77	0.00
20	T	n-Hexane	2.043	2.265	-10.9	77	0.00
21	T	1,1-Dichloroethane	2.096	2.306	-10.0	75	0.00
22	T	Vinyl acetate	2.893	3.269	-13.0	71	0.00
23	T	cis-1,2-Dichloroethene	1.089	1.150	-5.6	75	0.00
24	T	2-Butanone	1.856	2.072	-11.6	76	0.00
25	T	Ethyl acetate	2.392	2.704	-13.0	77	0.00
26	T	Tetrahydrofuran	1.265	1.436	-13.5	73	0.00
27	T	Chloroform	2.363	2.673	-13.1	74	-0.01
28	T	1,1,1-Trichloroethane	2.274	2.539	-11.7	71	0.00
29	T	Cyclohexane	2.080	2.496	-20.0	75	0.00
30	T	Carbon tetrachloride	2.045	2.067	-1.1	69	0.00
31	T	Benzene	2.739	2.905	-6.1	72	0.00
32	T	1,2-Dichloroethane	1.367	1.475	-7.9	69	0.00
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	85	0.00
34	T	Heptane	0.885	0.975	-10.2	74	0.00
35	T	Trichloroethene	0.447	0.433	3.1	74	0.00
36	T	1,2-Dichloropropane	0.346	0.346	0.0	74	0.00
37	T	1,4-Dioxane	0.112	0.109	2.7	84	0.00
38	T	Bromodichloromethane	0.643	0.617	4.0	73	0.00
39	T	cis-1,3-Dichloropropene	0.512	0.491	4.1	73	0.00
40	T	4-Methyl-2-pentanone	0.243	0.239	1.6	75	0.00
41	T	Toluene	0.894	0.867	3.0	75	0.00
42	T	trans-1,3-Dichloropropene	0.452	0.429	5.1	73	0.00
43	T	1,1,2-Trichloroethane	0.306	0.287	6.2	75	0.00
44	T	Tetrachloroethene	0.491	0.463	5.7	74	0.00
45	T	2-Hexanone	0.515	0.514	0.2	77	0.00
46	T	Chlorodibromomethane	0.491	0.438	10.8	71	0.00
47	T	1,2-Dibromoethane	0.451	0.412	8.6	72	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\092111\09211103.D Vial: 3
Acq On : 21 Sep 2011 4:41 pm Operator: RACHEL HILL
Sample : CCV VOA1 092111 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	Chlorobenzene	0.884	0.845	4.4	74	0.00
50	T	Ethylbenzene	1.488	1.455	2.2	76	0.00
51	T	m,p-Xylene	1.229	1.260	-2.5	73	0.00
52	T	o-Xylene	1.114	1.053	5.5	75	0.00
53	T	Styrene	0.778	0.716	8.0	73	0.00
54	T	Bromoform	0.583	0.528	9.4	70	0.00
55	S	4-Bromofluorobenzene	0.609	0.572	6.1	74	0.00
56	T	1,1,2,2-Tetrachloroethane	0.824	0.765	7.2	72	0.00
57	T	4-Ethyltoluene	1.305	1.161	11.0	72	0.00
58	T	1,3,5-Trimethylbenzene	1.106	0.963	12.9	70	0.00
59	T	1,2,4-Trimethylbenzene	1.050	0.900	14.3	70	0.00
60	T	1,3-Dichlorobenzene	0.678	0.599	11.7	70	0.00
61	T	1,4-Dichlorobenzene	0.638	0.564	11.6	70	0.00
62	T	Benzyl chloride	0.821	0.757	7.8	69	0.00
63	T	1,2-Dichlorobenzene	0.636	0.564	11.3	72	0.00
64	T	1,2,4-Trichlorobenzene	0.163	0.120	26.4	67	0.00
65	T	Hexachlorobutadiene	0.410	0.296	27.8	67	0.00
66		Naphthalene	0.269	0.210	21.9	69	0.00

Data File : C:\HPCHEM\1\DATA\092111\09211103.D Vial: 3
Acq On : 21 Sep 2011 4:41 pm Operator: RACHEL HILL
Sample : CCV VOA1 092111 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Sep 21 21:24 2011 Quant Results File: 091911V1.RES

Quant Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration
DataAcq Meth : 091911V1

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.59	130	412430	12.50 ppbv	0.00
33) 1,4-Difluorobenzene	11.69	114	1279909	12.50 ppbv	0.00
48) Chlorobenzene-d5	15.54	117	799258	12.50 ppbv	0.00
System Monitoring Compounds					
55) 4-Bromofluorobenzene	17.19	95	457497	11.75 ppbv	0.00
Spiked Amount 12.500	Range 70 - 113		Recovery = 94.00%		
Target Compounds					Qvalue
2) Propylene	5.51	41	461109	11.41 ppbv	97
3) Dichlorodifluoromethane	5.59	85	993605	9.74 ppbv	99
4) 1,2-Dichloro-1,2,2,2-tetra	5.84	135	673126	10.07 ppbv #	68
5) Chloromethane	6.00	50	517538m	12.05 ppbv	
6) Vinyl chloride	6.21	62	636583	10.66 ppbv #	99
7) 1,3-Butadiene	6.27	39	519369	11.14 ppbv	95
8) Bromomethane	6.85	94	372753	8.37 ppbv #	97
9) Chloroethane	7.00	64	239499	10.23 ppbv #	95
10) Trichlorofluoromethane	7.33	101	970885	10.03 ppbv #	97
11) Ethanol	7.57	45	87871	9.47 ppbv	99
12) Freon113	7.99	101	828253	10.79 ppbv	87
13) 1,1-Dichloroethene	8.09	61	725878	11.16 ppbv #	85
14) Acetone	8.19	43	668882	10.81 ppbv #	90
15) Carbon disulfide	8.46	76	1085931	10.69 ppbv #	99
16) 2-Propanol	8.24	45	597858	11.13 ppbv #	1
17) Methylene chloride	8.75	49	558864	11.34 ppbv #	74
18) tert-Butyl Methyl Ether	8.95	73	847653	10.03 ppbv #	86
19) trans-1,2-Dichloroethene	9.03	61	659826	10.84 ppbv #	80
20) n-Hexane	9.22	57	754929	11.20 ppbv #	86
21) 1,1-Dichloroethane	9.60	63	738149	10.67 ppbv #	97
22) Vinyl acetate	9.53	43	1067886	11.19 ppbv #	94
23) cis-1,2-Dichloroethene	10.28	96	371711	10.35 ppbv #	79
24) 2-Butanone	10.25	43	676822	11.05 ppbv #	86
25) Ethyl acetate	10.20	43	874462	11.08 ppbv #	99
26) Tetrahydrofuran	10.59	42	473818	11.35 ppbv #	85
27) Chloroform	10.60	83	864330	11.08 ppbv	99
28) 1,1,1-Trichloroethane	10.85	97	804129	10.72 ppbv #	92
29) Cyclohexane	10.86	56	806987	11.76 ppbv	83
30) Carbon tetrachloride	11.01	117	647856m	9.60 ppbv	
31) Benzene	11.30	78	920110	10.18 ppbv	93
32) 1,2-Dichloroethane	11.37	62	472170	10.47 ppbv #	97
34) Heptane	11.34	43	988320	10.90 ppbv #	85
35) Trichloroethene	12.03	130	425573	9.30 ppbv	92
36) 1,2-Dichloropropane	12.38	63	347169	9.79 ppbv	97
37) 1,4-Dioxane	12.46	88	107143	9.32 ppbv #	78
38) Bromodichloromethane	12.67	83	606368	9.21 ppbv	98
39) cis-1,3-Dichloropropene	13.22	75	477886	9.12 ppbv	95
40) 4-Methyl-2-pentanone	13.33	58	245197	9.87 ppbv #	91
41) Toluene	13.62	91	870240	9.50 ppbv	96
42) trans-1,3-Dichloropropene	13.93	75	399415	8.63 ppbv	95
43) 1,1,2-Trichloroethane	14.20	97	287539	9.17 ppbv	96

(#) = qualifier out of range (m) = manual integration
09211103.D 091911V1.M Thu Sep 29 11:12:32 2011

Data File : C:\HPCHEM\1\DATA\092111\09211103.D
Acq On : 21 Sep 2011 4:41 pm
Sample : CCV VOA1 092111
Misc : CCV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Sep 21 21:24 2011

Vial: 3
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 091911V1.RES

Quant Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration
DataAcq Meth : 091911V1

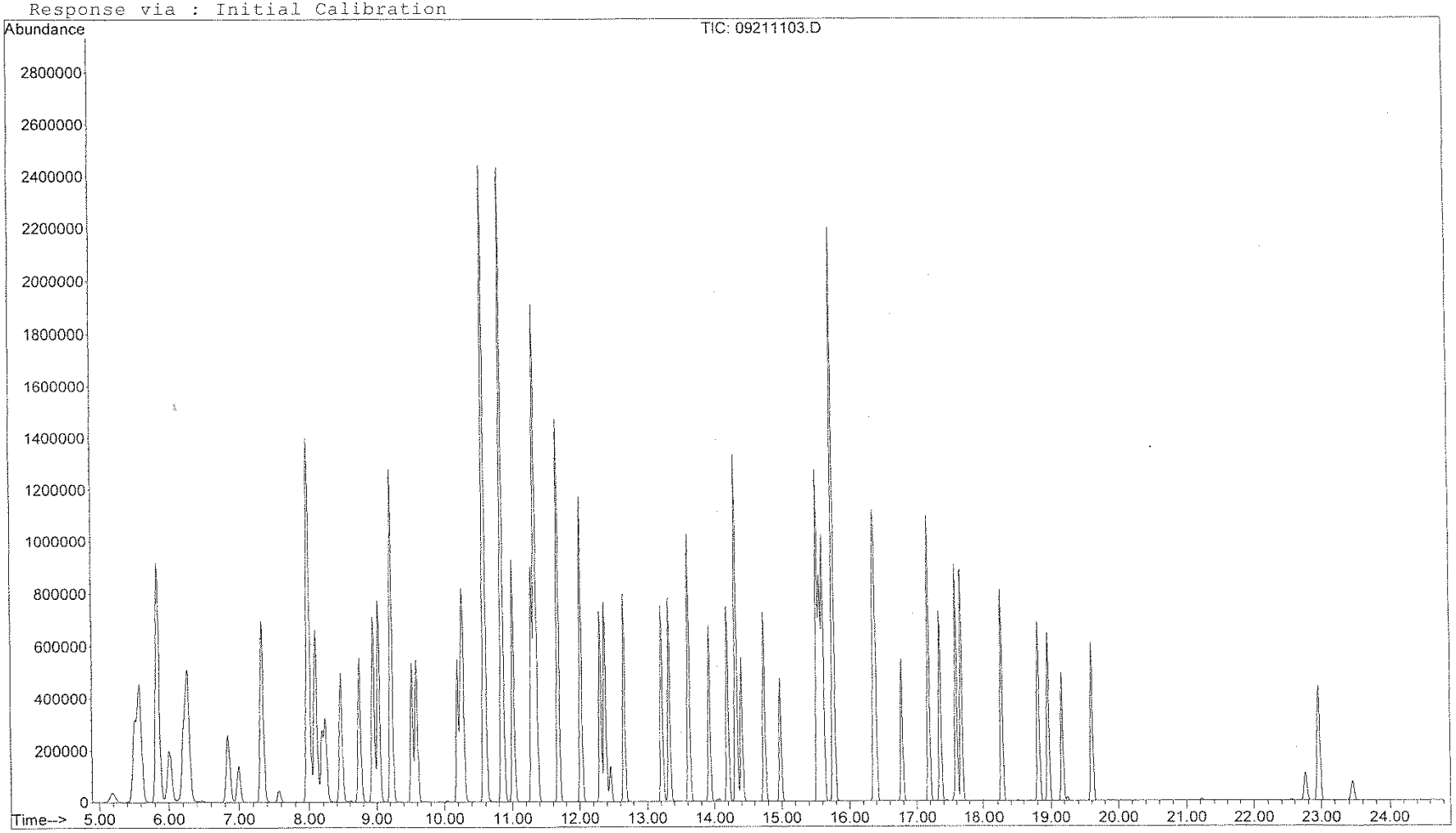
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44) Tetrachloroethene	14.33	166	455011	9.05 ppbv	98
45) 2-Hexanone	14.41	43	515726	9.77 ppbv	90
46) Chlorodibromomethane	14.75	129	439568	8.75 ppbv	99
47) 1,2-Dibromoethane	14.98	107	405425	8.77 ppbv	100
49) Chlorobenzene	15.58	112	534732	9.46 ppbv #	84
50) Ethylbenzene	15.62	91	911951	9.59 ppbv	90
51) m,p-Xylene	15.77	91	1546432	19.68 ppbv	89
52) o-Xylene	16.37	91	673389	9.45 ppbv #	86
53) Styrene	16.40	104	448878	9.02 ppbv	96
54) Bromoform	16.78	173	324213	8.70 ppbv #	97
56) 1,1,2,2-Tetrachloroethane	17.35	83	488892	9.28 ppbv #	98
57) 4-Ethyltoluene	17.60	105	727513	8.72 ppbv	96
58) 1,3,5-Trimethylbenzene	17.68	105	597313	8.44 ppbv	96
59) 1,2,4-Trimethylbenzene	18.26	105	563716	8.40 ppbv	97
60) 1,3-Dichlorobenzene	18.82	146	371341	8.57 ppbv	97
61) 1,4-Dichlorobenzene	18.96	146	346369	8.49 ppbv	97
62) Benzyl chloride	19.17	91	469743	8.95 ppbv	96
63) 1,2-Dichlorobenzene	19.61	146	349807	8.61 ppbv	97
64) 1,2,4-Trichlorobenzene	22.77	180	69805	6.69 ppbv	98
65) Hexachlorobutadiene	22.97	225	178153	6.80 ppbv	99
66) Naphthalene	23.45	128	123756	7.19 ppbv	98

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\092111\09211103.D Vial: 3
Acq On : 21 Sep 2011 4:41 pm Operator: RACHEL HILL
Sample : CCV VOA1 092111 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Sep 21 21:24 2011 Quant Results File: 091911V1.RES

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: **VOA1_110922A** **Run No.:** 43000

Analytical Run Date: 9/22/2011 **InstrumentID:** VOA1

Analyst: Rachel Hill **Column:**

Calibration ID: **Column ID:** 0.25mm, 1.4umFT

Column Length: 30m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 VOA1 092211	BFB_TUNE	TUNE	R43000	9/22/2011 3:21:00 PM	Robert Lynch		
CCV VOA1 092211	EPA_TO15	CCV	R43000	9/22/2011 4:54:00 PM	Robert Lynch		
RLVS1 VOA1 09221	EPA_TO15	RLVS	R43000	9/22/2011 5:39:00 PM	Robert Lynch		
BLK VOA1 092211	EPA_TO15	MBLK	R43000	9/22/2011 6:29:00 PM	Robert Lynch		
1108688-012A	EPA_TO15	SAMP	R43000	9/22/2011 7:13:00 PM	Robert Lynch	H	
1108899-035A	EPA_TO15	SAMP	R43000	9/22/2011 8:04:00 PM	Robert Lynch	H	
1108899-036A	EPA_TO15	SAMP	R43000	9/22/2011 8:54:00 PM	Robert Lynch	H	
1108899-001A	EPA_TO15	SAMP	R43000	9/22/2011 9:38:00 PM	Robert Lynch	H	
1108899-001ADUP	EPA_TO15	DUP	R43000	9/22/2011 10:22:00 PM	Robert Lynch	H	
1108899-002A	EPA_TO15	SAMP	R43000	9/22/2011 11:12:00 PM	Robert Lynch	H	
1108899-003A	EPA_TO15	SAMP	R43000	9/23/2011 12:03:00 AM	Robert Lynch	H	
1108899-004A	EPA_TO15	SAMP	R43000	9/23/2011 12:50:00 AM	Robert Lynch	H	
1108899-005A	EPA_TO15	SAMP	R43000	9/23/2011 1:38:00 AM	Robert Lynch	H	
1108899-024A	EPA_TO15	SAMP	R43000	9/23/2011 5:32:00 AM	Robert Lynch	H	
1108899-007A	EPA_TO15	SAMP	R43000	9/23/2011 7:03:00 AM	Robert Lynch	H	
1108899-039A	EPA_TO15	SAMP	R43000	9/23/2011 7:54:00 AM	Robert Lynch	H	
1108899-040A	EPA_TO15	SAMP	R43000	9/23/2011 8:36:00 AM	Robert Lynch	H	
1108899-006A	EPA_TO15	SAMP	R43000	9/23/2011 9:24:00 AM	Robert Lynch	H	
1108899-008A	EPA_TO15	SAMP	R43000	9/23/2011 10:09:00 AM	Robert Lynch	H	
1108899-009A	EPA_TO15	SAMP	R43000	9/23/2011 10:54:00 AM	Robert Lynch	H	
1108899-011A	EPA_TO15	SAMP	R43000	9/23/2011 12:30:00 PM	Robert Lynch	H	
1108899-012A	EPA_TO15	SAMP	R43000	9/23/2011 1:19:00 PM	Robert Lynch	H	
RLVS1 VOA1 09221	EPA_TO15	RLVS	R43000	9/23/2011 3:03:00 PM	Robert Lynch		

RTI Laboratories

ANALYTICAL RUN Summary

20-Oct-11

RunNo 43000

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836574	BFB1 VOA1 092211	BFB_TUNE	TUNE	\1\DATA\092211	9/22/2011 3:21:0	1	R43000		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0.7	0.7		0	0	0	0	0	0	0%	0	2	0%	
174	M		69.6	69.6		0	0	0	0	0	0	0%	50	120	0%	
175	M		7.3	7.3		0	0	0	0	0	0	0%	4	9	0%	
176	M		97.7	97.7		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.7	6.7		0	0	0	0	0	0	0%	5	9	0%	
50	M		28.8	28.8		0	0	0	0	0	0	0%	8	40	0%	
75	M		55.6	55.6		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		7.5	7.5		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836575	CCV VOA1 092211	EPA_TO15	CCV	\1\DATA\092211	9/22/2011 4:54:0	1	R43000		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
1,1,1-Trichloroethane	A	ppbv	10.46	10.46		9.6	0	0	0.107	1	0	109%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	9.77	9.77		10	0	0	0.211	1	0	98%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	10.93	10.93		9.8	0	0	0.108	1	0	112%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	8.8	8.8		9.8	0	0	0.2	1	0	90%	70	130	0%	
1,1-Dichloroethane	A	ppbv	10.45	10.45		9.7	0	0	0.111	1	0	108%	70	130	0%	
1,1-Dichloroethene	A	ppbv	11.19	11.19		9.9	0	0	0.097	1	0	113%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	7.03	7.03		9.1	0	0	0.271	1	0	77%	70	130	0%	
1,2,4-Trimethylbenzene	A	ppbv	8.76	8.76		9.8	0	0	0.245	1	0	89%	70	130	0%	
1,2-Dibromoethane	A	ppbv	8.49	8.49		9.6	0	0	0.186	1	0	88%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	9.27	9.27		9.7	0	0	0.208	1	0	96%	70	130	0%	
1,2-Dichloroethane	A	ppbv	10.17	10.17		9.7	0	0	0.196	1	0	105%	70	130	0%	
1,2-Dichloropropane	A	ppbv	9.49	9.49		9.8	0	0	0.224	1	0	97%	70	130	0%	
1,3,5-Trimethylbenzene	A	ppbv	8.56	8.56		9.7	0	0	0.24	1	0	88%	70	130	0%	
1,3-Butadiene	A	ppbv	10.58	10.58		9.8	0	0	0.152	1	0	108%	70	130	0%	
1,3-Dichlorobenzene	A	ppbv	9.09	9.09		9.7	0	0	0.202	1	0	94%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836575	CCV VOA1 092211	EPA_TO15	CCV	\1\DATA\092211	9/22/2011 4:54:0	1	R43000		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
1,4-Dichlorobenzene	A	ppbv	9.04	9.04		9.6	0	0	0.194	1	0	94%	70	130	0%	
1,4-Dioxane	A	ppbv	8.73	8.73		9.6	0	0	0.128	1	0	91%	70	130	0%	
2-Butanone	A	ppbv	10.19	10.19		9.9	0	0	0.287	1	0	103%	70	130	0%	
2-Hexanone	A	ppbv	9.31	9.31		9.8	0	0	0.135	1	0	95%	70	130	0%	
2-Propanol	A	ppbv	10.76	10.76		10.1	0	0	0.329	1	0	107%	70	130	0%	
4-Methyl-2-pentanone	A	ppbv	9.33	9.33		10	0	0	0.157	1	0	93%	70	130	0%	
Acetone	A	ppbv	10.36	10.36		10	0	0	0.43	1	0	104%	70	130	0%	
Benzene	A	ppbv	9.9	9.9		9.6	0	0	0.126	1	0	103%	70	130	0%	
Benzyl chloride	A	ppbv	9.33	9.33		9.7	0	0	0.155	1	0	96%	70	130	0%	
Bromodichloromethane	A	ppbv	8.9	8.9		9.6	0	0	0.156	1	0	93%	70	130	0%	
Bromoform	A	ppbv	8.65	8.65		9.6	0	0	0.197	1	0	90%	70	130	0%	
Bromomethane	A	ppbv	8.48	8.48		9.3	0	0	0.075	1	0	91%	70	130	0%	
Carbon disulfide	A	ppbv	10.75	10.75		9.7	0	0	0.093	1	0	111%	70	130	0%	
Carbon tetrachloride	A	ppbv	9.39	9.39		9.5	0	0	0.114	1	0	99%	70	130	0%	M
Chlorobenzene	A	ppbv	9.24	9.24		9.9	0	0	0.275	1	0	93%	70	130	0%	
Chlorodibromomethane	A	ppbv	8.47	8.47		9.2	0	0	0.165	1	0	92%	70	130	0%	
Chloroethane	A	ppbv	10.32	10.32		9.8	0	0	0.063	1	0	105%	70	130	0%	
Chloroform	A	ppbv	10.88	10.88		9.4	0	0	0.126	1	0	116%	70	130	0%	
Chloromethane	A	ppbv	12.31	12.31		9.8	0	0	0.104	1	0	126%	70	130	0%	M
cis-1,2-Dichloroethene	A	ppbv	10.13	10.13		9.8	0	0	0.107	1	0	103%	70	130	0%	
cis-1,3-dichloropropene	A	ppbv	8.78	8.78		9.5	0	0	0.166	1	0	92%	70	130	0%	
Cyclohexane	A	ppbv	11.61	11.61		9.8	0	0	0.684	2	0	118%	70	130	0%	
Dichlorodifluoromethane	A	ppbv	9.89	9.89		9.2	0	0	0.086	1	0	108%	70	130	0%	
Ethanol	A	ppbv	9.69	9.69		9.2	0	0	1.962	5	0	105%	70	130	0%	
Ethyl acetate	A	ppbv	10.1	10.1		9.8	0	0	0.157	1	0	103%	70	130	0%	
Ethylbenzene	A	ppbv	9.28	9.28		9.8	0	0	0.737	2	0	95%	70	130	0%	
Heptane	A	ppbv	10.65	10.65		9.9	0	0	0.249	1	0	108%	70	130	0%	
Hexachlorobutadiene	A	ppbv	6.64	6.64		9.4	0	0	0.374	2	0	71%	70	130	0%	
m,p-Xylene	A	ppbv	19.11	19.11		19.2	0	0	0.524	2	0	100%	70	130	0%	
Methylene chloride	A	ppbv	11.31	11.31		10	0	0	2.077	5	0	113%	70	130	0%	
n-Hexane	A	ppbv	11.1	11.1		10.1	0	0	0.692	2	0	110%	70	130	0%	
Naphthalene	A	ppbv	7.24	7.24		9.2	0	0	0.247	1	0	79%	70	130	0%	
o-Xylene	A	ppbv	9.18	9.18		10	0	0	0.258	1	0	92%	70	130	0%	
Propylene	A	ppbv	11.53	11.53		10.2	0	0	0.075	1	0	113%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836575	CCV VOA1 092211	EPA_TO15	CCV	\1\DATA\092211	9/22/2011 4:54:0	1	R43000		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Styrene	A	ppbv	8.94	8.94		9.8	0	0	0.263	1	0	91%	70	130	0%	
tert-Butyl Methyl Ether	A	ppbv	9.4	9.4		9.9	0	0	0.228	1	0	95%	70	130	0%	
Tetrachloroethene	A	ppbv	8.94	8.94		9.6	0	0	0.148	1	0	93%	70	130	0%	
Tetrahydrofuran	A	ppbv	10.92	10.92		10	0	0	0.201	1	0	109%	70	130	0%	
Toluene	A	ppbv	9.19	9.19		9.8	0	0	0.158	1	0	94%	70	130	0%	
trans-1,2-Dichloroethene	A	ppbv	10.67	10.67		9.8	0	0	0.117	1	0	109%	70	130	0%	
trans-1,3-dichloropropene	A	ppbv	8.27	8.27		9.1	0	0	0.171	1	0	91%	70	130	0%	
Trichloroethene	A	ppbv	9.11	9.11		9.6	0	0	0.119	1	0	95%	70	130	0%	
Trichlorofluoromethane	A	ppbv	10.05	10.05		9.6	0	0	0.148	1	0	105%	70	130	0%	
Vinyl acetate	A	ppbv	10.73	10.73		9.9	0	0	0.266	1	0	108%	70	130	0%	
Vinyl chloride	A	ppbv	10.15	10.15		9.4	0	0	0.072	1	0	108%	70	130	0%	
Xylenes, Total	C	ppbv	28.29	28.29		29.2	0	0	0.782	3	0	97%	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		1.25	0	0	0	0	0	1000%			0%	
Chlorobenzene-d5	I	ppbv	12.5	12.5		12.5	0	0	0	0	0	100%			0%	
4-Bromofluorobenzene	S	ppbv	12.06	12.06		12.5	0	0	0	0	0	96%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836576	RLVS1 VOA1 09221	EPA_TO15	RLVS	\1\DATA\092211	9/22/2011 5:39:0	1	R43000		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	0.83	0.83		0.996	0	0	0.107	1	0	83%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	1.21	1.21		1	0	0	0.211	1	0	121%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	0.87	0.87		0.98	0	0	0.108	1	0	89%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	0.84	0.84		0.98	0	0	0.2	1	0	86%	70	130	0%	
1,1-Dichloroethane	A	ppbv	1.03	1.03		0.97	0	0	0.111	1	0	106%	70	130	0%	
1,1-Dichloroethene	A	ppbv	1.02	1.02		0.99	0	0	0.097	1	0	103%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	1.38	1.38		0.91	0	0	0.271	1	0	152%	70	130	0%	S
1,2,4-Trimethylbenzene	A	ppbv	1.44	1.44		0.98	0	0	0.245	1	0	147%	70	130	0%	S
1,2-Dibromoethane	A	ppbv	0.82	0.82		0.96	0	0	0.186	1	0	85%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	1.46	1.46		0.97	0	0	0.208	1	0	151%	70	130	0%	S
1,2-Dichloroethane	A	ppbv	1.04	1.04		0.97	0	0	0.196	1	0	107%	70	130	0%	
1,2-Dichloropropane	A	ppbv	0.86	0.86		0.98	0	0	0.224	1	0	88%	70	130	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\092211\09221103.D Vial: 3
Acq On : 22 Sep 2011 4:54 pm Operator: RACHEL HILL
Sample : CCV VOA1 092211 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	80	0.00
2	T	Propylene	1.225	1.385	-13.1	84	0.00
3	T	Dichlorodifluoromethane	3.092	3.323	-7.5	81	0.00
4	T	1,2-Dichloro-1,2,2,2-tetraf	2.025	2.182	-7.8	81	0.00
5	T	Chloromethane	1.302	1.687	-29.6	92	0.00
6	T	Vinyl chloride	1.810	1.954	-8.0	74	0.00
7	T	1,3-Butadiene	1.413	1.526	-8.0	73	0.00
8	T	Bromomethane	1.349	1.230	8.8	77	0.00
9	T	Chloroethane	0.710	0.796	-12.1	83	0.00
10	T	Trichlorofluoromethane	2.933	3.069	-4.6	78	0.00
11	T	Ethanol	0.281	0.296	-5.3	90	0.00
12	T	Freon113	2.328	2.595	-11.5	77	0.00
13	T	1,1-Dichloroethene	1.971	2.228	-13.0	81	0.00
14	T	Acetone	1.875	1.944	-3.7	68	0.00
15	T	Carbon disulfide	3.079	3.413	-10.8	82	0.00
16	T	2-Propanol	1.628	1.735	-6.6	74	-0.01
17	T	Methylene chloride	1.493	1.689	-13.1	79	0.00
18	T	tert-Butyl Methyl Ether	2.561	2.430	5.1	62	0.00
19	T	trans-1,2-Dichloroethene	1.844	2.009	-8.9	75	0.00
20	T	n-Hexane	2.043	2.245	-9.9	76	0.00
21	T	1,1-Dichloroethane	2.096	2.257	-7.7	73	0.00
22	T	Vinyl acetate	2.893	3.137	-8.4	68	0.00
23	T	cis-1,2-Dichloroethene	1.089	1.126	-3.4	73	0.00
24	T	2-Butanone	1.856	1.910	-2.9	70	0.00
25	T	Ethyl acetate	2.392	2.464	-3.0	70	0.00
26	T	Tetrahydrofuran	1.265	1.381	-9.2	70	0.00
27	T	Chloroform	2.363	2.624	-11.0	72	0.00
28	T	1,1,1-Trichloroethane	2.274	2.478	-9.0	69	0.00
29	T	Cyclohexane	2.080	2.463	-18.4	74	0.00
30	T	Carbon tetrachloride	2.045	2.021	1.2	68	0.00
31	T	Benzene	2.739	2.824	-3.1	70	0.00
32	T	1,2-Dichloroethane	1.367	1.433	-4.8	67	0.00
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	85	0.00
34	T	Heptane	0.885	0.952	-7.6	72	0.00
35	T	Trichloroethene	0.447	0.424	5.1	72	0.00
36	T	1,2-Dichloropropane	0.346	0.336	2.9	72	0.00
37	T	1,4-Dioxane	0.112	0.102	8.9	79	0.00
38	T	Bromodichloromethane	0.643	0.596	7.3	71	0.00
39	T	cis-1,3-Dichloropropene	0.512	0.473	7.6	70	0.00
40	T	4-Methyl-2-pentanone	0.243	0.226	7.0	71	0.00
41	T	Toluene	0.894	0.839	6.2	73	0.00
42	T	trans-1,3-Dichloropropene	0.452	0.411	9.1	70	0.00
43	T	1,1,2-Trichloroethane	0.306	0.275	10.1	72	0.00
44	T	Tetrachloroethene	0.491	0.457	6.9	73	0.00
45	T	2-Hexanone	0.515	0.489	5.0	73	0.00
46	T	Chlorodibromomethane	0.491	0.424	13.6	69	0.00
47	T	1,2-Dibromoethane	0.451	0.399	11.5	70	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\092211\09221103.D Vial: 3
Acq On : 22 Sep 2011 4:54 pm Operator: RACHEL HILL
Sample : CCV VOA1 092211 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	Chlorobenzene	0.884	0.825	6.7	72	0.00
50	T	Ethylbenzene	1.488	1.409	5.3	74	0.00
51	T	m,p-Xylene	1.229	1.223	0.5	71	0.00
52	T	o-Xylene	1.114	1.023	8.2	73	0.00
53	T	Styrene	0.778	0.710	8.7	72	0.00
54	T	Bromoform	0.583	0.525	9.9	69	0.00
55	S	4-Bromofluorobenzene	0.609	0.588	3.4	76	0.00
56	T	1,1,2,2-Tetrachloroethane	0.824	0.805	2.3	76	0.00
57	T	4-Ethyltoluene	1.305	1.174	10.0	72	0.00
58	T	1,3,5-Trimethylbenzene	1.106	0.977	11.7	71	0.00
59	T	1,2,4-Trimethylbenzene	1.050	0.938	10.7	73	0.00
60	T	1,3-Dichlorobenzene	0.678	0.636	6.2	74	0.00
61	T	1,4-Dichlorobenzene	0.638	0.601	5.8	74	0.00
62	T	Benzyl chloride	0.821	0.789	3.9	71	0.00
63	T	1,2-Dichlorobenzene	0.636	0.607	4.6	77	0.00
64	T	1,2,4-Trichlorobenzene	0.163	0.126	22.7	70	0.00
65	T	Hexachlorobutadiene	0.410	0.289	29.5	66	0.00
66		Naphthalene	0.269	0.212	21.2	69	0.00

Data File : C:\HPCHEM\1\DATA\092211\09221103.D Vial: 3
Acq On : 22 Sep 2011 4:54 pm Operator: RACHEL HILL
Sample : CCV VOA1 092211 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Sep 22 20:13 2011 Quant Results File: 091911V1.RES

Quant Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration
DataAcq Meth : 091911V1

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.59	130	410341	12.50 ppbv	0.00
33) 1,4-Difluorobenzene	11.68	114	1282457	12.50 ppbv	0.00
48) Chlorobenzene-d5	15.54	117	797361	12.50 ppbv	0.00

System Monitoring Compounds

55) 4-Bromofluorobenzene	17.19	95	468588	12.06 ppbv	0.00

Spiked Amount 12.500 Range 70 - 113 Recovery = 96.48%

Target Compounds					Qvalue
2) Propylene	5.51	41	463817	11.53 ppbv	98
3) Dichlorodifluoromethane	5.59	85	1003645	9.89 ppbv	98
4) 1,2-Dichloro-1,2,2,2-tetra	5.84	135	680335	10.23 ppbv #	68
5) Chloromethane	6.01	50	526035m	12.31 ppbv	
6) Vinyl chloride	6.21	62	603100	10.15 ppbv #	99
7) 1,3-Butadiene	6.27	39	490988	10.58 ppbv	96
8) Bromomethane	6.85	94	375485	8.48 ppbv #	97
9) Chloroethane	6.99	64	240475	10.32 ppbv #	95
10) Trichlorofluoromethane	7.33	101	967314	10.05 ppbv #	97
11) Ethanol	7.57	45	89473	9.69 ppbv	99
12) Freon113	7.99	101	834955	10.93 ppbv	87
13) 1,1-Dichloroethene	8.09	61	724178	11.19 ppbv #	85
14) Acetone	8.19	43	638068	10.36 ppbv	92
15) Carbon disulfide	8.46	76	1086785	10.75 ppbv #	99
16) 2-Propanol	8.23	45	575198	10.76 ppbv	87
17) Methylene chloride	8.75	49	554290	11.31 ppbv #	74
18) tert-Butyl Methyl Ether	8.95	73	789812	9.40 ppbv #	85
19) trans-1,2-Dichloroethene	9.03	61	646258	10.67 ppbv #	81
20) n-Hexane	9.22	57	744330	11.10 ppbv #	86
21) 1,1-Dichloroethane	9.59	63	718622	10.45 ppbv #	97
22) Vinyl acetate	9.53	43	1019510	10.73 ppbv #	94
23) cis-1,2-Dichloroethene	10.28	96	362215	10.13 ppbv #	79
24) 2-Butanone	10.25	43	620702	10.19 ppbv #	87
25) Ethyl acetate	10.19	43	792825	10.10 ppbv #	98
26) Tetrahydrofuran	10.58	42	453403	10.92 ppbv #	85
27) Chloroform	10.60	83	844297	10.88 ppbv	100
28) 1,1,1-Trichloroethane	10.85	97	780872	10.46 ppbv #	92
29) Cyclohexane	10.86	56	792488	11.61 ppbv #	83
30) Carbon tetrachloride	11.02	117	630232m	9.39 ppbv	
31) Benzene	11.29	78	890033	9.90 ppbv	93
32) 1,2-Dichloroethane	11.37	62	456362	10.17 ppbv #	97
34) Heptane	11.34	43	966985	10.65 ppbv #	85
35) Trichloroethene	12.02	130	417676	9.11 ppbv	92
36) 1,2-Dichloropropane	12.38	63	337435	9.49 ppbv	96
37) 1,4-Dioxane	12.46	88	100605	8.73 ppbv #	79
38) Bromodichloromethane	12.67	83	587127	8.90 ppbv	98
39) cis-1,3-Dichloropropene	13.22	75	461271	8.78 ppbv	95
40) 4-Methyl-2-pentanone	13.33	58	232228	9.33 ppbv #	91
41) Toluene	13.63	91	843590	9.19 ppbv	96
42) trans-1,3-Dichloropropene	13.93	75	383439	8.27 ppbv	95
43) 1,1,2-Trichloroethane	14.20	97	276290	8.80 ppbv	95

(#) = qualifier out of range (m) = manual integration
09221103.D 091911V1.M Thu Sep 29 10:49:34 2011

Data File : C:\HPCHEM\1\DATA\092211\09221103.D
Acq On : 22 Sep 2011 4:54 pm
Sample : CCV VOA1 092211
Misc : CCV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Sep 22 20:13 2011

Vial: 3
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 091911V1.RES

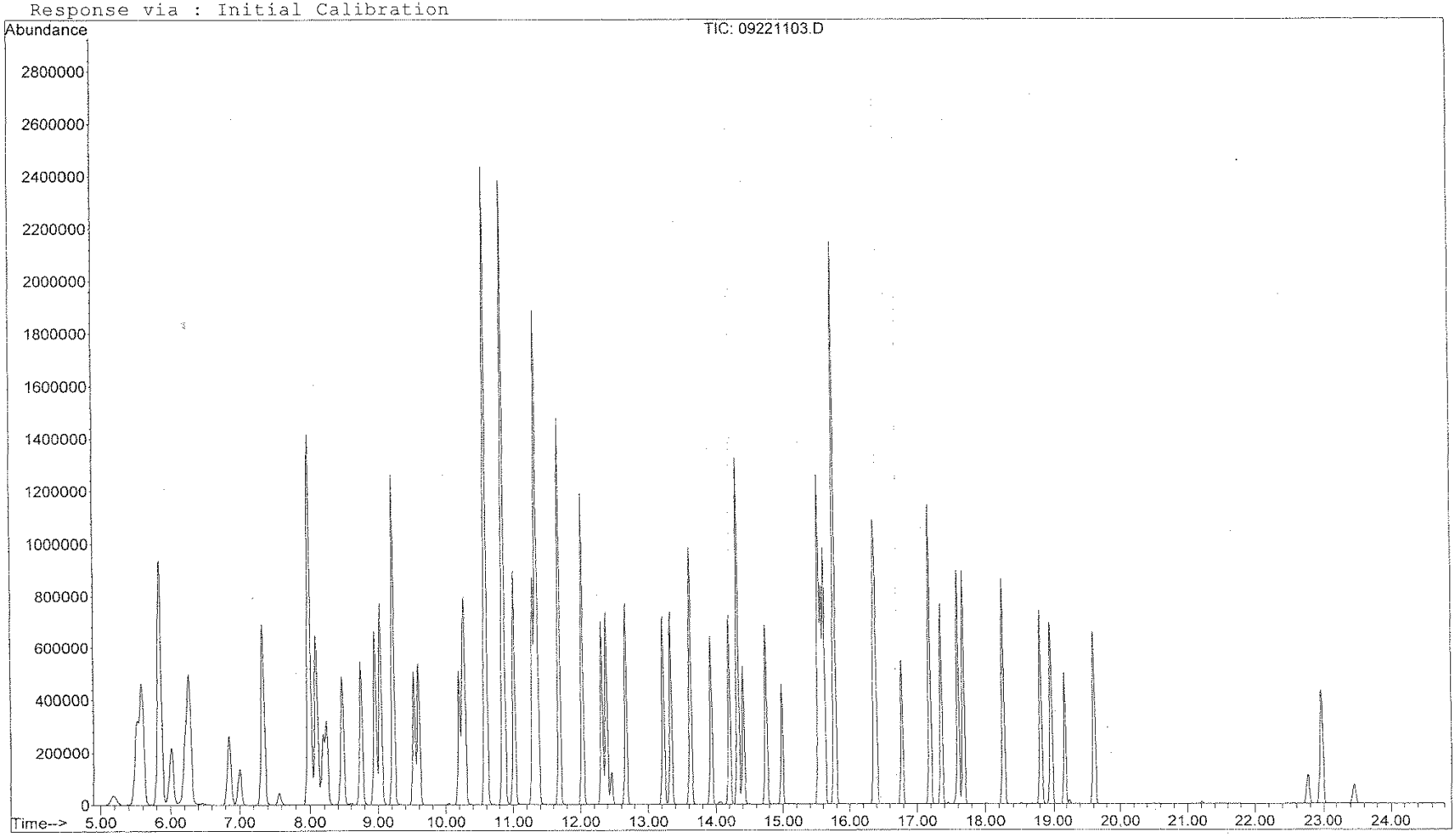
Quant Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration
DataAcq Meth : 091911V1

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44) Tetrachloroethene	14.33	166	450375	8.94 ppbv	98
45) 2-Hexanone	14.41	43	491974	9.31 ppbv	91
46) Chlorodibromomethane	14.75	129	426187	8.47 ppbv	99
47) 1,2-Dibromoethane	14.99	107	393186	8.49 ppbv	100
49) Chlorobenzene	15.58	112	520683	9.24 ppbv #	84
50) Ethylbenzene	15.62	91	880626	9.28 ppbv	89
51) m,p-Xylene	15.77	91	1498305	19.11 ppbv	89
52) o-Xylene	16.37	91	652597	9.18 ppbv #	87
53) Styrene	16.39	104	443872	8.94 ppbv	96
54) Bromoform	16.78	173	321687	8.65 ppbv #	97
56) 1,1,2,2-Tetrachloroethane	17.35	83	513321	9.77 ppbv #	98
57) 4-Ethyltoluene	17.60	105	734201	8.82 ppbv	95
58) 1,3,5-Trimethylbenzene	17.68	105	604338	8.56 ppbv	96
59) 1,2,4-Trimethylbenzene	18.26	105	586252	8.76 ppbv	97
60) 1,3-Dichlorobenzene	18.82	146	393344	9.09 ppbv	97
61) 1,4-Dichlorobenzene	18.96	146	367826	9.04 ppbv	97
62) Benzyl chloride	19.17	91	488387	9.33 ppbv	96
63) 1,2-Dichlorobenzene	19.61	146	375627	9.27 ppbv	97
64) 1,2,4-Trichlorobenzene	22.76	180	73153	7.03 ppbv	97
65) Hexachlorobutadiene	22.96	225	173573	6.64 ppbv	99
66) Naphthalene	23.45	128	124397	7.24 ppbv	99

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

Data File : C:\HPCHEM\1\DATA\092211\09221103.D Vial: 3
Acq On : 22 Sep 2011 4:54 pm Operator: RACHEL HILL
Sample : CCV VOA1 092211 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Sep 22 20:13 2011 Quant Results File: 091911V1.RES

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: VOA1_111004A **Run No.:** 43244

Analytical Run Date: 10/4/2011 **InstrumentID:** VOA1

Analyst: Rachel Hill **Column:**

Calibration ID: **Column ID:** 0.25mm, 1.4umFT

Column Length: 30m

Run Comments: ch rev 10/10/11

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 VOA1 092911	BFB_TUNE	TUNE	R43244	10/4/2011 11:02:00 AM	Celeste Hoitash		
1ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 2:53:00 PM	Celeste Hoitash		
10ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 3:36:00 PM	Celeste Hoitash		
12ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 4:20:00 PM	Celeste Hoitash		
15ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 5:03:00 PM	Celeste Hoitash		
20ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 5:47:00 PM	Celeste Hoitash		
30ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 6:32:00 PM	Celeste Hoitash		
50ppbv ICAL	EPA_TO15	ICAL	R43244	10/4/2011 7:18:00 PM	Celeste Hoitash		
BFB1 VOA1 100411	BFB_TUNE	TUNE	R43244	10/4/2011 8:00:00 PM	Celeste Hoitash		
ICV1 VOA1 100411	EPA_TO15	ICV	R43244	10/4/2011 8:43:00 PM	Celeste Hoitash		
RLVS1 VOA1 10041	EPA_TO15	RLVS	R43244	10/4/2011 9:29:00 PM	Celeste Hoitash		
Blank VOA1 10041	EPA_TO15	MBLK	R43244	10/4/2011 10:19:00 PM	Celeste Hoitash		
1108688-020A	EPA_TO15	SAMP	R43244	10/4/2011 11:03:00 PM	Celeste Hoitash	H	
1108688-021A	EPA_TO15	SAMP	R43244	10/4/2011 11:47:00 PM	Celeste Hoitash	H	
1108688-022A	EPA_TO15	SAMP	R43244	10/5/2011 12:32:00 AM	Celeste Hoitash	H	
1108688-023A	EPA_TO15	SAMP	R43244	10/5/2011 1:16:00 AM	Celeste Hoitash	H	
1108889-037A	EPA_TO15	SAMP	R43244	10/5/2011 1:59:00 AM	Celeste Hoitash	H	
1108688-013A	EPA_TO15	SAMP	R43244	10/5/2011 4:10:00 AM	Celeste Hoitash	H	
1108688-014A	EPA_TO15	SAMP	R43244	10/5/2011 4:54:00 AM	Celeste Hoitash	H	
1108688-015A	EPA_TO15	SAMP	R43244	10/5/2011 5:39:00 AM	Celeste Hoitash	H	
1108688-017A	EPA_TO15	SAMP	R43244	10/5/2011 7:11:00 AM	Celeste Hoitash	H	
1108688-018A	EPA_TO15	SAMP	R43244	10/5/2011 7:56:00 AM	Celeste Hoitash	H	
1108688-019A	EPA_TO15	SAMP	R43244	10/5/2011 8:42:00 AM	Celeste Hoitash	H	
1108688-005A	EPA_TO15	SAMP	R43244	10/5/2011 9:27:00 AM	Celeste Hoitash	H	
1108889-038A	EPA_TO15	SAMP	R43244	10/5/2011 10:14:00 AM	Celeste Hoitash	H	
1108688-025A	EPA_TO15	SAMP	R43244	10/5/2011 11:04:00 AM	Celeste Hoitash	H	
1108688-010A	EPA_TO15	SAMP	R43244	10/5/2011 11:47:00 AM	Celeste Hoitash	H	
1108688-010ADUP	EPA_TO15	DUP	R43244	10/5/2011 12:31:00 PM	Celeste Hoitash	H	
1108688-006A	EPA_TO15	SAMP	R43244	10/5/2011 1:14:00 PM	Celeste Hoitash	H	
1108688-008A	EPA_TO15	SAMP	R43244	10/5/2011 2:42:00 PM	Celeste Hoitash	H	
1108688-009A	EPA_TO15	SAMP	R43244	10/5/2011 3:28:00 PM	Celeste Hoitash	H	
1108688-016A	EPA_TO15	SAMP	R43244	10/5/2011 5:03:00 PM	Celeste Hoitash	H	
RLVS2 VOA1 10041	EPA_TO15	RLVS	R43244	10/5/2011 7:07:00 PM	Celeste Hoitash		

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
843279	ICV1 VOA1 100411	EPA_TO15	ICV	\1\DATA\100411`10/4/2011 8:43:0		1	R43244		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	11.02	11.02		9.6	0	0	0.107	1	0	115%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	10.06	10.06		10	0	0	0.211	1	0	101%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	11.05	11.05		9.8	0	0	0.108	1	0	113%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	9.81	9.81		9.8	0	0	0.2	1	0	100%	70	130	0%	
1,1-Dichloroethane	A	ppbv	10.38	10.38		9.7	0	0	0.111	1	0	107%	70	130	0%	
1,1-Dichloroethene	A	ppbv	11.11	11.11		9.9	0	0	0.097	1	0	112%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	8.19	8.19		9.1	0	0	0.271	1	0	90%	70	130	0%	
1,2,4-Trimethylbenzene	A	ppbv	9.38	9.38		9.8	0	0	0.245	1	0	96%	70	130	0%	
1,2-Dibromoethane	A	ppbv	9.65	9.65		9.6	0	0	0.186	1	0	101%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	9.21	9.21		9.7	0	0	0.208	1	0	95%	70	130	0%	
1,2-Dichloroethane	A	ppbv	10.68	10.68		9.7	0	0	0.196	1	0	110%	70	130	0%	
1,2-Dichloropropane	A	ppbv	10.08	10.08		9.8	0	0	0.224	1	0	103%	70	130	0%	
1,3,5-Trimethylbenzene	A	ppbv	9.29	9.29		9.7	0	0	0.24	1	0	96%	70	130	0%	
1,3-Butadiene	A	ppbv	12.42	12.42		9.8	0	0	0.152	1	0	127%	70	130	0%	
1,3-Dichlorobenzene	A	ppbv	9.31	9.31		9.7	0	0	0.202	1	0	96%	70	130	0%	
1,4-Dichlorobenzene	A	ppbv	9.25	9.25		9.6	0	0	0.194	1	0	96%	70	130	0%	
1,4-Dioxane	A	ppbv	10.27	10.27		9.6	0	0	0.128	1	0	107%	70	130	0%	
2-Butanone	A	ppbv	10.49	10.49		9.9	0	0	0.287	1	0	106%	70	130	0%	
2-Hexanone	A	ppbv	10.46	10.46		9.8	0	0	0.135	1	0	107%	70	130	0%	
2-Propanol	A	ppbv	11.65	11.65		10.1	0	0	0.329	1	0	115%	70	130	0%	
4-Methyl-2-pentanone	A	ppbv	10.55	10.55		10	0	0	0.157	1	0	106%	70	130	0%	
Acetone	A	ppbv	11.04	11.04		10	0	0	0.43	1	0	110%	70	130	0%	
Benzene	A	ppbv	10.06	10.06		9.6	0	0	0.126	1	0	105%	70	130	0%	
Benzyl chloride	A	ppbv	10.35	10.35		9.7	0	0	0.155	1	0	107%	70	130	0%	
Bromodichloromethane	A	ppbv	9.92	9.92		9.6	0	0	0.156	1	0	103%	70	130	0%	
Bromoform	A	ppbv	9.68	9.68		9.6	0	0	0.197	1	0	101%	70	130	0%	
Bromomethane	A	ppbv	10.12	10.12		9.3	0	0	0.075	1	0	109%	70	130	0%	
Carbon disulfide	A	ppbv	10.57	10.57		9.7	0	0	0.093	1	0	109%	70	130	0%	
Carbon tetrachloride	A	ppbv	10.23	10.23		9.5	0	0	0.114	1	0	108%	70	130	0%	
Chlorobenzene	A	ppbv	9.94	9.94		9.9	0	0	0.275	1	0	100%	70	130	0%	
Chlorodibromomethane	A	ppbv	9.74	9.74		9.2	0	0	0.165	1	0	106%	70	130	0%	
Chloroethane	A	ppbv	10.19	10.19		9.8	0	0	0.063	1	0	104%	70	130	0%	
Chloroform	A	ppbv	11.18	11.18		9.4	0	0	0.126	1	0	119%	70	130	0%	
Chloromethane	A	ppbv	10.61	10.61		9.8	0	0	0.104	1	0	108%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
843279	ICV1 VOA1 100411	EPA_TO15	ICV	\I\DATA\100411\	10/4/2011 8:43:0	1	R43244		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
cis-1,2-Dichloroethene	A	ppbv	10.31	10.31		9.8	0	0	0.107	1	0	105%	70	130	0%	
cis-1,3-dichloropropene	A	ppbv	9.81	9.81		9.5	0	0	0.166	1	0	103%	70	130	0%	
Cyclohexane	A	ppbv	11.28	11.28		9.8	0	0	0.684	2	0	115%	70	130	0%	
Dichlorodifluoromethane	A	ppbv	9.84	9.84		9.2	0	0	0.086	1	0	107%	70	130	0%	
Ethanol	A	ppbv	10.66	10.66		9.2	0	0	1.962	5	0	116%	70	130	0%	
Ethyl acetate	A	ppbv	10.47	10.47		9.8	0	0	0.157	1	0	107%	70	130	0%	
Ethylbenzene	A	ppbv	9.93	9.93		9.8	0	0	0.737	2	0	101%	70	130	0%	
Heptane	A	ppbv	11.05	11.05		9.9	0	0	0.249	1	0	112%	70	130	0%	
Hexachlorobutadiene	A	ppbv	9.21	9.21		9.4	0	0	0.374	2	0	98%	70	130	0%	
m,p-Xylene	A	ppbv	20.61	20.61		19.2	0	0	0.524	2	0	107%	70	130	0%	
Methylene chloride	A	ppbv	10.82	10.82		10	0	0	2.077	5	0	108%	70	130	0%	
n-Hexane	A	ppbv	10.9	10.9		10.1	0	0	0.692	2	0	108%	70	130	0%	
Naphthalene	A	ppbv	8.18	8.18		9.2	0	0	0.247	1	0	89%	70	130	0%	
o-Xylene	A	ppbv	10.03	10.03		10	0	0	0.258	1	0	100%	70	130	0%	
Propylene	A	ppbv	11.06	11.06		10.2	0	0	0.075	1	0	108%	70	130	0%	
Styrene	A	ppbv	9.75	9.75		9.8	0	0	0.263	1	0	99%	70	130	0%	
tert-Butyl Methyl Ether	A	ppbv	10.66	10.66		9.9	0	0	0.228	1	0	108%	70	130	0%	
Tetrachloroethene	A	ppbv	9.78	9.78		9.6	0	0	0.148	1	0	102%	70	130	0%	
Tetrahydrofuran	A	ppbv	11.01	11.01		10	0	0	0.201	1	0	110%	70	130	0%	
Toluene	A	ppbv	9.9	9.9		9.8	0	0	0.158	1	0	101%	70	130	0%	
trans-1,2-Dichloroethene	A	ppbv	10.7	10.7		9.8	0	0	0.117	1	0	109%	70	130	0%	
trans-1,3-dichloropropene	A	ppbv	9.48	9.48		9.1	0	0	0.171	1	0	104%	70	130	0%	
Trichloroethene	A	ppbv	9.82	9.82		9.6	0	0	0.119	1	0	102%	70	130	0%	
Trichlorofluoromethane	A	ppbv	10.5	10.5		9.6	0	0	0.148	1	0	109%	70	130	0%	
Vinyl acetate	A	ppbv	11.31	11.31		9.9	0	0	0.266	1	0	114%	70	130	0%	
Vinyl chloride	A	ppbv	12.07	12.07		9.4	0	0	0.072	1	0	128%	70	130	0%	
Xylenes, Total	C	ppbv	30.64	30.64		29.2	0	0	0.782	3	0	105%	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		1.25	0	0	0	0	0	1000%			0%	
Chlorobenzene-d5	I	ppbv	12.5	12.5		12.5	0	0	0	0	0	100%			0%	
4-Bromofluorobenzene	S	ppbv	12.74	12.74		12.5	0	0	0	0	0	102%	70	130	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\100411\10041114.D Vial: 2
Acq On : 4 Oct 2011 8:43 pm Operator: RACHEL HILL
Sample : ICV1 VOA1 100411 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	114	0.00
2	T	Propylene	1.300	1.410	-8.5	109	0.00
3	T	Dichlorodifluoromethane	3.361	3.594	-6.9	112	0.00
4	T	1,2-Dichloro-1,2,2,2-tetraf	2.206	2.357	-6.8	112	0.00
5	T	Chloromethane	1.509	1.684	-11.6	107	0.00
6	T	Vinyl chloride	1.416	1.818	-28.4	106	0.00
7	T	1,3-Butadiene	1.336	1.693	-26.7	112	-0.01
8	T	Bromomethane	1.193	1.299	-8.9	112	0.00
9	T	Chloroethane	0.750	0.830	-10.7	112	0.00
10	T	Trichlorofluoromethane	3.085	3.374	-9.4	116	0.00
11	T	Ethanol	0.332	0.385	-16.0	116	0.00
12	T	Freon113	2.437	2.748	-12.8	119	0.00
13	T	1,1-Dichloroethene	2.063	2.315	-12.2	115	0.00
14	T	Acetone	1.803	1.990	-10.4	114	0.00
15	T	Carbon disulfide	3.309	3.606	-9.0	111	0.00
16	T	2-Propanol	1.713	1.976	-15.4	112	-0.01
17	T	Methylene chloride	1.527	1.653	-8.3	114	0.00
18	T	tert-Butyl Methyl Ether	2.327	2.506	-7.7	115	0.00
19	T	trans-1,2-Dichloroethene	1.825	1.993	-9.2	117	0.00
20	T	n-Hexane	2.013	2.173	-7.9	115	0.00
21	T	1,1-Dichloroethane	1.874	2.006	-7.0	116	0.00
22	T	Vinyl acetate	2.680	3.062	-14.3	113	0.00
23	T	cis-1,2-Dichloroethene	1.049	1.104	-5.2	115	0.00
24	T	2-Butanone	1.928	2.043	-6.0	110	0.00
25	T	Ethyl acetate	2.454	2.623	-6.9	106	0.00
26	T	Tetrahydrofuran	1.227	1.351	-10.1	108	0.00
27	T	Chloroform	2.266	2.584	-14.0	117	0.00
28	T	1,1,1-Trichloroethane	2.202	2.527	-14.8	116	0.00
29	T	Cyclohexane	2.049	2.359	-15.1	113	0.00
30	T	Carbon tetrachloride	1.952	2.102	-7.7	116	0.00
31	T	Benzene	2.543	2.664	-4.8	113	0.00
32	T	1,2-Dichloroethane	1.300	1.432	-10.2	114	0.00
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	110	0.00
34	T	Heptane	0.891	0.995	-11.7	110	0.00
35	T	Trichloroethene	0.447	0.457	-2.2	113	0.00
36	T	1,2-Dichloropropane	0.348	0.358	-2.9	111	0.00
37	T	1,4-Dioxane	0.119	0.127	-6.7	112	0.00
38	T	Bromodichloromethane	0.643	0.664	-3.3	113	0.00
39	T	cis-1,3-Dichloropropene	0.518	0.534	-3.1	112	0.00
40	T	4-Methyl-2-pentanone	0.239	0.252	-5.4	109	0.00
41	T	Toluene	0.912	0.921	-1.0	110	0.00
42	T	trans-1,3-Dichloropropene	0.450	0.468	-4.0	111	0.00
43	T	1,1,2-Trichloroethane	0.309	0.309	0.0	110	0.00
44	T	Tetrachloroethene	0.494	0.503	-1.8	112	0.00
45	T	2-Hexanone	0.495	0.529	-6.9	108	0.00
46	T	Chlorodibromomethane	0.484	0.481	0.6	111	0.00
47	T	1,2-Dibromoethane	0.444	0.446	-0.5	110	0.00

(#) = Out of Range
10041114.D 100411V1.M Thu Oct 20 17:41:31 2011

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\100411\10041114.D Vial: 2
Acq On : 4 Oct 2011 8:43 pm Operator: RACHEL HILL
Sample : ICV1 VOA1 100411 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	Chlorobenzene	0.917	0.921	-0.4	108	0.00
50	T	Ethylbenzene	1.564	1.585	-1.3	108	0.00
51	T	m,p-Xylene	1.297	1.392	-7.3	109	0.00
52	T	o-Xylene	1.158	1.162	-0.3	109	0.00
53	T	Styrene	0.790	0.786	0.5	107	0.00
54	T	Bromoform	0.589	0.595	-1.0	105	0.00
55	S	4-Bromofluorobenzene	0.559	0.570	-2.0	104	0.00
56	T	1,1,2,2-Tetrachloroethane	0.846	0.851	-0.6	101	0.00
57	T	4-Ethyltoluene	1.328	1.291	2.8	105	0.00
58	T	1,3,5-Trimethylbenzene	1.134	1.087	4.1	103	0.00
59	T	1,2,4-Trimethylbenzene	1.060	1.015	4.2	102	0.00
60	T	1,3-Dichlorobenzene	0.634	0.608	4.1	98	0.00
61	T	1,4-Dichlorobenzene	0.584	0.563	3.6	98	0.00
62	T	Benzyl chloride	0.720	0.768	-6.7	98	0.00
63	T	1,2-Dichlorobenzene	0.580	0.551	5.0	95	0.00
64	T	1,2,4-Trichlorobenzene	0.077	0.069	10.4	77	-0.01
65	T	Hexachlorobutadiene	0.181	0.177	2.2	82	0.00
66		Naphthalene	0.120	0.106	11.7	75	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100411\10041114.D
Acq On : 4 Oct 2011 8:43 pm
Sample : ICV1 VOA1 100411
Misc : ICV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Oct 5 7:40 2011

Vial: 2
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00
Quant Results File: 100411V1.RES

Quant Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration
DataAcq Meth : 100411V1

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.59	130	473339	12.50 ppbv	0.00
33) 1,4-Difluorobenzene	11.68	114	1399195	12.50 ppbv	0.00
48) Chlorobenzene-d5	15.54	117	841049	12.50 ppbv	0.00
System Monitoring Compounds					
55) 4-Bromofluorobenzene	17.19	95	479428	12.74 ppbv	0.00
Spiked Amount 12.500	Range 70 - 113		Recovery = 101.92%		
Target Compounds					Qvalue
2) Propylene	5.52	41	544583	11.06 ppbv	98
3) Dichlorodifluoromethane	5.59	85	1252025	9.84 ppbv	99
4) 1,2-Dichloro-1,2,2,2-tetra	5.85	135	847931	10.15 ppbv #	68
5) Chloromethane	6.00	50	605959	10.61 ppbv	99
6) Vinyl chloride	6.22	62	647063	12.07 ppbv #	99
7) 1,3-Butadiene	6.27	39	628444	12.42 ppbv	91
8) Bromomethane	6.85	94	457303	10.12 ppbv #	97
9) Chloroethane	7.00	64	289191	10.19 ppbv	96
10) Trichlorofluoromethane	7.33	101	1226470	10.50 ppbv #	98
11) Ethanol	7.56	45	133968	10.66 ppbv	99
12) Freon113	7.99	101	1019745	11.05 ppbv	87
13) 1,1-Dichloroethene	8.10	61	867782	11.11 ppbv #	85
14) Acetone	8.19	43	753580	11.04 ppbv #	90
15) Carbon disulfide	8.46	76	1324535	10.57 ppbv #	100
16) 2-Propanol	8.23	45	755739	11.65 ppbv #	78
17) Methylene chloride	8.75	49	625917	10.82 ppbv #	76
18) tert-Butyl Methyl Ether	8.95	73	939274	10.66 ppbv #	87
19) trans-1,2-Dichloroethene	9.03	61	739774	10.70 ppbv #	81
20) n-Hexane	9.22	57	831060	10.90 ppbv #	86
21) 1,1-Dichloroethane	9.60	63	736978	10.38 ppbv #	97
22) Vinyl acetate	9.53	43	1148031	11.31 ppbv #	94
23) cis-1,2-Dichloroethene	10.28	96	409637	10.31 ppbv #	79
24) 2-Butanone	10.25	43	766003	10.49 ppbv #	88
25) Ethyl acetate	10.19	43	973303	10.47 ppbv #	99
26) Tetrahydrofuran	10.59	42	511559	11.01 ppbv	88
27) Chloroform	10.60	83	958937	11.18 ppbv	100
28) 1,1,1-Trichloroethane	10.85	97	918568	11.02 ppbv #	94
29) Cyclohexane	10.86	56	875460	11.28 ppbv	85
30) Carbon tetrachloride	11.02	117	756208	10.23 ppbv	97
31) Benzene	11.30	78	968552	10.06 ppbv	93
32) 1,2-Dichloroethane	11.37	62	525896	10.68 ppbv #	97
34) Heptane	11.34	43	1102646	11.05 ppbv #	86
35) Trichloroethene	12.02	130	490971	9.82 ppbv	91
36) 1,2-Dichloropropane	12.39	63	392645	10.08 ppbv	97
37) 1,4-Dioxane	12.46	88	136333	10.27 ppbv #	81
38) Bromodichloromethane	12.67	83	713719	9.92 ppbv	99
39) cis-1,3-Dichloropropene	13.22	75	568259	9.81 ppbv	95
40) 4-Methyl-2-pentanone	13.33	58	282403	10.55 ppbv #	91
41) Toluene	13.63	91	1010333	9.90 ppbv	96
42) trans-1,3-Dichloropropene	13.93	75	477050	9.48 ppbv	95
43) 1,1,2-Trichloroethane	14.20	97	338993	9.81 ppbv	96

(#) = qualifier out of range (m) = manual integration
10041114.D 100411V1.M Mon Oct 10 12:08:19 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100411\10041114.D
Acq On : 4 Oct 2011 8:43 pm
Sample : ICV1 VOA1 100411
Misc : ICV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Oct 5 7:40 2011

Vial: 2
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 100411V1.RES

Quant Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration
DataAcq Meth : 100411V1

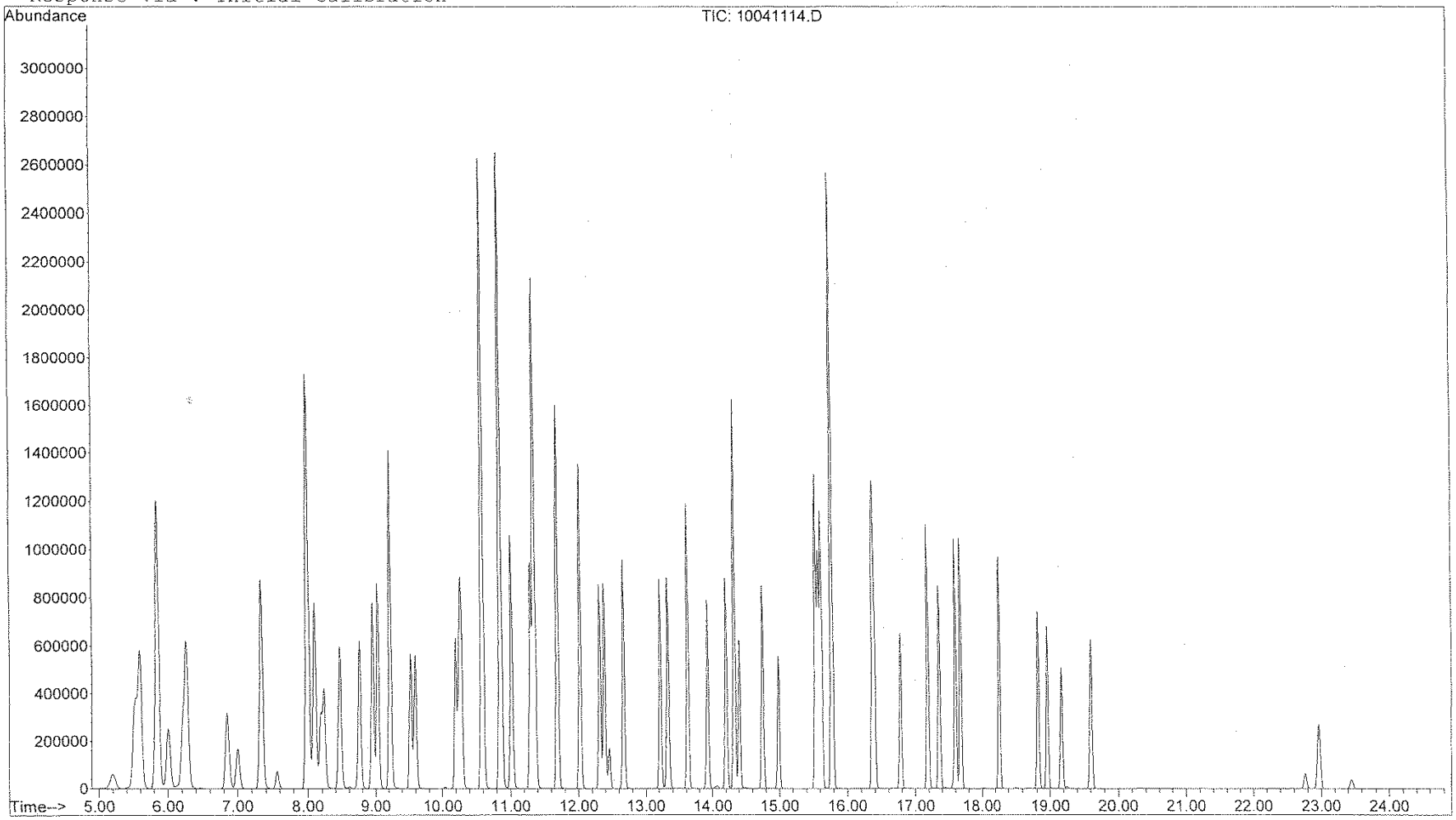
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44) Tetrachloroethene	14.33	166	540792	9.78 ppbv	98
45) 2-Hexanone	14.40	43	579755	10.46 ppbv	91
46) Chlorodibromomethane	14.75	129	528048	9.74 ppbv	98
47) 1,2-Dibromoethane	14.99	107	479231	9.65 ppbv	100
49) Chlorobenzene	15.58	112	613637	9.94 ppbv #	84
50) Ethylbenzene	15.62	91	1044972	9.93 ppbv	92
51) m,p-Xylene	15.77	91	1797764	20.61 ppbv	89
52) o-Xylene	16.37	91	781519	10.03 ppbv #	87
53) Styrene	16.40	104	518585	9.75 ppbv	96
54) Bromoform	16.78	173	384044	9.68 ppbv #	97
56) 1,1,2,2-Tetrachloroethane	17.35	83	572691	10.06 ppbv #	99
57) 4-Ethyltoluene	17.60	105	851052	9.52 ppbv	96
58) 1,3,5-Trimethylbenzene	17.68	105	709148	9.29 ppbv	96
59) 1,2,4-Trimethylbenzene	18.26	105	669266	9.38 ppbv	97
60) 1,3-Dichlorobenzene	18.82	146	396933	9.31 ppbv #	97
61) 1,4-Dichlorobenzene	18.96	146	363474	9.25 ppbv	97
62) Benzyl chloride	19.17	91	501304	10.35 ppbv	96
63) 1,2-Dichlorobenzene	19.61	146	359647	9.21 ppbv #	97
64) 1,2,4-Trichlorobenzene	22.76	180	42456	8.19 ppbv	98
65) Hexachlorobutadiene	22.97	225	111895	9.21 ppbv	98
66) Naphthalene	23.45	128	65922	8.18 ppbv	98

(#) = qualifier out of range (m) = manual integration
10041114.D 100411V1.M Mon Oct 10 12:08:19 2011

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100411\10041114.D Vial: 2
Acq On : 4 Oct 2011 8:43 pm Operator: RACHEL HILL
Sample : ICV1 VOA1 100411 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Oct 5 7:40 2011 Quant Results File: 100411V1.RES

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: VOA1_111006A **Run No.:** 43330

Analytical Run Date: 10/6/2011 **InstrumentID:** VOA1

Analyst: Rachel Hill **Column:**

Calibration ID: 43330 **Column ID:** 0.25mm, 1.4umFT

Column Length: 30m

Run Comments: ch rev 10/10/11

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 VOA1 100611	BFB_TUNE	TUNE	R43330	10/6/2011 9:58:00 AM	Celeste Hoitash		
1ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 1:01:00 PM	Celeste Hoitash		
10ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 1:42:00 PM	Celeste Hoitash		
12ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 2:24:00 PM	Celeste Hoitash		
15ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 3:05:00 PM	Celeste Hoitash		
20ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 3:48:00 PM	Celeste Hoitash		
30ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 4:31:00 PM	Celeste Hoitash		
50ppbv ICAL	EPA_TO15	ICAL	R43330	10/6/2011 5:15:00 PM	Celeste Hoitash		
BFB2 VOA1 100611	BFB_TUNE	TUNE	R43330	10/6/2011 5:56:00 PM	Celeste Hoitash		
CCV1 VOA1 100611	EPA_TO15	ICV	R43330	10/6/2011 6:37:00 PM	Celeste Hoitash		
RLVS1 VOA1 10061	EPA_TO15	RLVS	R43330	10/6/2011 7:40:00 PM	Celeste Hoitash		
BLANK VOA1 10061	EPA_TO15	MBLK	R43330	10/6/2011 8:28:00 PM	Celeste Hoitash		
1108899-017A	EPA_TO15	SAMP	R43330	10/6/2011 9:11:00 PM	Celeste Hoitash	H	
1108899-018A	EPA_TO15	SAMP	R43330	10/6/2011 9:56:00 PM	Celeste Hoitash	H	
1108688-001A	EPA_TO15	SAMP	R43330	10/6/2011 10:40:00 PM	Celeste Hoitash	H	
1108688-002A	EPA_TO15	SAMP	R43330	10/6/2011 11:25:00 PM	Celeste Hoitash	H	
1108688-003A	EPA_TO15	SAMP	R43330	10/7/2011 7:52:00 AM	Celeste Hoitash	H	
1108688-004A	EPA_TO15	SAMP	R43330	10/7/2011 8:34:00 AM	Celeste Hoitash	H	
1109555-032A	EPA_TO15	SAMP	R43330	10/7/2011 10:04:00 AM	Celeste Hoitash	H	
1109555-014A	EPA_TO15	SAMP	R43330	10/7/2011 10:53:00 AM	Celeste Hoitash	H	
1109555-018A	EPA_TO15	SAMP	R43330	10/7/2011 11:38:00 AM	Celeste Hoitash	H	
1109555-019A	EPA_TO15	SAMP	R43330	10/7/2011 12:20:00 PM	Celeste Hoitash	H	
1109555-001A	EPA_TO15	SAMP	R43330	10/7/2011 1:03:00 PM	Celeste Hoitash	H	Over-diluted sample. Reported here to show that sample and duplicate were analyzed. Will re-run at a lower dilution.
1109555-001ADUP	EPA_TO15	DUP	R43330	10/7/2011 1:45:00 PM	Celeste Hoitash	H	
1109555-006A	EPA_TO15	SAMP	R43330	10/7/2011 2:33:00 PM	Celeste Hoitash		
1108688-011A	EPA_TO15	SAMP	R43330	10/7/2011 3:15:00 PM	Celeste Hoitash	H	
1108899-016A	EPA_TO15	SAMP	R43330	10/7/2011 4:00:00 PM	Celeste Hoitash	H	
RLVS2 VOA1 10061	EPA_TO15	RLVS	R43330	10/7/2011 5:26:00 PM	Celeste Hoitash		

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
845955	CCV1 VOA1 100611	EPA_TO15	ICV	\I\DATA\100611\	10/6/2011 6:37:0	1	R43330		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	0	119%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	10.2	10.2		10	0	0	0.211	1	0	102%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	11.09	11.09		9.8	0	0	0.108	1	0	113%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	10.13	10.13		9.8	0	0	0.2	1	0	103%	70	130	0%	
1,1-Dichloroethane	A	ppbv	11.06	11.06		9.7	0	0	0.111	1	0	114%	70	130	0%	
1,1-Dichloroethene	A	ppbv	10.98	10.98		9.9	0	0	0.097	1	0	111%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	7.37	7.37		9.1	0	0	0.271	1	0	81%	70	130	0%	
1,2,4-Trimethylbenzene	A	ppbv	9.28	9.28		9.8	0	0	0.245	1	0	95%	70	130	0%	
1,2-Dibromoethane	A	ppbv	9.89	9.89		9.6	0	0	0.186	1	0	103%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	8.86	8.86		9.7	0	0	0.208	1	0	91%	70	130	0%	
1,2-Dichloroethane	A	ppbv	11.46	11.46		9.7	0	0	0.196	1	0	118%	70	130	0%	
1,2-Dichloropropane	A	ppbv	10.59	10.59		9.8	0	0	0.224	1	0	108%	70	130	0%	
1,3,5-Trimethylbenzene	A	ppbv	9.41	9.41		9.7	0	0	0.24	1	0	97%	70	130	0%	
1,3-Butadiene	A	ppbv	12.32	12.32		9.8	0	0	0.152	1	0	126%	70	130	0%	
1,3-Dichlorobenzene	A	ppbv	9.15	9.15		9.7	0	0	0.202	1	0	94%	70	130	0%	
1,4-Dichlorobenzene	A	ppbv	8.92	8.92		9.6	0	0	0.194	1	0	93%	70	130	0%	
1,4-Dioxane	A	ppbv	10.22	10.22		9.6	0	0	0.128	1	0	106%	70	130	0%	
2-Butanone	A	ppbv	11.26	11.26		9.9	0	0	0.287	1	0	114%	70	130	0%	
2-Hexanone	A	ppbv	10.71	10.71		9.8	0	0	0.135	1	0	109%	70	130	0%	
2-Propanol	A	ppbv	11.76	11.76		10.1	0	0	0.329	1	0	116%	70	130	0%	
4-Methyl-2-pentanone	A	ppbv	10.7	10.7		10	0	0	0.157	1	0	107%	70	130	0%	
Acetone	A	ppbv	11.59	11.59		10	0	0	0.43	1	0	116%	70	130	0%	
Benzene	A	ppbv	10.84	10.84		9.6	0	0	0.126	1	0	113%	70	130	0%	
Benzyl chloride	A	ppbv	10.38	10.38		9.7	0	0	0.155	1	0	107%	70	130	0%	
Bromodichloromethane	A	ppbv	10.35	10.35		9.6	0	0	0.156	1	0	108%	70	130	0%	
Bromoform	A	ppbv	9.87	9.87		9.6	0	0	0.197	1	0	103%	70	130	0%	
Bromomethane	A	ppbv	9.96	9.96		9.3	0	0	0.075	1	0	107%	70	130	0%	
Carbon disulfide	A	ppbv	10.57	10.57		9.7	0	0	0.093	1	0	109%	70	130	0%	
Carbon tetrachloride	A	ppbv	10.79	10.79		9.5	0	0	0.114	1	0	114%	70	130	0%	M
Chlorobenzene	A	ppbv	10.29	10.29		9.9	0	0	0.275	1	0	104%	70	130	0%	
Chlorodibromomethane	A	ppbv	10.11	10.11		9.2	0	0	0.165	1	0	110%	70	130	0%	
Chloroethane	A	ppbv	9.9	9.9		9.8	0	0	0.063	1	0	101%	70	130	0%	
Chloroform	A	ppbv	11.49	11.49		9.4	0	0	0.126	1	0	122%	70	130	0%	
Chloromethane	A	ppbv	10.37	10.37		9.8	0	0	0.104	1	0	106%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
845955	CCV1 VOA1 100611	EPA_TO15	ICV	\1\DATA\100611\	10/6/2011 6:37:0	1	R43330		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
cis-1,2-Dichloroethene	A	ppbv	10.6	10.6		9.8	0	0	0.107	1	0	108%	70	130	0%	
cis-1,3-dichloropropene	A	ppbv	10.21	10.21		9.5	0	0	0.166	1	0	107%	70	130	0%	
Cyclohexane	A	ppbv	11.66	11.66		9.8	0	0	0.684	2	0	119%	70	130	0%	
Dichlorodifluoromethane	A	ppbv	9.53	9.53		9.2	0	0	0.086	1	0	104%	70	130	0%	
Ethanol	A	ppbv	10.82	10.82		9.2	0	0	1.962	5	0	118%	70	130	0%	
Ethyl acetate	A	ppbv	11	11		9.8	0	0	0.157	1	0	112%	70	130	0%	
Ethylbenzene	A	ppbv	10.42	10.42		9.8	0	0	0.737	2	0	106%	70	130	0%	
Heptane	A	ppbv	11.23	11.23		9.9	0	0	0.249	1	0	113%	70	130	0%	
Hexachlorobutadiene	A	ppbv	8.48	8.48		9.4	0	0	0.374	2	0	90%	70	130	0%	
m,p-Xylene	A	ppbv	21.73	21.73		19.2	0	0	0.524	2	0	113%	70	130	0%	
Methylene chloride	A	ppbv	11	11		10	0	0	2.077	5	0	110%	70	130	0%	
n-Hexane	A	ppbv	11.3	11.3		10.1	0	0	0.692	2	0	112%	70	130	0%	
Naphthalene	A	ppbv	7.26	7.26		9.2	0	0	0.247	1	0	79%	70	130	0%	
o-Xylene	A	ppbv	10.5	10.5		10	0	0	0.258	1	0	105%	70	130	0%	
Propylene	A	ppbv	10.64	10.64		10.2	0	0	0.075	1	0	104%	70	130	0%	
Styrene	A	ppbv	10	10		9.8	0	0	0.263	1	0	102%	70	130	0%	
tert-Butyl Methyl Ether	A	ppbv	11.52	11.52		9.9	0	0	0.228	1	0	116%	70	130	0%	
Tetrachloroethene	A	ppbv	9.82	9.82		9.6	0	0	0.148	1	0	102%	70	130	0%	
Tetrahydrofuran	A	ppbv	11.61	11.61		10	0	0	0.201	1	0	116%	70	130	0%	
Toluene	A	ppbv	10.35	10.35		9.8	0	0	0.158	1	0	106%	70	130	0%	
trans-1,2-Dichloroethene	A	ppbv	10.97	10.97		9.8	0	0	0.117	1	0	112%	70	130	0%	
trans-1,3-dichloropropene	A	ppbv	9.73	9.73		9.1	0	0	0.171	1	0	107%	70	130	0%	
Trichloroethene	A	ppbv	9.95	9.95		9.6	0	0	0.119	1	0	104%	70	130	0%	
Trichlorofluoromethane	A	ppbv	10.46	10.46		9.6	0	0	0.148	1	0	109%	70	130	0%	
Vinyl acetate	A	ppbv	12.28	12.28		9.9	0	0	0.266	1	0	124%	70	130	0%	
Vinyl chloride	A	ppbv	11.58	11.58		9.4	0	0	0.072	1	0	123%	70	130	0%	
Xylenes, Total	C	ppbv	32.23	32.23		29.2	0	0	0.782	3	0	110%	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		1.25	0	0	0	0	0	1000%			0%	
Chlorobenzene-d5	I	ppbv	12.5	12.5		12.5	0	0	0	0	0	100%			0%	
4-Bromofluorobenzene	S	ppbv	12.42	12.42		12.5	0	0	0	0	0	99%	70	130	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\100611\10061112.D Vial: 12
Acq On : 6 Oct 2011 6:37 pm Operator: RACHEL HILL
Sample : CCV1 VOA1 100611 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	116	0.00
2	T	Propylene	1.304	1.361	-4.4	107	0.00
3	T	Dichlorodifluoromethane	3.309	3.426	-3.5	111	0.00
4	T	1,2-Dichloro-1,2,2,2-tetraf	2.171	2.237	-3.0	111	0.00
5	T	Chloromethane	1.531	1.672	-9.2	105	0.01
6	T	Vinyl chloride	1.379	1.699	-23.2	118	0.02
7	T	1,3-Butadiene	1.286	1.618	-25.8	115	0.00
8	T	Bromomethane	1.173	1.256	-7.1	112	0.00
9	T	Chloroethane	0.744	0.801	-7.7	109	0.00
10	T	Trichlorofluoromethane	3.006	3.276	-9.0	116	0.00
11	T	Ethanol	0.374	0.440	-17.6	107	0.00
12	T	Freon113	2.482	2.808	-13.1	115	0.00
13	T	1,1-Dichloroethene	2.049	2.272	-10.9	111	0.00
14	T	Acetone	2.170	2.514	-15.9	107	0.00
15	T	Carbon disulfide	3.246	3.536	-8.9	111	0.00
16	T	2-Propanol	1.896	2.208	-16.5	106	0.00
17	T	Methylene chloride	1.636	1.799	-10.0	109	0.00
18	T	tert-Butyl Methyl Ether	2.877	3.348	-16.4	109	0.00
19	T	trans-1,2-Dichloroethene	1.981	2.216	-11.9	111	0.00
20	T	n-Hexane	2.203	2.465	-11.9	109	0.00
21	T	1,1-Dichloroethane	2.213	2.525	-14.1	109	0.00
22	T	Vinyl acetate	3.355	4.162	-24.1	105	0.00
23	T	cis-1,2-Dichloroethene	1.183	1.280	-8.2	110	0.00
24	T	2-Butanone	2.302	2.620	-13.8	103	0.00
25	T	Ethyl acetate	2.992	3.358	-12.2	99	0.00
26	T	Tetrahydrofuran	1.500	1.741	-16.1	104	0.00
27	T	Chloroform	2.595	3.042	-17.2	111	0.00
28	T	1,1,1-Trichloroethane	2.490	2.974	-19.4	113	0.00
29	T	Cyclohexane	2.294	2.730	-19.0	109	0.00
30	T	Carbon tetrachloride	2.155	2.446	-13.5	115	0.00
31	T	Benzene	3.091	3.489	-12.9	108	0.00
32	T	1,2-Dichloroethane	1.585	1.873	-18.2	109	0.00
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	116	0.00
34	T	Heptane	1.015	1.151	-13.4	108	0.00
35	T	Trichloroethene	0.493	0.511	-3.7	112	0.00
36	T	1,2-Dichloropropane	0.425	0.459	-8.0	106	0.00
37	T	1,4-Dioxane	0.138	0.147	-6.5	107	0.00
38	T	Bromodichloromethane	0.756	0.814	-7.7	109	0.00
39	T	cis-1,3-Dichloropropene	0.612	0.658	-7.5	108	0.00
40	T	4-Methyl-2-pentanone	0.281	0.301	-7.1	105	0.00
41	T	Toluene	1.089	1.150	-5.6	107	0.00
42	T	trans-1,3-Dichloropropene	0.526	0.562	-6.8	108	0.00
43	T	1,1,2-Trichloroethane	0.364	0.376	-3.3	108	0.00
44	T	Tetrachloroethene	0.546	0.559	-2.4	111	0.00
45	T	2-Hexanone	0.592	0.647	-9.3	103	0.00
46	T	Chlorodibromomethane	0.560	0.578	-3.2	109	0.00
47	T	1,2-Dibromoethane	0.518	0.534	-3.1	108	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\100611\10061112.D Vial: 12
Acq On : 6 Oct 2011 6:37 pm Operator: RACHEL HILL
Sample : CCV1 VOA1 100611 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	Chlorobenzene	1.075	1.117	-3.9	107	0.00
50	T	Ethylbenzene	1.853	1.970	-6.3	108	0.00
51	T	m,p-Xylene	1.541	1.744	-13.2	109	0.00
52	T	o-Xylene	1.353	1.421	-5.0	110	0.00
53	T	Styrene	0.921	0.940	-2.1	107	0.00
54	T	Bromoform	0.664	0.683	-2.9	110	0.00
55	S	4-Bromofluorobenzene	0.546	0.543	0.5	115	0.00
56	T	1,1,2,2-Tetrachloroethane	0.927	0.946	-2.0	108	0.00
57	T	4-Ethyltoluene	1.496	1.479	1.1	111	0.00
58	T	1,3,5-Trimethylbenzene	1.265	1.227	3.0	110	0.00
59	T	1,2,4-Trimethylbenzene	1.155	1.093	5.4	109	0.00
60	T	1,3-Dichlorobenzene	0.691	0.652	5.6	103	0.00
61	T	1,4-Dichlorobenzene	0.645	0.599	7.1	100	0.00
62	T	Benzyl chloride	0.798	0.853	-6.9	104	0.00
63	T	1,2-Dichlorobenzene	0.629	0.575	8.6	100	0.00
64	T	1,2,4-Trichlorobenzene	0.096	0.078	18.8	78	0.00
65	T	Hexachlorobutadiene	0.227	0.205	9.7	83	0.00
66		Naphthalene	0.145	0.115	20.7	77	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100611\10061112.D Vial: 12
Acq On : 6 Oct 2011 6:37 pm Operator: RACHEL HILL
Sample : CCV1 VOA1 100611 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Oct 6 20:54 2011 Quant Results File: 100611V1.RES

Quant Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration
DataAcq Meth : 100611V1

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.59	130	462715	12.50 ppbv	0.00
33) 1,4-Difluorobenzene	11.69	114	1385177	12.50 ppbv	0.00
48) Chlorobenzene-d5	15.54	117	825483	12.50 ppbv	0.00
System Monitoring Compounds					
55) 4-Bromofluorobenzene	17.19	95	448309	12.42 ppbv	0.00
Spiked Amount 12.500	Range 70 - 113		Recovery = 99.36%		
Target Compounds					Qvalue
2) Propylene	5.52	41	513916	10.64 ppbv	97
3) Dichlorodifluoromethane	5.59	85	1166768	9.53 ppbv	99
4) 1,2-Dichloro-1,2,2,2-tetra	5.85	135	786674	9.79 ppbv #	68
5) Chloromethane	6.00	50	587921	10.37 ppbv	99
6) Vinyl chloride	6.21	62	591247	11.58 ppbv #	99
7) 1,3-Butadiene	6.26	39	586815	12.32 ppbv	92
8) Bromomethane	6.85	94	432319	9.96 ppbv #	98
9) Chloroethane	7.00	64	272807	9.90 ppbv #	95
10) Trichlorofluoromethane	7.33	101	1164304	10.46 ppbv #	97
11) Ethanol	7.56	45	149885	10.82 ppbv	98
12) Freon113	7.99	101	1018828	11.09 ppbv	87
13) 1,1-Dichloroethene	8.09	61	832572	10.98 ppbv #	86
14) Acetone	8.19	43	930612	11.59 ppbv	92
15) Carbon disulfide	8.46	76	1269681	10.57 ppbv #	100
16) 2-Propanol	8.23	45	825660	11.76 ppbv	89
17) Methylene chloride	8.76	49	665904	11.00 ppbv #	76
18) tert-Butyl Methyl Ether	8.95	73	1226974	11.52 ppbv #	88
19) trans-1,2-Dichloroethene	9.03	61	804069	10.97 ppbv #	81
20) n-Hexane	9.22	57	921576	11.30 ppbv #	86
21) 1,1-Dichloroethane	9.59	63	906533	11.06 ppbv #	97
22) Vinyl acetate	9.53	43	1525244	12.28 ppbv #	95
23) cis-1,2-Dichloroethene	10.28	96	464341	10.60 ppbv #	79
24) 2-Butanone	10.25	43	960095	11.26 ppbv #	88
25) Ethyl acetate	10.19	43	1218322	11.00 ppbv #	99
26) Tetrahydrofuran	10.59	42	644522	11.61 ppbv	87
27) Chloroform	10.60	83	1103519	11.49 ppbv	100
28) 1,1,1-Trichloroethane	10.85	97	1056792	11.46 ppbv #	94
29) Cyclohexane	10.86	56	990206	11.66 ppbv	85
30) Carbon tetrachloride	11.01	117	860254m	10.79 ppbv	
31) Benzene	11.30	78	1239854	10.84 ppbv	93
32) 1,2-Dichloroethane	11.37	62	672356	11.46 ppbv #	97
34) Heptane	11.34	43	1262767	11.23 ppbv #	87
35) Trichloroethene	12.02	130	543267	9.95 ppbv	92
36) 1,2-Dichloropropane	12.38	63	498248	10.59 ppbv	97
37) 1,4-Dioxane	12.46	88	156742	10.22 ppbv #	78
38) Bromodichloromethane	12.67	83	866327	10.35 ppbv	98
39) cis-1,3-Dichloropropene	13.22	75	692424	10.21 ppbv	96
40) 4-Methyl-2-pentanone	13.33	58	333241	10.70 ppbv #	91
41) Toluene	13.62	91	1249316	10.35 ppbv	97
42) trans-1,3-Dichloropropene	13.93	75	567163	9.73 ppbv	95
43) 1,1,2-Trichloroethane	14.20	97	408198	10.13 ppbv	96

(#) = qualifier out of range (m) = manual integration
10061112.D 100611V1.M Mon Oct 10 13:27:15 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100611\10061112.D
Acq On : 6 Oct 2011 6:37 pm
Sample : CCV1 VOA1 100611
Misc : ICV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Oct 6 20:54 2011

Vial: 12
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 100611V1.RES

Quant Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration
DataAcq Meth : 100611V1

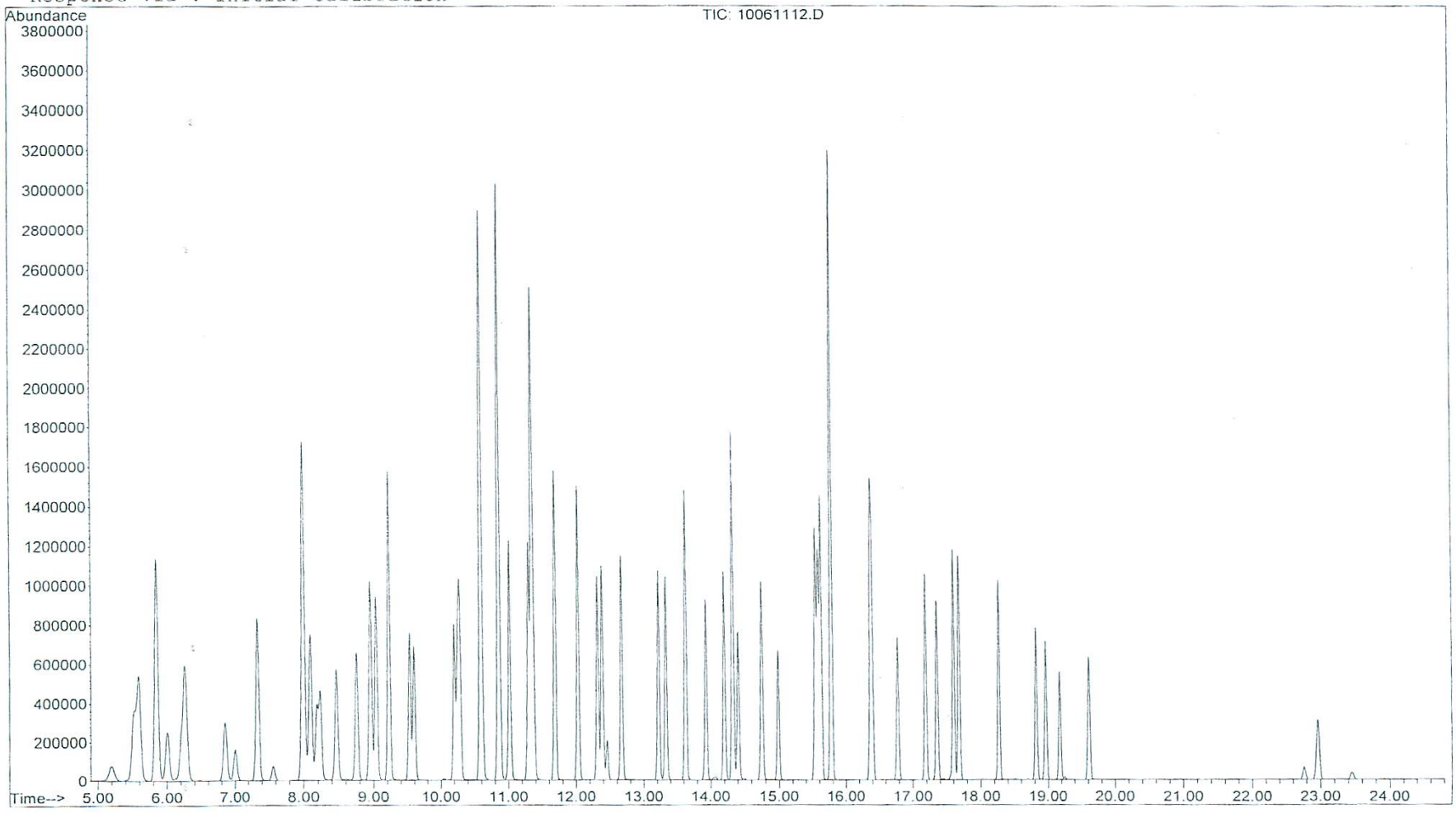
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) Tetrachloroethene	14.33	166	594281	9.82	ppbv	98
45) 2-Hexanone	14.41	43	702999	10.71	ppbv	91
46) Chlorodibromomethane	14.75	129	627352	10.11	ppbv	98
47) 1,2-Dibromoethane	14.98	107	567662	9.89	ppbv	100
49) Chlorobenzene	15.58	112	730477	10.29	ppbv #	84
50) Ethylbenzene	15.62	91	1275133	10.42	ppbv	92
51) m,p-Xylene	15.77	91	2211247	21.73	ppbv	90
52) o-Xylene	16.37	91	938257	10.50	ppbv #	87
53) Styrene	16.40	104	608173	10.00	ppbv	96
54) Bromoform	16.78	173	433013	9.87	ppbv #	97
56) 1,1,2,2-Tetrachloroethane	17.35	83	624465	10.20	ppbv #	98
57) 4-Ethyltoluene	17.60	105	957430	9.69	ppbv	95
58) 1,3,5-Trimethylbenzene	17.68	105	786170	9.41	ppbv	96
59) 1,2,4-Trimethylbenzene	18.26	105	707546	9.28	ppbv	96
60) 1,3-Dichlorobenzene	18.82	146	417732	9.15	ppbv	97
61) 1,4-Dichlorobenzene	18.96	146	379950	8.92	ppbv	97
62) Benzyl chloride	19.17	91	546626	10.38	ppbv	96
63) 1,2-Dichlorobenzene	19.61	146	368285	8.86	ppbv	97
64) 1,2,4-Trichlorobenzene	22.76	180	46716	7.37	ppbv	96
65) Hexachlorobutadiene	22.97	225	127095	8.48	ppbv	99
66) Naphthalene	23.46	128	69704	7.26	ppbv	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100611\10061112.D Vial: 12
Acq On : 6 Oct 2011 6:37 pm Operator: RACHEL HILL
Sample : CCV1 VOA1 100611 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Oct 6 20:54 2011 Quant Results File: 100611V1.RES

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: VOA1_111010A

Run No.: 43399

Analytical Run Date: 10/10/2011

InstrumentID: VOA1

Analyst: Rachel Hill

Column:

Calibration ID:

Column ID: 0.25mm, 1.4umFT

Column Length: 30m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 VOA1 101011	BFB_TUNE	TUNE	R43399	10/10/2011 10:00:00 AM	Robert Lynch		
1ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 1:03:00 PM	Robert Lynch		
10ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 1:45:00 PM	Robert Lynch		
12ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 2:27:00 PM	Robert Lynch		
15ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 3:09:00 PM	Robert Lynch		
20ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 5:57:00 PM	Robert Lynch		
30ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 6:39:00 PM	Robert Lynch		
50ppbv ICAL	EPA_TO15	ICAL	R43399	10/10/2011 7:23:00 PM	Robert Lynch		
BFB2 VOA1 101011	BFB_TUNE	TUNE	R43399	10/10/2011 8:03:00 PM	Robert Lynch		
ICV1 VOA1 101011	EPA_TO15	ICV	R43399	10/10/2011 10:05:00 PM	Robert Lynch		
RLVS1 VOA1 10101	EPA_TO15	RLVS	R43399	10/10/2011 10:46:00 PM	Robert Lynch		
BLANK VOA1 10101	EPA_TO15	MBLK	R43399	10/10/2011 11:34:00 PM	Robert Lynch		
1108688-007A	EPA_TO15	SAMP	R43399	10/11/2011 12:16:00 AM	Robert Lynch	H	
1109555-031A	EPA_TO15	SAMP	R43399	10/11/2011 12:56:00 AM	Robert Lynch	H	
1109555-032A	EPA_TO15	SAMP	R43399	10/11/2011 1:37:00 AM	Robert Lynch	H	
1109555-023A	EPA_TO15	SAMP	R43399	10/11/2011 2:17:00 AM	Robert Lynch	H	
1109555-025A	EPA_TO15	SAMP	R43399	10/11/2011 2:58:00 AM	Robert Lynch	H	
1109555-026A	EPA_TO15	SAMP	R43399	10/11/2011 3:39:00 AM	Robert Lynch	H	
1109988-001B	EPA_TO15	SAMP	R43399	10/11/2011 4:19:00 AM	Robert Lynch	H	
1109988-003B	EPA_TO15	SAMP	R43399	10/11/2011 5:00:00 AM	Robert Lynch	H	
1109988-004B	EPA_TO15	SAMP	R43399	10/11/2011 5:47:00 AM	Robert Lynch	H	
1109988-008B	EPA_TO15	SAMP	R43399	10/11/2011 6:34:00 AM	Robert Lynch		
1109988-009B	EPA_TO15	SAMP	R43399	10/11/2011 7:22:00 AM	Robert Lynch		
1109988-010B	EPA_TO15	SAMP	R43399	10/11/2011 8:06:00 AM	Robert Lynch		
1109988-011B	EPA_TO15	SAMP	R43399	10/11/2011 8:53:00 AM	Robert Lynch		
1109988-012B	EPA_TO15	SAMP	R43399	10/11/2011 9:40:00 AM	Robert Lynch		
1109988-013B	EPA_TO15	SAMP	R43399	10/11/2011 10:21:00 AM	Robert Lynch		
1109988-013BDUP	EPA_TO15	DUP	R43399	10/11/2011 11:02:00 AM	Robert Lynch		
1109988-014B	EPA_TO15	SAMP	R43399	10/11/2011 11:42:00 AM	Robert Lynch		
1109988-015B	EPA_TO15	SAMP	R43399	10/11/2011 12:29:00 PM	Robert Lynch		
1109988-016B	EPA_TO15	SAMP	R43399	10/11/2011 1:09:00 PM	Robert Lynch		
1109988-017B	EPA_TO15	SAMP	R43399	10/11/2011 1:50:00 PM	Robert Lynch		
1109988-018B	EPA_TO15	SAMP	R43399	10/11/2011 2:38:00 PM	Robert Lynch		
1109988-019B	EPA_TO15	SAMP	R43399	10/11/2011 3:25:00 PM	Robert Lynch		
1110067-046A	EPA_TO15	SAMP	R43399	10/11/2011 4:07:00 PM	Robert Lynch		
1110067-044B	EPA_TO15	SAMP	R43399	10/11/2011 4:51:00 PM	Robert Lynch		

RTI Laboratories

Run ID: VOA1_111010A **Run No.: 43399**

1110067-045B	EPA_TO15	SAMP	R43399	10/11/2011 5:35:00 PM	Robert Lynch		
RLVS2 VOA1 10101	EPA_TO15	RLVS	R43399	10/11/2011 6:17:00 PM	Robert Lynch		

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
847556	ICV1 VOA1 101011	EPA_TO15	ICV	\1\DATA\101011	10/10/2011 10:0	1	R43399		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	11.09	11.09		9.6	0	0	0.107	1	0	116%	70	130	0%	
1,1,2,2-Tetrachloroethane	A	ppbv	10.6	10.6		10	0	0	0.211	1	0	106%	70	130	0%	
1,1,2-Trichloro-1,2,2-trifluoroethane	A	ppbv	10.89	10.89		9.8	0	0	0.108	1	0	111%	70	130	0%	
1,1,2-Trichloroethane	A	ppbv	9.92	9.92		9.8	0	0	0.2	1	0	101%	70	130	0%	
1,1-Dichloroethane	A	ppbv	10.62	10.62		9.7	0	0	0.111	1	0	109%	70	130	0%	
1,1-Dichloroethene	A	ppbv	11.04	11.04		9.9	0	0	0.097	1	0	112%	70	130	0%	
1,2,4-Trichlorobenzene	A	ppbv	8.46	8.46		9.1	0	0	0.271	1	0	93%	70	130	0%	
1,2,4-Trimethylbenzene	A	ppbv	9.77	9.77		9.8	0	0	0.245	1	0	100%	70	130	0%	
1,2-Dibromoethane	A	ppbv	9.73	9.73		9.6	0	0	0.186	1	0	101%	70	130	0%	
1,2-Dichlorobenzene	A	ppbv	10.17	10.17		9.7	0	0	0.208	1	0	105%	70	130	0%	
1,2-Dichloroethane	A	ppbv	10.96	10.96		9.7	0	0	0.196	1	0	113%	70	130	0%	
1,2-Dichloropropane	A	ppbv	10.25	10.25		9.8	0	0	0.224	1	0	105%	70	130	0%	
1,3,5-Trimethylbenzene	A	ppbv	9.5	9.5		9.7	0	0	0.24	1	0	98%	70	130	0%	
1,3-Butadiene	A	ppbv	12.71	12.71		9.8	0	0	0.152	1	0	130%	70	130	0%	
1,3-Dichlorobenzene	A	ppbv	10.01	10.01		9.7	0	0	0.202	1	0	103%	70	130	0%	
1,4-Dichlorobenzene	A	ppbv	9.96	9.96		9.6	0	0	0.194	1	0	104%	70	130	0%	
1,4-Dioxane	A	ppbv	10.12	10.12		9.6	0	0	0.128	1	0	105%	70	130	0%	
2-Butanone	A	ppbv	11.02	11.02		9.9	0	0	0.287	1	0	111%	70	130	0%	
2-Hexanone	A	ppbv	10.27	10.27		9.8	0	0	0.135	1	0	105%	70	130	0%	
2-Propanol	A	ppbv	11.18	11.18		10.1	0	0	0.329	1	0	111%	70	130	0%	
4-Methyl-2-pentanone	A	ppbv	10.4	10.4		10	0	0	0.157	1	0	104%	70	130	0%	
Acetone	A	ppbv	11.06	11.06		10	0	0	0.43	1	0	111%	70	130	0%	
Benzene	A	ppbv	10.37	10.37		9.6	0	0	0.126	1	0	108%	70	130	0%	
Benzyl chloride	A	ppbv	10.96	10.96		9.7	0	0	0.155	1	0	113%	70	130	0%	
Bromodichloromethane	A	ppbv	10.07	10.07		9.6	0	0	0.156	1	0	105%	70	130	0%	
Bromoform	A	ppbv	9.82	9.82		9.6	0	0	0.197	1	0	102%	70	130	0%	
Bromomethane	A	ppbv	10.37	10.37		9.3	0	0	0.075	1	0	112%	70	130	0%	
Carbon disulfide	A	ppbv	10.84	10.84		9.7	0	0	0.093	1	0	112%	70	130	0%	
Carbon tetrachloride	A	ppbv	10.41	10.41		9.5	0	0	0.114	1	0	110%	70	130	0%	M
Chlorobenzene	A	ppbv	10.07	10.07		9.9	0	0	0.275	1	0	102%	70	130	0%	
Chlorodibromomethane	A	ppbv	9.76	9.76		9.2	0	0	0.165	1	0	106%	70	130	0%	
Chloroethane	A	ppbv	10.27	10.27		9.8	0	0	0.063	1	0	105%	70	130	0%	
Chloroform	A	ppbv	11.28	11.28		9.4	0	0	0.126	1	0	120%	70	130	0%	
Chloromethane	A	ppbv	10.34	10.34		9.8	0	0	0.104	1	0	106%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
847556	ICV1 VOA1 101011	EPA_TO15	ICV	\1\DATA\101011	10/10/2011 10:0	1	R43399		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
cis-1,2-Dichloroethene	A	ppbv	10.46	10.46		9.8	0	0	0.107	1	0	107%	70	130	0%	
cis-1,3-dichloropropene	A	ppbv	9.96	9.96		9.5	0	0	0.166	1	0	105%	70	130	0%	
Cyclohexane	A	ppbv	11.23	11.23		9.8	0	0	0.684	2	0	115%	70	130	0%	
Dichlorodifluoromethane	A	ppbv	10.07	10.07		9.2	0	0	0.086	1	0	109%	70	130	0%	
Ethanol	A	ppbv	10.37	10.37		9.2	0	0	1.962	5	0	113%	70	130	0%	
Ethyl acetate	A	ppbv	11.1	11.1		9.8	0	0	0.157	1	0	113%	70	130	0%	
Ethylbenzene	A	ppbv	10.06	10.06		9.8	0	0	0.737	2	0	103%	70	130	0%	
Heptane	A	ppbv	10.93	10.93		9.9	0	0	0.249	1	0	110%	70	130	0%	
Hexachlorobutadiene	A	ppbv	9.58	9.58		9.4	0	0	0.374	2	0	102%	70	130	0%	
m,p-Xylene	A	ppbv	20.61	20.61		19.2	0	0	0.524	2	0	107%	70	130	0%	
Methylene chloride	A	ppbv	10.62	10.62		10	0	0	2.077	5	0	106%	70	130	0%	
n-Hexane	A	ppbv	10.94	10.94		10.1	0	0	0.692	2	0	108%	70	130	0%	
Naphthalene	A	ppbv	8.64	8.64		9.2	0	0	0.247	1	0	94%	70	130	0%	
o-Xylene	A	ppbv	9.99	9.99		10	0	0	0.258	1	0	100%	70	130	0%	
Propylene	A	ppbv	11.06	11.06		10.2	0	0	0.075	1	0	108%	70	130	0%	
Styrene	A	ppbv	9.86	9.86		9.8	0	0	0.263	1	0	101%	70	130	0%	
tert-Butyl Methyl Ether	A	ppbv	10.96	10.96		9.9	0	0	0.228	1	0	111%	70	130	0%	
Tetrachloroethene	A	ppbv	9.71	9.71		9.6	0	0	0.148	1	0	101%	70	130	0%	
Tetrahydrofuran	A	ppbv	11	11		10	0	0	0.201	1	0	110%	70	130	0%	
Toluene	A	ppbv	9.97	9.97		9.8	0	0	0.158	1	0	102%	70	130	0%	
trans-1,2-Dichloroethene	A	ppbv	10.71	10.71		9.8	0	0	0.117	1	0	109%	70	130	0%	
trans-1,3-dichloropropene	A	ppbv	9.67	9.67		9.1	0	0	0.171	1	0	106%	70	130	0%	
Trichloroethene	A	ppbv	9.74	9.74		9.6	0	0	0.119	1	0	101%	70	130	0%	
Trichlorofluoromethane	A	ppbv	10.7	10.7		9.6	0	0	0.148	1	0	111%	70	130	0%	
Vinyl acetate	A	ppbv	11.69	11.69		9.9	0	0	0.266	1	0	118%	70	130	0%	
Vinyl chloride	A	ppbv	10.6	10.6		9.4	0	0	0.072	1	0	113%	70	130	0%	
Xylenes, Total	C	ppbv	30.6	30.6		29.2	0	0	0.782	3	0	105%	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		1.25	0	0	0	0	0	1000%			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%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\101011\10101116.D
Acq On : 10 Oct 2011 10:05 pm
Sample : ICV1 VOA1 101011
Misc : ICV EPA_TO15
MS Integration Params: CLME.P

Vial: 4
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	120	0.00
2	T	Propylene	1.309	1.418	-8.3	112	0.00
3	T	Dichlorodifluoromethane	3.291	3.603	-9.5	120	0.00
4	T	1,2-Dichloro-1,2,2,2-tetraf	2.188	2.358	-7.8	118	0.00
5	T	Chloromethane	1.550	1.687	-8.8	106	0.00
6	T	Vinyl chloride	1.365	1.540	-12.8	107	0.00
7	T	1,3-Butadiene	1.184	1.535	-29.6	125	0.00
8	T	Bromomethane	1.168	1.303	-11.6	117	0.01
9	T	Chloroethane	0.736	0.821	-11.5	113	0.00
10	T	Trichlorofluoromethane	2.930	3.265	-11.4	118	0.00
11	T	Ethanol	0.361	0.407	-12.7	103	-0.01
12	T	Freon113	2.418	2.687	-11.1	112	0.00
13	T	1,1-Dichloroethene	1.995	2.226	-11.6	111	0.00
14	T	Acetone	2.049	2.265	-10.5	106	0.00
15	T	Carbon disulfide	3.202	3.578	-11.7	113	0.00
16	T	2-Propanol	1.848	2.047	-10.8	107	0.00
17	T	Methylene chloride	1.619	1.719	-6.2	106	0.00
18	T	tert-Butyl Methyl Ether	2.651	2.936	-10.8	110	0.00
19	T	trans-1,2-Dichloroethene	1.925	2.104	-9.3	109	0.00
20	T	n-Hexane	2.142	2.320	-8.3	107	0.00
21	T	1,1-Dichloroethane	2.117	2.318	-9.5	107	0.00
22	T	Vinyl acetate	3.132	3.700	-18.1	106	0.00
23	T	cis-1,2-Dichloroethene	1.143	1.220	-6.7	109	0.00
24	T	2-Butanone	2.190	2.438	-11.3	105	0.00
25	T	Ethyl acetate	2.785	3.154	-13.2	105	0.00
26	T	Tetrahydrofuran	1.417	1.559	-10.0	104	0.00
27	T	Chloroform	2.487	2.863	-15.1	113	0.00
28	T	1,1,1-Trichloroethane	2.371	2.738	-15.5	113	0.00
29	T	Cyclohexane	2.213	2.536	-14.6	106	0.00
30	T	Carbon tetrachloride	2.060	2.257	-9.6	114	0.00
31	T	Benzene	2.902	3.134	-8.0	107	0.00
32	T	1,2-Dichloroethane	1.467	1.658	-13.0	109	0.00
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	119	0.00
34	T	Heptane	0.966	1.066	-10.4	107	0.00
35	T	Trichloroethene	0.475	0.482	-1.5	111	0.00
36	T	1,2-Dichloropropane	0.394	0.412	-4.6	106	0.00
37	T	1,4-Dioxane	0.132	0.139	-5.3	107	0.00
38	T	Bromodichloromethane	0.705	0.740	-5.0	111	0.00
39	T	cis-1,3-Dichloropropene	0.575	0.603	-4.9	109	0.00
40	T	4-Methyl-2-pentanone	0.262	0.272	-3.8	107	0.00
41	T	Toluene	1.014	1.031	-1.7	107	0.00
42	T	trans-1,3-Dichloropropene	0.495	0.526	-6.3	110	0.00
43	T	1,1,2-Trichloroethane	0.340	0.345	-1.5	108	0.00
44	T	Tetrachloroethene	0.522	0.528	-1.1	110	0.00
45	T	2-Hexanone	0.561	0.588	-4.8	104	0.00
46	T	Chlorodibromomethane	0.529	0.526	0.6	109	0.00
47	T	1,2-Dibromoethane	0.492	0.498	-1.2	109	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\101011\10101116.D
Acq On : 10 Oct 2011 10:05 pm
Sample : ICV1 VOA1 101011
Misc : ICV EPA_TO15
MS Integration Params: CLME.P

Vial: 4
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
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	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	Chlorobenzene	1.004	1.021	-1.7	108	0.00
50	T	Ethylbenzene	1.718	1.764	-2.7	108	0.00
51	T	m,p-Xylene	1.425	1.530	-7.4	107	0.00
52	T	o-Xylene	1.264	1.263	0.1	107	0.00
53	T	Styrene	0.862	0.867	-0.6	108	0.00
54	T	Bromoform	0.637	0.652	-2.4	109	0.00
55	S	4-Bromofluorobenzene	0.545	0.565	-3.7	117	0.00
56	T	1,1,2,2-Tetrachloroethane	0.884	0.937	-6.0	112	0.00
57	T	4-Ethyltoluene	1.424	1.410	1.0	108	0.00
58	T	1,3,5-Trimethylbenzene	1.208	1.183	2.1	108	0.00
59	T	1,2,4-Trimethylbenzene	1.105	1.101	0.4	112	0.00
60	T	1,3-Dichlorobenzene	0.661	0.682	-3.2	111	0.00
61	T	1,4-Dichlorobenzene	0.614	0.637	-3.7	109	0.00
62	T	Benzyl chloride	0.754	0.852	-13.0	110	0.00
63	T	1,2-Dichlorobenzene	0.594	0.623	-4.9	111	0.00
64	T	1,2,4-Trichlorobenzene	0.091	0.084	7.7	88	0.00
65	T	Hexachlorobutadiene	0.206	0.210	-1.9	93	0.00
66		Naphthalene	0.137	0.129	5.8	88	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101011\10101116.D
Acq On : 10 Oct 2011 10:05 pm
Sample : ICV1 VOA1 101011
Misc : ICV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Oct 11 12:40 2011

Vial: 4
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 101011V1.RES

Quant Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration
DataAcq Meth : 101011V1

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane	10.59	130	469165	12.50 ppbv	0.00
33) 1,4-Difluorobenzene	11.69	114	1405947	12.50 ppbv	0.00
48) Chlorobenzene-d5	15.54	117	846557	12.50 ppbv	0.00

System Monitoring Compounds					
55) 4-Bromofluorobenzene	17.18	95	478028	12.96 ppbv	0.00
Spiked Amount 12.500	Range 70 - 113		Recovery = 103.68%		

Target Compounds					Qvalue
2) Propylene	5.51	41	543006	11.06 ppbv	98
3) Dichlorodifluoromethane	5.59	85	1244148	10.07 ppbv	99
4) 1,2-Dichloro-1,2,2,2-tetra	5.84	135	840619	10.23 ppbv #	68
5) Chloromethane	6.00	50	601484	10.34 ppbv	99
6) Vinyl chloride	6.21	62	543296	10.60 ppbv #	98
7) 1,3-Butadiene	6.26	39	564755	12.71 ppbv	94
8) Bromomethane	6.85	94	454688	10.37 ppbv #	97
9) Chloroethane	6.99	64	283668	10.27 ppbv #	95
10) Trichlorofluoromethane	7.33	101	1176431	10.70 ppbv #	98
11) Ethanol	7.56	45	140532	10.37 ppbv	98
12) Freon113	7.99	101	988176	10.89 ppbv	87
13) 1,1-Dichloroethene	8.09	61	827015	11.04 ppbv #	86
14) Acetone	8.18	43	850176	11.06 ppbv	92
15) Carbon disulfide	8.46	76	1302720	10.84 ppbv #	99
16) 2-Propanol	8.23	45	775893	11.18 ppbv #	1
17) Methylene chloride	8.75	49	645333	10.62 ppbv #	77
18) tert-Butyl Methyl Ether	8.95	73	1091022	10.96 ppbv #	87
19) trans-1,2-Dichloroethene	9.03	61	773826	10.71 ppbv #	82
20) n-Hexane	9.22	57	879613	10.94 ppbv #	87
21) 1,1-Dichloroethane	9.59	63	843951	10.62 ppbv #	97
22) Vinyl acetate	9.53	43	1374865	11.69 ppbv #	95
23) cis-1,2-Dichloroethene	10.27	96	448600	10.46 ppbv #	79
24) 2-Butanone	10.24	43	906093	11.02 ppbv #	87
25) Ethyl acetate	10.20	43	1160095	11.10 ppbv #	99
26) Tetrahydrofuran	10.58	42	585037	11.00 ppbv	87
27) Chloroform	10.60	83	1053064	11.28 ppbv	100
28) 1,1,1-Trichloroethane	10.85	97	986423	11.09 ppbv #	94
29) Cyclohexane	10.86	56	932661	11.23 ppbv	85
30) Carbon tetrachloride	11.01	117	804750m	10.41 ppbv	
31) Benzene	11.29	78	1129231	10.37 ppbv	94
32) 1,2-Dichloroethane	11.37	62	603728	10.96 ppbv #	97
34) Heptane	11.35	43	1187445	10.93 ppbv #	87
35) Trichloroethene	12.03	130	520377	9.74 ppbv	92
36) 1,2-Dichloropropane	12.38	63	453917	10.25 ppbv	97
37) 1,4-Dioxane	12.46	88	149811	10.12 ppbv #	80
38) Bromodichloromethane	12.66	83	798905	10.07 ppbv	98
39) cis-1,3-Dichloropropene	13.22	75	644327	9.96 ppbv	96
40) 4-Methyl-2-pentanone	13.33	58	306340	10.40 ppbv #	91
41) Toluene	13.62	91	1136659	9.97 ppbv	97
42) trans-1,3-Dichloropropene	13.92	75	538792	9.67 ppbv	95
43) 1,1,2-Trichloroethane	14.20	97	379783	9.92 ppbv	96

(#) = qualifier out of range (m) = manual integration
10101116.D 101011V1.M Thu Oct 20 12:17:00 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\101011\10101116.D
Acq On : 10 Oct 2011 10:05 pm
Sample : ICV1 VOA1 101011
Misc : ICV EPA_TO15
MS Integration Params: CLME.P
Quant Time: Oct 11 12:40 2011

Vial: 4
Operator: RACHEL HILL
Inst : VOA 1
Multiplr: 1.00

Quant Results File: 101011V1.RES

Quant Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration
DataAcq Meth : 101011V1

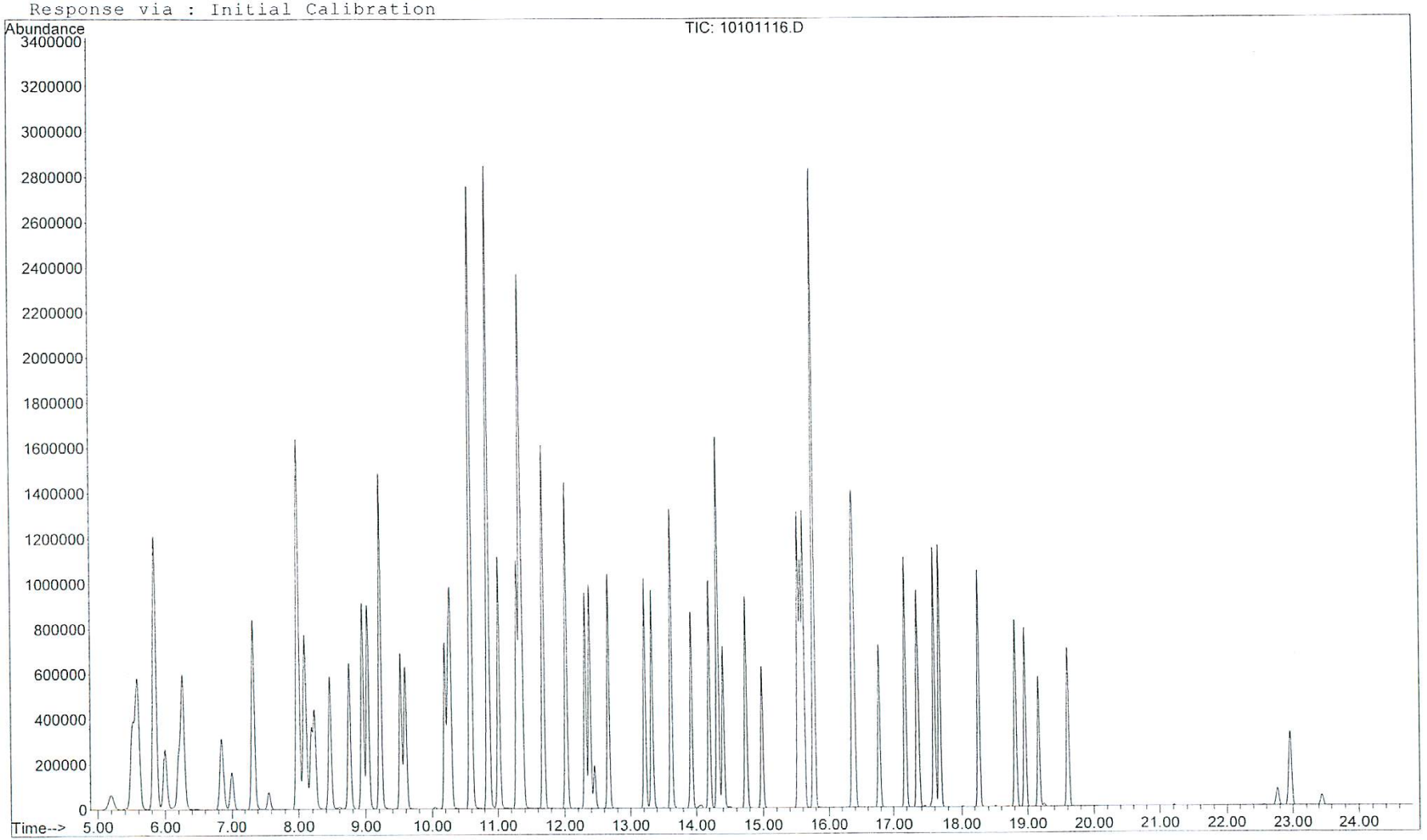
Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44) Tetrachloroethene	14.33	166	569961	9.71	ppbv		98
45) 2-Hexanone	14.41	43	647684	10.27	ppbv		91
46) Chlorodibromomethane	14.75	129	580262	9.76	ppbv		99
47) 1,2-Dibromoethane	14.98	107	538092	9.73	ppbv		99
49) Chlorobenzene	15.58	112	684260	10.07	ppbv	#	85
50) Ethylbenzene	15.62	91	1170488	10.06	ppbv		91
51) m,p-Xylene	15.78	91	1989630	20.61	ppbv		89
52) o-Xylene	16.37	91	855138	9.99	ppbv	#	87
53) Styrene	16.39	104	575592	9.86	ppbv		96
54) Bromoform	16.78	173	423660	9.82	ppbv	#	97
56) 1,1,2,2-Tetrachloroethane	17.36	83	634805	10.60	ppbv	#	98
57) 4-Ethyltoluene	17.60	105	935703	9.70	ppbv		96
58) 1,3,5-Trimethylbenzene	17.68	105	777087	9.50	ppbv		96
59) 1,2,4-Trimethylbenzene	18.27	105	730677	9.77	ppbv		96
60) 1,3-Dichlorobenzene	18.82	146	447838	10.01	ppbv		97
61) 1,4-Dichlorobenzene	18.96	146	414202	9.96	ppbv		97
62) Benzyl chloride	19.17	91	559740	10.96	ppbv		96
63) 1,2-Dichlorobenzene	19.61	146	409028	10.17	ppbv		97
64) 1,2,4-Trichlorobenzene	22.76	180	51931	8.46	ppbv		97
65) Hexachlorobutadiene	22.96	225	133957	9.58	ppbv		99
66) Naphthalene	23.45	128	80490	8.64	ppbv		98

(#) = qualifier out of range (m) = manual integration
10101116.D 101011V1.M Thu Oct 20 12:17:00 2011

Quantitation Report

Data File : C:\HPCHEM\1\DATA\101011\10101116.D Vial: 4
Acq On : 10 Oct 2011 10:05 pm Operator: RACHEL HILL
Sample : ICV1 VOA1 101011 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Oct 11 12:40 2011 Quant Results File: 101011V1.RES

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration



Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration

Calibration Files
2 =09191103.D 4 =09191104.D 5 =09191105.D
6 =09191106.D 7 =09191107.D 8 =09191108.D

		Compound	2	4	5	6	7	8	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Propylene	1.512	1.314	1.207	1.149	1.093	1.087	1.225	12.16
3)	T	Dichlorodifluoromet	3.326	3.271	3.103	2.852	2.830	2.914	3.092	7.35
4)	T	1,2-Dichloro-1,2,2,	1.847	2.141	2.089	1.980	1.905	2.028	2.025	6.13
5)	T	Chloromethane	1.519	1.460	1.383	1.233	1.174	1.135	1.302	11.55
6)	T	Vinyl chloride	2.075	2.115	1.978	1.791	1.632	1.540	1.810	13.76
7)	T	1,3-Butadiene	1.716	1.658	1.538	1.395	1.250	1.178	1.413	16.24
8)	T	Bromomethane	1.794	1.272	1.232	1.280	1.371	1.269	1.349	14.93
9)	T	Chloroethane	0.711	0.761	0.733	0.684	0.651	0.722	0.710	4.97
10)	T	Trichlorofluorometh	2.763	3.149	3.058	2.905	2.810	2.895	2.933	4.59
11)	T	Ethanol		0.263	0.311	0.290	0.249	0.277	0.281	8.14
12)	T	Freon113	2.106	2.680	2.602	2.464	2.257	2.202	2.328	11.20
13)	T	1,1-Dichloroethene	2.019	2.179	2.096	1.941	1.810	1.837	1.971	6.83
14)	T	Acetone	2.181	2.278	2.153	1.871	1.456	1.561	1.875	17.79
15)	T	Carbon disulfide	3.179	3.309	3.155	2.923	2.803	2.902	3.079	6.53
16)	T	2-Propanol	1.494	1.878	1.820	1.636	1.441	1.537	1.628	10.10
17)	T	Methylene chloride	1.851	1.699	1.600	1.447	1.239	1.271	1.493	15.46
18)	T	tert-Butyl Methyl E	2.811	3.112	2.895	2.524	1.937	2.242	2.561	15.90
19)	T	trans-1,2-Dichloroe	1.913	2.127	2.015	1.848	1.598	1.683	1.844	10.26
20)	T	n-Hexane	2.125	2.362	2.266	2.065	1.807	1.858	2.043	10.96
21)	T	1,1-Dichloroethane	2.205	2.458	2.320	2.065	1.743	1.862	2.096	12.01
22)	T	Vinyl acetate	2.857	3.681	3.400	2.970	2.257	2.512	2.893	17.49
23)	T	cis-1,2-Dichloroeth	1.070	1.220	1.166	1.065	0.928	1.044	1.089	8.68
24)	T	2-Butanone	2.124	2.170	2.061	1.849	1.503	1.700	1.856	14.48
25)	T	Ethyl acetate	2.480	2.821	2.683	2.391	1.983	2.212	2.392	12.34
26)	T	Tetrahydrofuran	1.503	1.568	1.471	1.287	1.035	1.043	1.265	20.28
27)	T	Chloroform	2.518	2.898	2.725	2.462	2.072	2.026	2.363	16.56
28)	T	1,1,1-Trichloroetha	2.039	2.859	2.736	2.487	2.100	1.961	2.274	18.59
29)	T	Cyclohexane	2.128	2.667	2.494	2.225	1.858	1.697	2.080	20.40
30)	T	Carbon tetrachlorid	1.854	2.379	2.285	2.111	1.846	1.974	2.045	10.68
31)	T	Benzene	2.995	3.213	3.012	2.686	2.150	2.452	2.739	13.35
32)	T	1,2-Dichloroethane	1.504	1.700	1.598	1.411	1.127	1.158	1.367	18.23
33)	I	1,4-Difluorobenzene	----------ISTD----------							
34)	T	Heptane	0.797	1.120	1.067	0.976	0.833	0.790	0.885	20.08
35)	T	Trichloroethene	0.367	0.500	0.493	0.468	0.426	0.469	0.447	11.03
36)	T	1,2-Dichloropropane	0.320	0.396	0.381	0.350	0.297	0.349	0.346	9.94
37)	T	1,4-Dioxane	0.096	0.110	0.126	0.119	0.105	0.115	0.112	8.84
38)	T	Bromodichloromethan	0.527	0.719	0.709	0.662	0.594	0.678	0.643	10.71
39)	T	cis-1,3-Dichloropro	0.440	0.572	0.549	0.513	0.454	0.530	0.512	9.45
40)	T	4-Methyl-2-pentanon	0.175	0.272	0.267	0.250	0.226	0.259	0.243	13.80
41)	T	Toluene	0.829	0.979	0.950	0.889	0.794	0.933	0.894	7.40
42)	T	trans-1,3-Dichlorop	0.367	0.499	0.487	0.452	0.412	0.473	0.452	10.39
43)	T	1,1,2-Trichloroetha	0.267	0.324	0.317	0.301	0.278	0.329	0.306	8.12
44)	T	Tetrachloroethene	0.440	0.533	0.537	0.506	0.490	0.511	0.491	9.02
45)	T	2-Hexanone	0.360	0.568	0.578	0.546	0.503	0.544	0.515	14.35
46)	T	Chlorodibromomethan	0.385	0.522	0.516	0.501	0.476	0.549	0.491	10.66
47)	T	1,2-Dibromoethane	0.406	0.485	0.469	0.446	0.417	0.476	0.451	6.70
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	T	Chlorobenzene	0.876	0.935	0.908	0.866	0.805	0.921	0.884	4.92

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

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration

Calibration Files
2 =09191103.D 4 =09191104.D 5 =09191105.D
6 =09191106.D 7 =09191107.D 8 =09191108.D

		Compound	2	4	5	6	7	8	Avg	%RSD
50)	T	Ethylbenzene	1.503	1.570	1.551	1.488	1.391	1.560	1.488	5.78
51)	T	m,p-Xylene	1.215	1.413	1.410	1.346	1.229	1.148	1.229	16.21
52)	T	o-Xylene	1.137	1.149	1.158	1.122	1.062	1.186	1.114	6.09
53)	T	Styrene	0.836	0.805	0.789	0.761	0.723	0.812	0.778	5.68
54)	T	Bromoform	0.526	0.620	0.615	0.597	0.574	0.619	0.583	7.05
55)	S	4-Bromofluorobenzen	0.714	0.631	0.613	0.608	0.597	0.558	0.609	9.19
56)	T	1,1,2,2-Tetrachloro	1.006	0.867	0.852	0.798	0.758	0.775	0.824	11.79
57)	T	4-Ethyltoluene	1.854	1.333	1.253	1.192	1.131	1.232	1.305	19.28
58)	T	1,3,5-Trimethylbenz	1.592	1.122	1.064	0.989	0.962	1.053	1.106	20.05
59)	T	1,2,4-Trimethylbenz	1.619	1.057	0.996	0.928	0.903	0.940	1.050	24.50
60)	T	1,3-Dichlorobenzene	0.996	0.704	0.685	0.626	0.597	0.574	0.678	22.10
61)	T	1,4-Dichlorobenzene	0.903	0.662	0.649	0.597	0.568	0.546	0.638	19.84
62)	T	Benzyl chloride	0.769	0.907	0.917	0.843	0.805	0.764	0.821	8.53
63)	T	1,2-Dichlorobenzene	0.997	0.646	0.647	0.575	0.560	0.513	0.636	26.59
64)	T	1,2,4-Trichlorobenz	0.270	0.147	0.156	0.143	0.138	0.141	0.163	29.03
65)	T	Hexachlorobutadiene	0.774	0.362	0.369	0.340	0.336	0.341	0.410	39.32
66)		Naphthalene	0.432	0.251	0.265	0.241	0.234	0.230	0.269	26.98

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

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\091911V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Mon Sep 19 19:49:31 2011
Response via : Initial Calibration
Total Cpnds : 66

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	130	10.58	1.000	A	2	A	B
2	T	Propylene	41	5.52	0.521	A	2	A	B
3	T	Dichlorodifluoromethane	85	5.59	0.528	A	3	A	B
4	T	1,2-Dichloro-1,2,2,2-tetrafluo	135	5.85	0.552	A	2	A	B
5	T	Chloromethane	50	6.01	0.568	A	3	A	B
6	T	Vinyl chloride	62	6.22	0.588	A	2	A	B
7	T	1,3-Butadiene	39	6.28	0.593	A	2	A	B
8	T	Bromomethane	94	6.85	0.647	A	3	A	B
9	T	Chloroethane	64	7.00	0.661	A	3	A	B
10	T	Trichlorofluoromethane	101	7.33	0.693	A	3	A	B
11	T	Ethanol	45	7.57	0.715	A	2	A	B
12	T	Freon113	101	7.99	0.755	A	2	A	B
13	T	1,1-Dichloroethene	61	8.10	0.765	A	2	A	B
14	T	Acetone	43	8.19	0.774	A	2	A	B
15	T	Carbon disulfide	76	8.46	0.799	A	3	A	B
16	T	2-Propanol	45	8.25	0.779	A	2	A	B
17	T	Methylene chloride	49	8.75	0.827	A	2	A	B
18	T	tert-Butyl Methyl Ether	73	8.96	0.846	A	2	A	B
19	T	trans-1,2-Dichloroethene	61	9.04	0.854	A	2	A	B
20	T	n-Hexane	57	9.22	0.872	A	3	A	B
21	T	1,1-Dichloroethane	63	9.60	0.907	A	3	A	B
22	T	Vinyl acetate	43	9.53	0.901	A	2	A	B
23	T	cis-1,2-Dichloroethene	96	10.28	0.971	A	3	A	B
24	T	2-Butanone	43	10.25	0.968	A	2	A	B
25	T	Ethyl acetate	43	10.20	0.964	A	3	A	B
26	T	Tetrahydrofuran	42	10.58	1.000	A	2	A	B
27	T	Chloroform	83	10.61	1.002	A	2	A	B
28	T	1,1,1-Trichloroethane	97	10.85	1.025	A	3	A	B
29	T	Cyclohexane	56	10.87	1.027	A	2	A	B
30	T	Carbon tetrachloride	117	11.02	1.041	A	3	A	B
31	T	Benzene	78	11.30	1.068	A	3	A	B
32	T	1,2-Dichloroethane	62	11.38	1.075	A	3	A	B
33	I	1,4-Difluorobenzene	114	11.69	1.000	A	2	A	B
34	T	Heptane	43	11.35	0.970	A	3	A	B
35	T	Trichloroethene	130	12.03	1.029	A	3	A	B
36	T	1,2-Dichloropropane	63	12.39	1.059	A	3	A	B
37	T	1,4-Dioxane	88	12.47	1.066	A	2	A	B
38	T	Bromodichloromethane	83	12.67	1.084	A	2	A	B
39	T	cis-1,3-Dichloropropene	75	13.23	1.131	A	2	A	B
40	T	4-Methyl-2-pentanone	58	13.34	1.140	A	3	A	B
41	T	Toluene	91	13.63	1.165	A	2	A	B
42	T	trans-1,3-Dichloropropene	75	13.93	1.191	A	3	A	B
43	T	1,1,2-Trichloroethane	97	14.21	1.215	A	3	A	B
44	T	Tetrachloroethene	166	14.33	1.225	A	3	A	B
45	T	2-Hexanone	43	14.41	1.233	A	2	A	B
46	T	Chlorodibromomethane	129	14.75	1.262	A	2	A	B
47	T	1,2-Dibromoethane	107	14.99	1.282	A	2	A	B
48	I	Chlorobenzene-d5	117	15.54	1.000	A	2	A	B
49	T	Chlorobenzene	112	15.58	1.003	A	3	A	B
50	T	Ethylbenzene	91	15.63	1.005	A	2	A	B
51	T	m,p-Xylene	91	15.78	1.015	A	2	A	B
52	T	o-Xylene	91	16.37	1.054	A	2	A	B
53	T	Styrene	104	16.40	1.055	A	3	A	B
54	T	Bromoform	173	16.78	1.080	A	3	A	B
55	S	4-Bromofluorobenzene	95	17.19	1.106	A	2	A	B
56	T	1,1,2,2-Tetrachloroethane	83	17.36	1.117	A	2	A	B
57	T	4-Ethyltoluene	105	17.60	1.133	A	1	A	B
58	T	1,3,5-Trimethylbenzene	105	17.69	1.138	A	2	A	B
59	T	1,2,4-Trimethylbenzene	105	18.27	1.175	A	2	A	B

60	T	1,3-Dichlorobenzene	146	18.82	1.211	A	3	A	B
61	T	1,4-Dichlorobenzene	146	18.97	1.220	A	3	A	B
62	T	Benzyl chloride	91	19.18	1.234	A	2	A	B
63	T	1,2-Dichlorobenzene	146	19.61	1.262	A	3	A	B
64	T	1,2,4-Trichlorobenzene	180	22.77	1.465	A	3	A	B
65	T	Hexachlorobutadiene	225	22.97	1.478	A	2	A	B
66		Naphthalene	128	23.46	1.509	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

091911V1.M Thu Sep 29 11:09:06 2011

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration

Calibration Files
2 =10041105.D 4 =10041106.D 5 =10041107.D
6 =10041109.D 7 =10041110.D 8 =10041111.D

		Compound	2	4	5	6	7	8	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Propylene	1.385	1.475	1.401	1.280	1.196	1.153	1.300	9.38
3)	T	Dichlorodifluoromet	3.425	3.651	3.492	3.252	3.126	3.138	3.361	5.82
4)	T	1,2-Dichloro-1,2,2,	1.847	2.397	2.317	2.202	2.185	2.255	2.206	7.88
5)	T	Chloromethane	1.741	1.799	1.683	1.510	1.377	1.259	1.509	15.96
6)	T	Vinyl chloride	1.603	1.958	1.692	1.431	1.190	1.050	1.416	25.37
7)	T	1,3-Butadiene	1.615	1.728	1.645	1.453	1.198	0.897	1.336	27.71
8)	T	Bromomethane	1.115	1.316	1.262	1.173	1.115	1.117	1.193	7.05
9)	T	Chloroethane	0.706	0.846	0.816	0.748	0.706	0.687	0.750	8.01
10)	T	Trichlorofluorometh	2.742	3.321	3.262	3.094	3.040	3.070	3.085	6.02
11)	T	Ethanol		0.377	0.366	0.335	0.315	0.296	0.332	10.24
12)	T	Freon113	2.139	2.626	2.675	2.616	2.568	2.355	2.437	10.12
13)	T	1,1-Dichloroethene	2.010	2.302	2.228	2.070	1.979	1.913	2.063	7.20
14)	T	Acetone	2.520	1.988	1.862	1.712	1.597	1.444	1.803	20.54
15)	T	Carbon disulfide	3.243	3.708	3.541	3.254	3.095	3.034	3.309	7.22
16)	T	2-Propanol	1.647	2.011	1.912	1.722	1.612	1.531	1.713	10.70
17)	T	Methylene chloride	1.924	1.653	1.609	1.488	1.393	1.289	1.527	14.46
18)	T	tert-Butyl Methyl E	2.968	2.478	2.325	2.178	2.123	1.992	2.327	13.80
19)	T	trans-1,2-Dichloroe	1.935	1.947	1.911	1.822	1.757	1.688	1.825	5.91
20)	T	n-Hexane	2.180	2.158	2.138	2.003	1.958	1.858	2.013	7.52
21)	T	1,1-Dichloroethane	2.247	1.974	1.918	1.792	1.746	1.641	1.874	10.53
22)	T	Vinyl acetate	2.653	3.087	2.897	2.707	2.549	2.363	2.680	9.19
23)	T	cis-1,2-Dichloroeth	1.084	1.091	1.059	1.004	0.994	1.002	1.049	4.61
24)	T	2-Butanone	2.409	2.118	1.971	1.873	1.700	1.737	1.928	13.69
25)	T	Ethyl acetate	2.856	2.822	2.472	2.421	2.218	2.103	2.454	11.84
26)	T	Tetrahydrofuran	1.616	1.426	1.310	1.206	1.109	0.992	1.227	19.77
27)	T	Chloroform	2.411	2.525	2.462	2.328	2.227	2.041	2.266	10.52
28)	T	1,1,1-Trichloroetha	2.010	2.473	2.446	2.377	2.287	2.032	2.202	11.86
29)	T	Cyclohexane	2.151	2.375	2.326	2.198	2.029	1.754	2.049	15.36
30)	T	Carbon tetrachlorid	1.890	2.064	2.003	1.942	1.958	1.936	1.952	3.35
31)	T	Benzene	3.079	2.682	2.524	2.404	2.334	2.243	2.543	10.88
32)	T	1,2-Dichloroethane	1.483	1.429	1.370	1.309	1.253	1.162	1.300	10.76
33)	I	1,4-Difluorobenzene	----------ISTD----------							
34)	T	Heptane	0.797	0.995	0.997	0.942	0.935	0.875	0.891	12.42
35)	T	Trichloroethene	0.364	0.446	0.453	0.439	0.469	0.508	0.447	9.67
36)	T	1,2-Dichloropropane	0.329	0.356	0.350	0.336	0.344	0.362	0.348	3.61
37)	T	1,4-Dioxane	0.128	0.125	0.124	0.115	0.113	0.114	0.119	5.75
38)	T	Bromodichloromethan	0.530	0.646	0.656	0.629	0.661	0.711	0.643	8.68
39)	T	cis-1,3-Dichloropro	0.452	0.527	0.522	0.495	0.512	0.551	0.518	7.18
40)	T	4-Methyl-2-pentanon	0.196	0.254	0.251	0.235	0.238	0.250	0.239	8.51
41)	T	Toluene	0.879	0.920	0.901	0.866	0.898	0.966	0.912	4.04
42)	T	trans-1,3-Dichlorop	0.370	0.465	0.461	0.432	0.445	0.479	0.450	9.08
43)	T	1,1,2-Trichloroetha	0.277	0.309	0.303	0.292	0.303	0.334	0.309	7.34
44)	T	Tetrachloroethene	0.436	0.497	0.501	0.486	0.528	0.547	0.494	7.59
45)	T	2-Hexanone	0.454	0.541	0.528	0.486	0.485	0.497	0.495	6.05
46)	T	Chlorodibromomethan	0.391	0.479	0.476	0.465	0.499	0.558	0.484	10.73
47)	T	1,2-Dibromoethane	0.408	0.447	0.441	0.418	0.434	0.479	0.444	6.19
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	T	Chlorobenzene	0.925	0.914	0.902	0.862	0.879	0.954	0.917	4.55

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

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration

Calibration Files
2 =10041105.D 4 =10041106.D 5 =10041107.D
6 =10041109.D 7 =10041110.D 8 =10041111.D

		Compound	2	4	5	6	7	8	Avg	%RSD
50)	T	Ethylbenzene	1.609	1.569	1.552	1.504	1.519	1.633	1.564	2.92
51)	T	m,p-Xylene	1.282	1.370	1.384	1.356	1.361	1.308	1.297	9.95
52)	T	o-Xylene	1.217	1.142	1.136	1.104	1.134	1.234	1.158	4.15
53)	T	Styrene	0.845	0.786	0.772	0.740	0.759	0.827	0.790	4.72
54)	T	Bromoform	0.558	0.603	0.590	0.563	0.584	0.634	0.589	4.36
55)	S	4-Bromofluorobenzen	0.647	0.586	0.565	0.544	0.540	0.524	0.559	8.30
56)	T	1,1,2,2-Tetrachloro	1.066	0.903	0.861	0.780	0.770	0.782	0.846	13.13
57)	T	4-Ethyltoluene	1.935	1.320	1.253	1.170	1.168	1.220	1.328	20.52
58)	T	1,3,5-Trimethylbenz	1.659	1.125	1.068	0.997	0.996	1.048	1.134	20.75
59)	T	1,2,4-Trimethylbenz	1.630	1.061	0.999	0.918	0.914	0.938	1.060	24.19
60)	T	1,3-Dichlorobenzene	0.955	0.662	0.632	0.555	0.548	0.542	0.634	23.60
61)	T	1,4-Dichlorobenzene	0.847	0.617	0.581	0.517	0.511	0.505	0.584	21.20
62)	T	Benzyl chloride	0.604	0.834	0.797	0.715	0.702	0.700	0.720	10.49
63)	T	1,2-Dichlorobenzene	0.931	0.619	0.579	0.506	0.491	0.473	0.580	28.37
64)	T	1,2,4-Trichlorobenz		0.097	0.084	0.074	0.068	0.069	0.077	14.47
65)	T	Hexachlorobutadiene		0.230	0.206	0.176	0.161	0.157	0.181	17.03
66)		Naphthalene		0.152	0.135	0.115	0.105	0.105	0.120	16.19

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

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\100411V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Oct 05 07:40:04 2011
Response via : Initial Calibration
Total Cpnds : 66

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	130	10.58	1.000	A	2	A	B
2	T	Propylene	41	5.52	0.521	A	2	A	B
3	T	Dichlorodifluoromethane	85	5.59	0.528	A	3	A	B
4	T	1,2-Dichloro-1,2,2,2-tetrafluo	135	5.85	0.552	A	2	A	B
5	T	Chloromethane	50	6.01	0.568	A	3	A	B
6	T	Vinyl chloride	62	6.22	0.588	A	2	A	B
7	T	1,3-Butadiene	39	6.28	0.593	A	2	A	B
8	T	Bromomethane	94	6.85	0.647	A	3	A	B
9	T	Chloroethane	64	7.00	0.661	A	3	A	B
10	T	Trichlorofluoromethane	101	7.33	0.693	A	3	A	B
11	T	Ethanol	45	7.57	0.715	A	2	A	B
12	T	Freon113	101	7.99	0.755	A	2	A	B
13	T	1,1-Dichloroethene	61	8.10	0.765	A	2	A	B
14	T	Acetone	43	8.19	0.774	A	2	A	B
15	T	Carbon disulfide	76	8.46	0.799	A	3	A	B
16	T	2-Propanol	45	8.25	0.779	A	2	A	B
17	T	Methylene chloride	49	8.75	0.827	A	2	A	B
18	T	tert-Butyl Methyl Ether	73	8.96	0.846	A	2	A	B
19	T	trans-1,2-Dichloroethene	61	9.04	0.854	A	2	A	B
20	T	n-Hexane	57	9.22	0.872	A	3	A	B
21	T	1,1-Dichloroethane	63	9.60	0.907	A	3	A	B
22	T	Vinyl acetate	43	9.53	0.901	A	2	A	B
23	T	cis-1,2-Dichloroethene	96	10.28	0.971	A	3	A	B
24	T	2-Butanone	43	10.25	0.968	A	2	A	B
25	T	Ethyl acetate	43	10.20	0.964	A	3	A	B
26	T	Tetrahydrofuran	42	10.58	1.000	A	2	A	B
27	T	Chloroform	83	10.61	1.002	A	2	A	B
28	T	1,1,1-Trichloroethane	97	10.85	1.025	A	3	A	B
29	T	Cyclohexane	56	10.87	1.027	A	2	A	B
30	T	Carbon tetrachloride	117	11.02	1.041	A	3	A	B
31	T	Benzene	78	11.30	1.068	A	3	A	B
32	T	1,2-Dichloroethane	62	11.38	1.075	A	3	A	B
33	I	1,4-Difluorobenzene	114	11.69	1.000	A	2	A	B
34	T	Heptane	43	11.35	0.970	A	3	A	B
35	T	Trichloroethene	130	12.03	1.029	A	3	A	B
36	T	1,2-Dichloropropane	63	12.39	1.059	A	3	A	B
37	T	1,4-Dioxane	88	12.47	1.066	A	2	A	B
38	T	Bromodichloromethane	83	12.67	1.084	A	2	A	B
39	T	cis-1,3-Dichloropropene	75	13.23	1.131	A	2	A	B
40	T	4-Methyl-2-pentanone	58	13.34	1.140	A	3	A	B
41	T	Toluene	91	13.63	1.165	A	2	A	B
42	T	trans-1,3-Dichloropropene	75	13.93	1.191	A	3	A	B
43	T	1,1,2-Trichloroethane	97	14.21	1.215	A	3	A	B
44	T	Tetrachloroethene	166	14.33	1.225	A	3	A	B
45	T	2-Hexanone	43	14.41	1.233	A	2	A	B
46	T	Chlorodibromomethane	129	14.75	1.262	A	2	A	B
47	T	1,2-Dibromoethane	107	14.99	1.282	A	2	A	B
48	I	Chlorobenzene-d5	117	15.54	1.000	A	2	A	B
49	T	Chlorobenzene	112	15.58	1.003	A	3	A	B
50	T	Ethylbenzene	91	15.63	1.005	A	2	A	B
51	T	m,p-Xylene	91	15.78	1.015	A	2	A	B
52	T	o-Xylene	91	16.37	1.054	A	2	A	B
53	T	Styrene	104	16.40	1.055	A	3	A	B
54	T	Bromoform	173	16.78	1.080	A	3	A	B
55	S	4-Bromofluorobenzene	95	17.19	1.106	A	2	A	B
56	T	1,1,2,2-Tetrachloroethane	83	17.36	1.117	A	2	A	B
57	T	4-Ethyltoluene	105	17.60	1.133	A	1	A	B
58	T	1,3,5-Trimethylbenzene	105	17.69	1.138	A	2	A	B
59	T	1,2,4-Trimethylbenzene	105	18.27	1.175	A	2	A	B

60	T	1,3-Dichlorobenzene	146	18.82	1.211	A	3	A	B
61	T	1,4-Dichlorobenzene	146	18.97	1.220	A	3	A	B
62	T	Benzyl chloride	91	19.18	1.234	A	2	A	B
63	T	1,2-Dichlorobenzene	146	19.61	1.262	A	3	A	B
64	T	1,2,4-Trichlorobenzene	180	22.77	1.465	A	3	A	B
65	T	Hexachlorobutadiene	225	22.97	1.478	A	2	A	B
66		Naphthalene	128	23.45	1.509	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

100411V1.M Mon Oct 10 12:08:48 2011

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration

Calibration Files
2 =10061104.D 4 =10061105.D 5 =10061106.D
6 =10061107.D 7 =10061108.D 8 =10061109.D

		Compound	2	4	5	6	7	8	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Propylene	1.584	1.474	1.359	1.243	1.178	1.115	1.304	13.35
3)	T	Dichlorodifluoromet	3.811	3.575	3.330	3.124	3.003	2.977	3.309	9.25
4)	T	1,2-Dichloro-1,2,2,	2.126	2.342	2.194	2.088	2.078	2.145	2.171	4.24
5)	T	Chloromethane	1.939	1.850	1.654	1.493	1.361	1.235	1.531	19.25
6)	T	Vinyl chloride	1.839	1.676	1.543	1.337	1.192	1.064	1.379	22.98
7)	T	1,3-Butadiene	1.822	1.641	1.525	1.292	1.032	0.872	1.286	30.47
8)	T	Bromomethane	1.247	1.298	1.217	1.122	1.080	1.056	1.173	7.63
9)	T	Chloroethane	0.815	0.852	0.791	0.728	0.682	0.648	0.744	10.22
10)	T	Trichlorofluorometh	3.006	3.279	3.105	2.958	2.843	2.890	3.006	4.87
11)	T	Ethanol		0.478	0.425	0.385	0.331	0.311	0.374	17.98
12)	T	Freon113	2.339	2.849	2.728	2.645	2.443	2.324	2.482	11.12
13)	T	1,1-Dichloroethene	2.225	2.383	2.185	2.035	1.860	1.808	2.049	10.84
14)	T	Acetone	2.760	2.742	2.431	2.182	1.807	1.639	2.170	22.66
15)	T	Carbon disulfide	3.565	3.697	3.408	3.171	2.955	2.867	3.246	9.75
16)	T	2-Propanol	1.839	2.417	2.126	1.939	1.717	1.600	1.896	15.50
17)	T	Methylene chloride	2.104	1.922	1.752	1.609	1.407	1.321	1.636	18.59
18)	T	tert-Butyl Methyl E	3.192	3.565	3.195	2.916	2.449	2.355	2.877	16.19
19)	T	trans-1,2-Dichloroe	2.118	2.320	2.151	2.007	1.777	1.743	1.981	11.57
20)	T	n-Hexane	2.355	2.619	2.420	2.245	2.003	1.937	2.203	12.90
21)	T	1,1-Dichloroethane	2.372	2.682	2.449	2.249	1.935	1.865	2.213	13.98
22)	T	Vinyl acetate	2.733	4.587	4.046	3.652	2.998	2.741	3.355	22.30
23)	T	cis-1,2-Dichloroeth	1.193	1.355	1.252	1.180	1.063	1.087	1.183	8.36
24)	T	2-Butanone	2.560	2.945	2.613	2.288	2.064	1.846	2.302	18.53
25)	T	Ethyl acetate	3.138	3.936	3.430	3.036	2.615	2.324	2.992	19.16
26)	T	Tetrahydrofuran	1.801	1.943	1.719	1.553	1.299	1.147	1.500	23.01
27)	T	Chloroform	2.605	3.198	2.949	2.766	2.451	2.214	2.595	16.20
28)	T	1,1,1-Trichloroetha	2.198	3.052	2.895	2.758	2.466	2.189	2.490	17.25
29)	T	Cyclohexane	2.390	2.898	2.692	2.495	2.157	1.866	2.294	20.38
30)	T	Carbon tetrachlorid	1.984	2.466	2.322	2.223	2.082	2.067	2.155	8.86
31)	T	Benzene	3.394	3.755	3.384	3.142	2.677	2.572	3.091	14.50
32)	T	1,2-Dichloroethane	1.653	2.004	1.811	1.691	1.447	1.306	1.585	18.19
33)	I	1,4-Difluorobenzene	----------ISTD----------							
34)	T	Heptane	0.882	1.234	1.179	1.120	1.036	0.916	1.015	17.61
35)	T	Trichloroethene	0.398	0.529	0.515	0.513	0.504	0.520	0.493	9.33
36)	T	1,2-Dichloropropane	0.356	0.502	0.464	0.449	0.402	0.402	0.425	11.64
37)	T	1,4-Dioxane	0.147	0.159	0.148	0.141	0.128	0.123	0.138	10.20
38)	T	Bromodichloromethan	0.583	0.861	0.815	0.800	0.750	0.762	0.756	11.81
39)	T	cis-1,3-Dichloropro	0.489	0.704	0.660	0.634	0.592	0.593	0.612	11.00
40)	T	4-Methyl-2-pentanon	0.224	0.331	0.308	0.293	0.270	0.270	0.281	12.11
41)	T	Toluene	0.971	1.241	1.162	1.123	1.046	1.054	1.089	8.40
42)	T	trans-1,3-Dichlorop	0.404	0.602	0.567	0.546	0.514	0.508	0.526	11.86
43)	T	1,1,2-Trichloroetha	0.314	0.402	0.379	0.369	0.351	0.360	0.364	7.49
44)	T	Tetrachloroethene	0.490	0.584	0.571	0.560	0.577	0.560	0.546	7.77
45)	T	2-Hexanone	0.524	0.723	0.653	0.622	0.564	0.537	0.592	12.85
46)	T	Chlorodibromomethan	0.417	0.611	0.579	0.581	0.572	0.602	0.560	11.72
47)	T	1,2-Dibromoethane	0.445	0.573	0.539	0.533	0.507	0.511	0.518	7.53
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	T	Chlorobenzene	0.996	1.199	1.117	1.072	1.021	1.041	1.075	6.29

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

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration

Calibration Files
2 =10061104.D 4 =10061105.D 5 =10061106.D
6 =10061107.D 7 =10061108.D 8 =10061109.D

		Compound	2	4	5	6	7	8	Avg	%RSD
50)	T	Ethylbenzene	1.730	2.101	1.960	1.885	1.769	1.811	1.853	7.55
51)	T	m,p-Xylene	1.353	1.853	1.762	1.715	1.578	1.418	1.541	17.11
52)	T	o-Xylene	1.257	1.496	1.413	1.368	1.313	1.378	1.353	6.57
53)	T	Styrene	0.906	1.008	0.939	0.913	0.882	0.924	0.921	4.78
54)	T	Bromoform	0.580	0.718	0.688	0.678	0.661	0.681	0.664	6.59
55)	S	4-Bromofluorobenzen	0.644	0.543	0.540	0.546	0.531	0.518	0.546	8.33
56)	T	1,1,2,2-Tetrachloro	1.134	1.011	0.948	0.903	0.850	0.830	0.927	12.45
57)	T	4-Ethyltoluene	2.069	1.540	1.435	1.395	1.316	1.377	1.496	17.62
58)	T	1,3,5-Trimethylbenz	1.764	1.284	1.208	1.163	1.116	1.182	1.265	17.93
59)	T	1,2,4-Trimethylbenz	1.753	1.153	1.072	1.049	0.994	1.036	1.155	23.23
60)	T	1,3-Dichlorobenzene	1.054	0.733	0.677	0.651	0.589	0.557	0.691	24.80
61)	T	1,4-Dichlorobenzene	0.946	0.691	0.637	0.622	0.553	0.520	0.645	22.54
62)	T	Benzyl chloride	0.614	0.950	0.901	0.862	0.781	0.733	0.798	14.37
63)	T	1,2-Dichlorobenzene	1.030	0.660	0.610	0.584	0.538	0.485	0.629	29.80
64)	T	1,2,4-Trichlorobenz		0.114	0.103	0.103	0.092	0.077	0.096	14.22
65)	T	Hexachlorobutadiene		0.283	0.248	0.245	0.212	0.180	0.227	17.04
66)		Naphthalene		0.172	0.157	0.157	0.140	0.117	0.145	14.13

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

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\100611V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Oct 06 20:53:18 2011
Response via : Initial Calibration
Total Cpnds : 66

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	130	10.58	1.000	A	2	A	B
2	T	Propylene	41	5.51	0.521	A	2	A	B
3	T	Dichlorodifluoromethane	85	5.58	0.528	A	3	A	B
4	T	1,2-Dichloro-1,2,2,2-tetrafluo	135	5.84	0.552	A	2	A	B
5	T	Chloromethane	50	5.99	0.566	A	3	A	B
6	T	Vinyl chloride	62	6.20	0.585	A	2	A	B
7	T	1,3-Butadiene	39	6.26	0.592	A	2	A	B
8	T	Bromomethane	94	6.84	0.647	A	3	A	B
9	T	Chloroethane	64	7.00	0.661	A	3	A	B
10	T	Trichlorofluoromethane	101	7.33	0.693	A	3	A	B
11	T	Ethanol	45	7.55	0.714	A	2	A	B
12	T	Freon113	101	7.99	0.755	A	2	A	B
13	T	1,1-Dichloroethene	61	8.09	0.764	A	2	A	B
14	T	Acetone	43	8.18	0.773	A	2	A	B
15	T	Carbon disulfide	76	8.46	0.799	A	3	A	B
16	T	2-Propanol	45	8.23	0.778	A	2	A	B
17	T	Methylene chloride	49	8.75	0.827	A	2	A	B
18	T	tert-Butyl Methyl Ether	73	8.95	0.845	A	2	A	B
19	T	trans-1,2-Dichloroethene	61	9.03	0.853	A	2	A	B
20	T	n-Hexane	57	9.22	0.871	A	3	A	B
21	T	1,1-Dichloroethane	63	9.59	0.906	A	3	A	B
22	T	Vinyl acetate	43	9.53	0.900	A	2	A	B
23	T	cis-1,2-Dichloroethene	96	10.27	0.971	A	3	A	B
24	T	2-Butanone	43	10.24	0.968	A	2	A	B
25	T	Ethyl acetate	43	10.20	0.963	A	3	A	B
26	T	Tetrahydrofuran	42	10.58	1.000	A	2	A	B
27	T	Chloroform	83	10.60	1.001	A	2	A	B
28	T	1,1,1-Trichloroethane	97	10.85	1.025	A	3	A	B
29	T	Cyclohexane	56	10.86	1.026	A	2	A	B
30	T	Carbon tetrachloride	117	11.01	1.041	A	3	A	B
31	T	Benzene	78	11.29	1.067	A	3	A	B
32	T	1,2-Dichloroethane	62	11.37	1.074	A	3	A	B
33	I	1,4-Difluorobenzene	114	11.69	1.000	A	2	A	B
34	T	Heptane	43	11.35	0.971	A	3	A	B
35	T	Trichloroethene	130	12.03	1.029	A	3	A	B
36	T	1,2-Dichloropropane	63	12.38	1.060	A	3	A	B
37	T	1,4-Dioxane	88	12.46	1.066	A	2	A	B
38	T	Bromodichloromethane	83	12.66	1.084	A	2	A	B
39	T	cis-1,3-Dichloropropene	75	13.22	1.131	A	2	A	B
40	T	4-Methyl-2-pentanone	58	13.33	1.141	A	3	A	B
41	T	Toluene	91	13.63	1.166	A	2	A	B
42	T	trans-1,3-Dichloropropene	75	13.93	1.192	A	3	A	B
43	T	1,1,2-Trichloroethane	97	14.20	1.215	A	3	A	B
44	T	Tetrachloroethene	166	14.33	1.226	A	3	A	B
45	T	2-Hexanone	43	14.41	1.233	A	2	A	B
46	T	Chlorodibromomethane	129	14.75	1.262	A	2	A	B
47	T	1,2-Dibromoethane	107	14.99	1.282	A	2	A	B
48	I	Chlorobenzene-d5	117	15.54	1.000	A	2	A	B
49	T	Chlorobenzene	112	15.58	1.003	A	3	A	B
50	T	Ethylbenzene	91	15.62	1.005	A	2	A	B
51	T	m,p-Xylene	91	15.78	1.015	A	2	A	B
52	T	o-Xylene	91	16.37	1.054	A	2	A	B
53	T	Styrene	104	16.39	1.055	A	3	A	B
54	T	Bromoform	173	16.78	1.080	A	3	A	B
55	S	4-Bromofluorobenzene	95	17.19	1.106	A	2	A	B
56	T	1,1,2,2-Tetrachloroethane	83	17.36	1.117	A	2	A	B
57	T	4-Ethyltoluene	105	17.60	1.133	A	1	A	B
58	T	1,3,5-Trimethylbenzene	105	17.68	1.138	A	2	A	B
59	T	1,2,4-Trimethylbenzene	105	18.27	1.176	A	2	A	B

60	T	1,3-Dichlorobenzene	146	18.82	1.211	A	3	A	B
61	T	1,4-Dichlorobenzene	146	18.96	1.221	A	3	A	B
62	T	Benzyl chloride	91	19.17	1.234	A	2	A	B
63	T	1,2-Dichlorobenzene	146	19.61	1.262	A	3	A	B
64	T	1,2,4-Trichlorobenzene	180	22.76	1.465	A	3	A	B
65	T	Hexachlorobutadiene	225	22.96	1.478	A	2	A	B
66		Naphthalene	128	23.45	1.509	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

100611V1.M Mon Oct 10 13:27:22 2011

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration

Calibration Files
2 =10101105.D 4 =10101106.D 5 =10101107.D
6 =10101108.D 7 =10101112.D 8 =10101113.D

		Compound	2	4	5	6	7	8	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------							
2)	T	Propylene	1.465	1.525	1.400	1.277	1.184	1.115	1.309	11.94
3)	T	Dichlorodifluoromet	3.495	3.620	3.390	3.146	3.030	2.975	3.291	7.41
4)	T	1,2-Dichloro-1,2,2,	1.995	2.408	2.255	2.120	2.114	2.153	2.188	6.16
5)	T	Chloromethane	1.872	1.923	1.748	1.566	1.358	1.199	1.550	19.99
6)	T	Vinyl chloride	1.644	1.739	1.559	1.395	1.181	1.037	1.365	21.75
7)	T	1,3-Butadiene	1.582	1.481	1.384	1.191	0.977	0.852	1.184	26.06
8)	T	Bromomethane	1.181	1.335	1.241	1.160	1.054	1.019	1.168	9.18
9)	T	Chloroethane	0.755	0.877	0.813	0.744	0.656	0.618	0.736	12.27
10)	T	Trichlorofluorometh	2.805	3.322	3.155	2.942	2.672	2.686	2.930	8.20
11)	T	Ethanol		0.476	0.415	0.363	0.299	0.300	0.361	19.87
12)	T	Freon113	2.180	2.899	2.768	2.557	2.257	2.221	2.418	13.46
13)	T	1,1-Dichloroethene	2.076	2.415	2.235	2.020	1.728	1.685	1.995	13.62
14)	T	Acetone	2.638	2.579	2.359	1.990	1.626	1.568	2.049	23.22
15)	T	Carbon disulfide	3.384	3.811	3.522	3.226	2.795	2.691	3.202	12.62
16)	T	2-Propanol	1.974	2.300	2.092	1.814	1.602	1.546	1.848	15.44
17)	T	Methylene chloride	2.111	1.953	1.800	1.572	1.317	1.264	1.619	21.05
18)	T	tert-Butyl Methyl E	2.896	3.212	3.044	2.607	2.184	2.223	2.651	15.39
19)	T	trans-1,2-Dichloroe	1.978	2.328	2.167	1.930	1.667	1.673	1.925	13.25
20)	T	n-Hexane	2.214	2.609	2.452	2.154	1.871	1.855	2.142	14.31
21)	T	1,1-Dichloroethane	2.207	2.599	2.440	2.097	1.790	1.787	2.117	15.06
22)	T	Vinyl acetate	2.561	4.213	3.924	3.287	2.686	2.610	3.132	22.01
23)	T	cis-1,2-Dichloroeth	1.101	1.344	1.251	1.116	0.999	1.048	1.143	10.38
24)	T	2-Butanone	2.559	2.784	2.495	2.069	1.860	1.787	2.190	18.99
25)	T	Ethyl acetate	2.996	3.610	3.185	2.751	2.320	2.291	2.785	18.20
26)	T	Tetrahydrofuran	1.733	1.812	1.679	1.441	1.174	1.084	1.417	23.64
27)	T	Chloroform	2.401	3.060	2.913	2.627	2.303	2.139	2.487	16.09
28)	T	1,1,1-Trichloroetha	1.991	2.911	2.841	2.604	2.294	2.088	2.371	17.66
29)	T	Cyclohexane	2.191	2.870	2.702	2.395	2.009	1.773	2.213	21.63
30)	T	Carbon tetrachlorid	1.854	2.386	2.297	2.080	1.916	1.971	2.060	10.01
31)	T	Benzene	3.104	3.525	3.329	2.851	2.425	2.451	2.902	14.89
32)	T	1,2-Dichloroethane	1.461	1.823	1.758	1.514	1.297	1.250	1.467	17.15
33)	I	1,4-Difluorobenzene	----------ISTD----------							
34)	T	Heptane	0.795	1.184	1.152	1.048	0.951	0.893	0.966	17.74
35)	T	Trichloroethene	0.379	0.515	0.509	0.478	0.465	0.511	0.475	9.98
36)	T	1,2-Dichloropropane	0.327	0.460	0.445	0.398	0.358	0.383	0.394	11.78
37)	T	1,4-Dioxane	0.146	0.154	0.144	0.130	0.112	0.118	0.132	12.57
38)	T	Bromodichloromethan	0.518	0.793	0.787	0.715	0.676	0.742	0.705	13.17
39)	T	cis-1,3-Dichloropro	0.439	0.655	0.645	0.578	0.530	0.583	0.575	12.75
40)	T	4-Methyl-2-pentanon	0.222	0.302	0.288	0.263	0.240	0.257	0.262	10.40
41)	T	Toluene	0.892	1.141	1.120	1.011	0.924	1.011	1.014	9.05
42)	T	trans-1,3-Dichlorop	0.361	0.566	0.553	0.501	0.460	0.508	0.495	13.87
43)	T	1,1,2-Trichloroetha	0.278	0.378	0.367	0.335	0.312	0.352	0.340	10.33
44)	T	Tetrachloroethene	0.445	0.569	0.565	0.524	0.525	0.549	0.522	8.83
45)	T	2-Hexanone	0.550	0.670	0.631	0.562	0.497	0.517	0.561	11.90
46)	T	Chlorodibromomethan	0.388	0.574	0.566	0.529	0.509	0.587	0.529	12.79
47)	T	1,2-Dibromoethane	0.403	0.541	0.534	0.487	0.452	0.519	0.492	10.03
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	T	Chlorobenzene	0.915	1.090	1.068	0.986	0.923	1.000	1.004	6.81

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

Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration

Calibration Files
2 =10101105.D 4 =10101106.D 5 =10101107.D
6 =10101108.D 7 =10101112.D 8 =10101113.D

		Compound	2	4	5	6	7	8	Avg	%RSD
50)	T	Ethylbenzene	1.608	1.888	1.838	1.702	1.607	1.710	1.718	6.27
51)	T	m,p-Xylene	1.263	1.651	1.649	1.533	1.440	1.348	1.425	14.49
52)	T	o-Xylene	1.201	1.363	1.337	1.240	1.187	1.291	1.264	5.36
53)	T	Styrene	0.814	0.925	0.915	0.848	0.796	0.874	0.862	5.57
54)	T	Bromoform	0.546	0.691	0.691	0.633	0.600	0.667	0.637	8.19
55)	S	4-Bromofluorobenzen	0.590	0.556	0.562	0.552	0.535	0.515	0.545	5.41
56)	T	1,1,2,2-Tetrachloro	1.036	0.970	0.956	0.863	0.784	0.789	0.884	11.63
57)	T	4-Ethyltoluene	1.816	1.508	1.469	1.338	1.238	1.288	1.424	13.96
58)	T	1,3,5-Trimethylbenz	1.565	1.261	1.236	1.121	1.053	1.102	1.208	14.44
59)	T	1,2,4-Trimethylbenz	1.527	1.141	1.128	1.030	0.938	0.965	1.105	18.20
60)	T	1,3-Dichlorobenzene	0.962	0.712	0.707	0.628	0.548	0.535	0.661	23.23
61)	T	1,4-Dichlorobenzene	0.850	0.675	0.662	0.592	0.515	0.500	0.614	20.78
62)	T	Benzyl chloride	0.611	0.899	0.910	0.798	0.702	0.683	0.754	15.49
63)	T	1,2-Dichlorobenzene	0.915	0.647	0.646	0.562	0.480	0.463	0.594	27.71
64)	T	1,2,4-Trichlorobenz		0.110	0.114	0.094	0.076	0.083	0.091	20.56
65)	T	Hexachlorobutadiene		0.261	0.254	0.217	0.178	0.182	0.206	22.13
66)		Naphthalene		0.169	0.175	0.142	0.116	0.124	0.137	21.82

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

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\101011V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Tue Oct 11 12:39:37 2011
Response via : Initial Calibration
Total Cpnds : 66

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Bromochloromethane	130	10.59	1.000	A	2	A	B
2	T	Propylene	41	5.51	0.521	A	2	A	B
3	T	Dichlorodifluoromethane	85	5.59	0.528	A	3	A	B
4	T	1,2-Dichloro-1,2,2,2-tetrafluo	135	5.84	0.552	A	2	A	B
5	T	Chloromethane	50	5.99	0.566	A	3	A	B
6	T	Vinyl chloride	62	6.20	0.585	A	2	A	B
7	T	1,3-Butadiene	39	6.26	0.591	A	2	A	B
8	T	Bromomethane	94	6.84	0.646	A	3	A	B
9	T	Chloroethane	64	6.99	0.660	A	3	A	B
10	T	Trichlorofluoromethane	101	7.33	0.692	A	3	A	B
11	T	Ethanol	45	7.57	0.715	A	2	A	B
12	T	Freon113	101	7.99	0.754	A	2	A	B
13	T	1,1-Dichloroethene	61	8.09	0.764	A	2	A	B
14	T	Acetone	43	8.19	0.773	A	2	A	B
15	T	Carbon disulfide	76	8.46	0.799	A	3	A	B
16	T	2-Propanol	45	8.24	0.778	A	2	A	B
17	T	Methylene chloride	49	8.75	0.827	A	2	A	B
18	T	tert-Butyl Methyl Ether	73	8.95	0.846	A	2	A	B
19	T	trans-1,2-Dichloroethene	61	9.03	0.853	A	2	A	B
20	T	n-Hexane	57	9.22	0.871	A	3	A	B
21	T	1,1-Dichloroethane	63	9.59	0.906	A	3	A	B
22	T	Vinyl acetate	43	9.53	0.900	A	2	A	B
23	T	cis-1,2-Dichloroethene	96	10.28	0.971	A	3	A	B
24	T	2-Butanone	43	10.25	0.968	A	2	A	B
25	T	Ethyl acetate	43	10.20	0.963	A	3	A	B
26	T	Tetrahydrofuran	42	10.58	1.000	A	2	A	B
27	T	Chloroform	83	10.61	1.002	A	2	A	B
28	T	1,1,1-Trichloroethane	97	10.85	1.025	A	3	A	B
29	T	Cyclohexane	56	10.86	1.026	A	2	A	B
30	T	Carbon tetrachloride	117	11.01	1.041	A	3	A	B
31	T	Benzene	78	11.30	1.067	A	3	A	B
32	T	1,2-Dichloroethane	62	11.38	1.075	A	3	A	B
33	I	1,4-Difluorobenzene	114	11.68	1.000	A	2	A	B
34	T	Heptane	43	11.34	0.971	A	3	A	B
35	T	Trichloroethene	130	12.02	1.029	A	3	A	B
36	T	1,2-Dichloropropane	63	12.39	1.060	A	3	A	B
37	T	1,4-Dioxane	88	12.46	1.066	A	2	A	B
38	T	Bromodichloromethane	83	12.67	1.084	A	2	A	B
39	T	cis-1,3-Dichloropropene	75	13.22	1.131	A	2	A	B
40	T	4-Methyl-2-pentanone	58	13.33	1.141	A	3	A	B
41	T	Toluene	91	13.62	1.166	A	2	A	B
42	T	trans-1,3-Dichloropropene	75	13.93	1.192	A	3	A	B
43	T	1,1,2-Trichloroethane	97	14.20	1.215	A	3	A	B
44	T	Tetrachloroethene	166	14.33	1.226	A	3	A	B
45	T	2-Hexanone	43	14.41	1.233	A	2	A	B
46	T	Chlorodibromomethane	129	14.75	1.262	A	2	A	B
47	T	1,2-Dibromoethane	107	14.98	1.282	A	2	A	B
48	I	Chlorobenzene-d5	117	15.54	1.000	A	2	A	B
49	T	Chlorobenzene	112	15.58	1.003	A	3	A	B
50	T	Ethylbenzene	91	15.62	1.005	A	2	A	B
51	T	m,p-Xylene	91	15.78	1.015	A	2	A	B
52	T	o-Xylene	91	16.37	1.054	A	2	A	B
53	T	Styrene	104	16.40	1.055	A	3	A	B
54	T	Bromoform	173	16.78	1.080	A	3	A	B
55	S	4-Bromofluorobenzene	95	17.19	1.106	A	2	A	B
56	T	1,1,2,2-Tetrachloroethane	83	17.35	1.117	A	2	A	B
57	T	4-Ethyltoluene	105	17.60	1.133	A	1	A	B
58	T	1,3,5-Trimethylbenzene	105	17.68	1.138	A	2	A	B
59	T	1,2,4-Trimethylbenzene	105	18.26	1.175	A	2	A	B

60	T	1,3-Dichlorobenzene	146	18.82	1.211	A	3	A	B
61	T	1,4-Dichlorobenzene	146	18.96	1.220	A	3	A	B
62	T	Benzyl chloride	91	19.17	1.234	A	2	A	B
63	T	1,2-Dichlorobenzene	146	19.61	1.262	A	3	A	B
64	T	1,2,4-Trichlorobenzene	180	22.77	1.465	A	3	A	B
65	T	Hexachlorobutadiene	225	22.97	1.478	A	2	A	B
66		Naphthalene	128	23.45	1.509	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

101011V1.M Thu Oct 20 10:39:41 2011

RTI Laboratories

Run ID: VOA9_110825A **Run No.:** 42461

Analytical Run Date: 8/25/2011 **InstrumentID:** VOA9

Analyst: Rachel Hill **Column:**

Calibration ID: 42263 **Column ID:**

Column Length:

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB 082511A VOA9	BFB_TUNE	TUNE	R42461	8/25/2011 9:30:00 AM	Fred J Hoitash		
CCV 082511A VOA9	MA_APH	CCV	R42461	8/25/2011 11:01:00 AM	Fred J Hoitash		
RLVS 082511A VOA	MA_APH	RLVS	R42461	8/25/2011 12:27:00 PM	Fred J Hoitash		
MBLK 082511A VOA	MA_APH	MBLK	R42461	8/25/2011 2:52:00 PM	Fred J Hoitash		
1108344-012A	MA_APH	SAMP	R42461	8/25/2011 3:34:00 PM	Fred J Hoitash		
1108344-012ADUP	MA_APH	DUP	R42461	8/25/2011 4:26:00 PM	Fred J Hoitash		
1108344-013A	MA_APH	SAMP	R42461	8/25/2011 5:09:00 PM	Fred J Hoitash		
1108344-014A	MA_APH	SAMP	R42461	8/25/2011 5:52:00 PM	Fred J Hoitash		
1108688-020A	MA_APH	SAMP	R42461	8/25/2011 6:35:00 PM	Fred J Hoitash		
1108688-021A	MA_APH	SAMP	R42461	8/25/2011 7:18:00 PM	Fred J Hoitash		
1108688-022A	MA_APH	SAMP	R42461	8/25/2011 8:01:00 PM	Fred J Hoitash		
1108688-023A	MA_APH	SAMP	R42461	8/25/2011 8:45:00 PM	Fred J Hoitash		
1108688-013A	MA_APH	SAMP	R42461	8/25/2011 9:28:00 PM	Fred J Hoitash		
1108688-014A	MA_APH	SAMP	R42461	8/25/2011 10:11:00 PM	Fred J Hoitash		
1108688-015A	MA_APH	SAMP	R42461	8/25/2011 10:54:00 PM	Fred J Hoitash		
1108688-016A	MA_APH	SAMP	R42461	8/25/2011 11:37:00 PM	Fred J Hoitash		
1107640-049A	MA_APH	SAMP	R42461	8/26/2011 1:01:00 AM	Fred J Hoitash	H	
1107640-024A	MA_APH	SAMP	R42461	8/26/2011 2:26:00 AM	Fred J Hoitash	H	
RLVS2 082511 VOA	MA_APH	RLVS	R42461	8/26/2011 3:50:00 AM	Fred J Hoitash		

RTI Laboratories

ANALYTICAL RUN Summary

20-Oct-11

RunNo 42461

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
822172	BFB 082511A VOA9	BFB_TUNE	TUNE	\1\DATA\082511	8/25/2011 9:30:0	1	R42461		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0	0		0	0	0	0	0	0	0%	0	2	0%	
174	M		71.4	71.4		0	0	0	0	0	0	0%	50	120	0%	
175	M		7.6	7.6		0	0	0	0	0	0	0%	4	9	0%	
176	M		96.9	96.9		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.8	6.8		0	0	0	0	0	0	0%	5	9	0%	
50	M		23.4	23.4		0	0	0	0	0	0	0%	8	40	0%	
75	M		44.6	44.6		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		6.5	6.5		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
822173	CCV 082511A VOA9	MA_APH	CCV	\1\DATA\082511	8/25/2011 11:01:	1	R42461		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	218.86	218.86		222	0	0	0	0	0	99%	70	130	0%	
C5-C8 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	29.876	117	0	0%	0	0	0%	
C9-C10 Aromatic HC - TOTAL	A	µg/m³	220.71	220.71		185	0	0	0	0	0	119%	70	130	0%	
C9-C10 Aromatic Hydrocarbons	A	µg/m³		0		0	0	0	35.658	133	0	0%	0	0	0%	
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	248.71	248.71		221	0	0	0	0	0	113%	70	130	0%	
C9-C12 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	25.766	189	0	0%	0	0	0%	
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	93.19	93.19		89.5	0	0	0	0	0	104%	70	130	0%	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\082511\08251102.D
Acq On : 25 Aug 2011 11:01 am
Sample : CCV 082511A VOA9
Misc : CCV MA_APH
MS Integration Params: rteint.p
Quant Time: Aug 26 9:12 2011

Vial: 2
Operator: RACHEL HILL
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 081611V9.RES

Quant Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration
DataAcq Meth : 081611V9

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
40) Chlorobenzene-d5	16.51	117	706066	12.50 ug/m3	0.00

System Monitoring Compounds

41) 4-Bromofluorobenzene	18.34	95	500609	93.19 ug/m3	0.00

Spiked Amount 89.500 Range 70 - 130 Recovery = 104.12%

Target Compounds					Qvalue
1) C5-C8 Aliphatic HC	7.18	TIC	2870735	32.22 ug/m3	100
2) C5-C8 Aliphatic HC {2}	9.57	TIC	2434564	35.07 ug/m3	100
3) C5-C8 Aliphatic HC {3}	11.28	TIC	2671555	35.26 ug/m3	100
4) C5-C8 Aliphatic HC {4}	11.35	TIC	3028415	43.26 ug/m3	100
5) C5-C8 Aliphatic HC {5}	11.91	TIC	2644891	36.25 ug/m3	100
6) C5-C8 Aliphatic HC {6}	14.30	TIC	2661400	36.38 ug/m3	100
7) C5-C8 Aliphatic HC - TOTAL	7.18	TIC	16311560m	218.86 ug/m3	
8) C9-C12 Aliphatic HC	15.70	TIC	3305090	41.99 ug/m3	100
9) C9-C12 Aliphatic HC {2}	16.57	TIC	2898649	38.35 ug/m3	100
10) C9-C12 Aliphatic HC {3}	18.68	TIC	2828641	42.74 ug/m3	100
11) C9-C12 Aliphatic HC {4}	19.83	TIC	2766354	42.69 ug/m3	100
12) C9-C12 Aliphatic HC {5}	20.65	TIC	2291717	40.48 ug/m3	100
13) C9-C12 Aliphatic HC {6}	22.47	TIC	1573054	35.28 ug/m3	100
14) C9-C12 Aliphatic HC - TOTA	15.70	TIC	15663505m	248.71 ug/m3	
15) C9-C10 Aromatic HC	17.98	120	229150	40.59 ug/m3	100
16) C9-C10 Aromatic HC {2}	18.77	120	279914	47.00 ug/m3	100
17) C9-C10 Aromatic HC {3}	18.91	120	382124	44.87 ug/m3	100
18) C9-C10 Aromatic HC {4}	20.03	120	81657	47.09 ug/m3	100
19) C9-C10 Aromatic HC {5}	20.29	120	255002	39.80 ug/m3	100
20) C9-C10 Aromatic HC {6}	20.03	134	217571	48.10 ug/m3	100
21) C9-C10 Aromatic HC - TOTAL	17.98	TIC	1445418m	220.71 ug/m3	

(#) = qualifier out of range (m) = manual integration
08251102.D 081611V9.M Thu Oct 20 10:52:15 2011

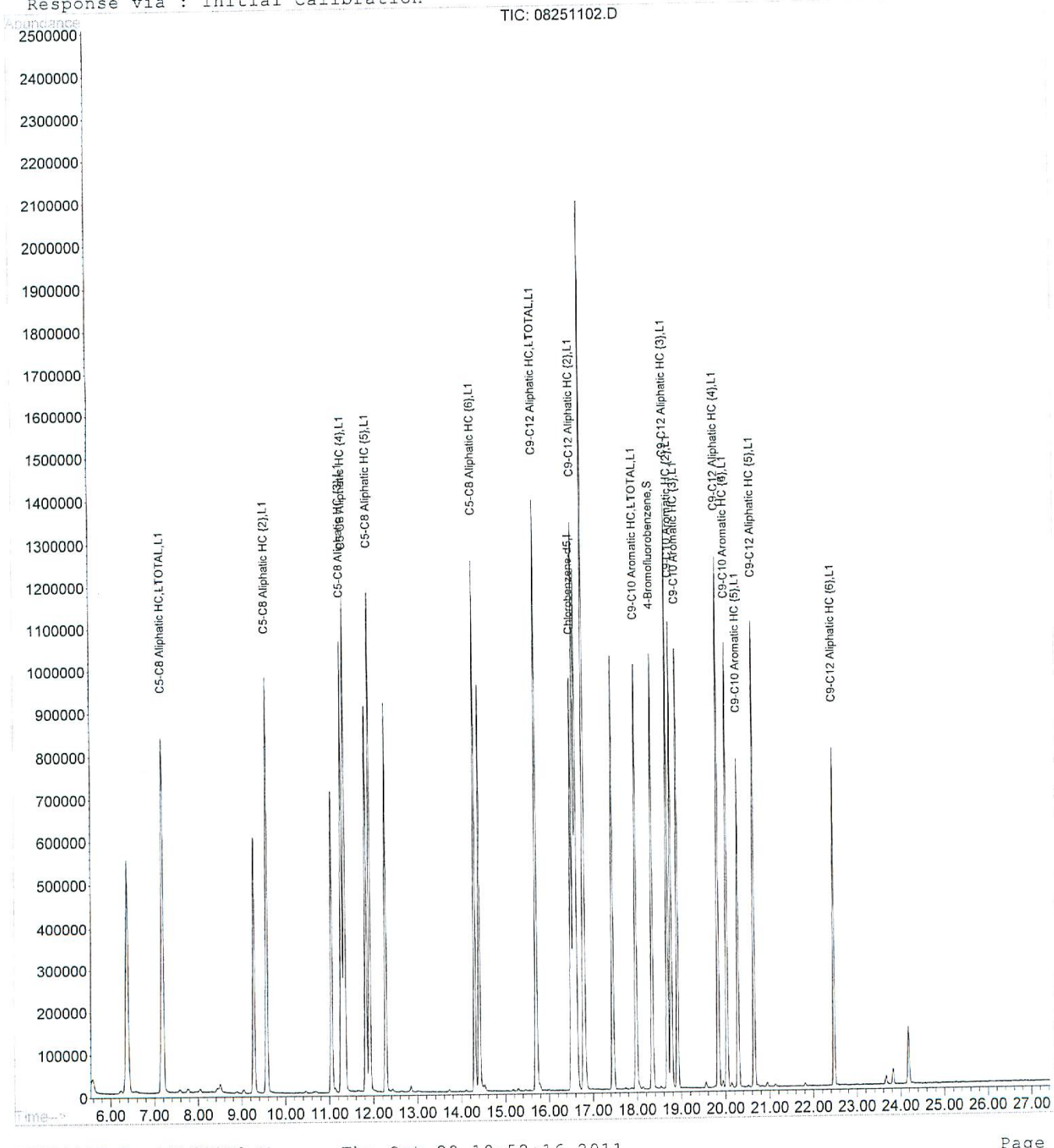
Quantitation Report

Data File : C:\HPCHEM\1\DATA\082511\08251102.D
Acq On : 25 Aug 2011 11:01 am
Sample : CCV 082511A VOA9
Misc : CCV MA_APH
MS Integration Params: rteint.p
Quant Time: Aug 26 9:12 2011

Vial: 2
Operator: RACHEL HILL
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 081611V9.RES

Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: VOA9_110831A **Run No.:** 42572

Analytical Run Date: 8/31/2011 **InstrumentID:** VOA9

Analyst: Rachel Hill **Column:**

Calibration ID: 42263 **Column ID:**

Column Length:

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB 083111 VOA9	BFB_TUNE	TUNE	R42572	8/31/2011 9:06:00 AM	Charles O'Bryan		
CCV 083111 VOA9	MA_APH	CCV	R42572	8/31/2011 10:20:00 AM	Charles O'Bryan		
RLVS1 083111 VOA	MA_APH	RLVS	R42572	8/31/2011 11:10:00 AM	Charles O'Bryan		
MBLK 083111 VOA9	MA_APH	MBLK	R42572	8/31/2011 12:17:00 PM	Charles O'Bryan		
1108688-010A	MA_APH	SAMP	R42572	8/31/2011 12:59:00 PM	Charles O'Bryan		
1108899-017A	MA_APH	SAMP	R42572	8/31/2011 1:58:00 PM	Charles O'Bryan		
1108899-018A	MA_APH	SAMP	R42572	8/31/2011 2:43:00 PM	Charles O'Bryan		
1108688-001A	MA_APH	SAMP	R42572	8/31/2011 3:29:00 PM	Charles O'Bryan		
1108688-002A	MA_APH	SAMP	R42572	8/31/2011 4:57:00 PM	Charles O'Bryan		
1108899-019A	MA_APH	SAMP	R42572	8/31/2011 7:10:00 PM	Charles O'Bryan		Over-diluted sample. Imported here to show that sample and duplicate were analyzed. Will re-run at a lower dilution.
1108899-019ADUP	MA_APH	DUP	R42572	8/31/2011 7:52:00 PM	Charles O'Bryan		Over-diluted sample. Imported here to show that sample and duplicate were analyzed. Will re-run at a lower dilution.
1108899-020A	MA_APH	SAMP	R42572	8/31/2011 8:38:00 PM	Charles O'Bryan		
1108899-026A	MA_APH	SAMP	R42572	9/1/2011 1:13:00 AM	Charles O'Bryan		
1108899-027A	MA_APH	SAMP	R42572	9/1/2011 1:59:00 AM	Charles O'Bryan		
1108688-024A	MA_APH	SAMP	R42572	9/1/2011 2:44:00 AM	Charles O'Bryan		
1108899-028A	MA_APH	SAMP	R42572	9/1/2011 3:30:00 AM	Charles O'Bryan		
RLVS2 083111 VOA	MA_APH	RLVS	R42572	9/1/2011 4:12:00 AM	Charles O'Bryan		

RTI Laboratories

ANALYTICAL RUN Summary

19-Oct-11

RunNo 42572

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
825008	BFB 083111 VOA9	BFB_TUNE	TUNE	\I\DATA\083111	8/31/2011 9:06:0	1	R42572		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0	0		0	0	0	0	0	0	0%	0	2	0%	
174	M		90.8	90.8		0	0	0	0	0	0	0%	50	120	0%	
175	M		8	8		0	0	0	0	0	0	0%	4	9	0%	
176	M		96.6	96.6		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.7	6.7		0	0	0	0	0	0	0%	5	9	0%	
50	M		19.2	19.2		0	0	0	0	0	0	0%	8	40	0%	
75	M		39.7	39.7		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		6.7	6.7		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
825009	CCV 083111 VOA9	MA_APH	CCV	\I\DATA\083111	8/31/2011 10:20:	1	R42572		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	197.61	197.61		222	0	0	0	0	0	89%	70	130	0%	
C5-C8 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	29.876	117	0	0%	0	0	0%	
C9-C10 Aromatic HC - TOTAL	A	µg/m³	237.19	237.19		185	0	0	0	0	0	128%	70	130	0%	
C9-C10 Aromatic Hydrocarbons	A	µg/m³		0		0	0	0	35.658	133	0	0%	0	0	0%	
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	216.84	216.84		221	0	0	0	0	0	98%	70	130	0%	
C9-C12 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	25.766	189	0	0%	0	0	0%	
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	85.54	85.54		89.5	0	0	0	0	0	96%	70	130	0%	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\083111\08311102.D Vial: 2
Acq On : 31 Aug 2011 10:20 am Operator: RACHEL HILL
Sample : CCV 083111 VOA9 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 1 9:13 2011 Quant Results File: 081611V9.RES

Quant Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration
DataAcq Meth : 081611V9

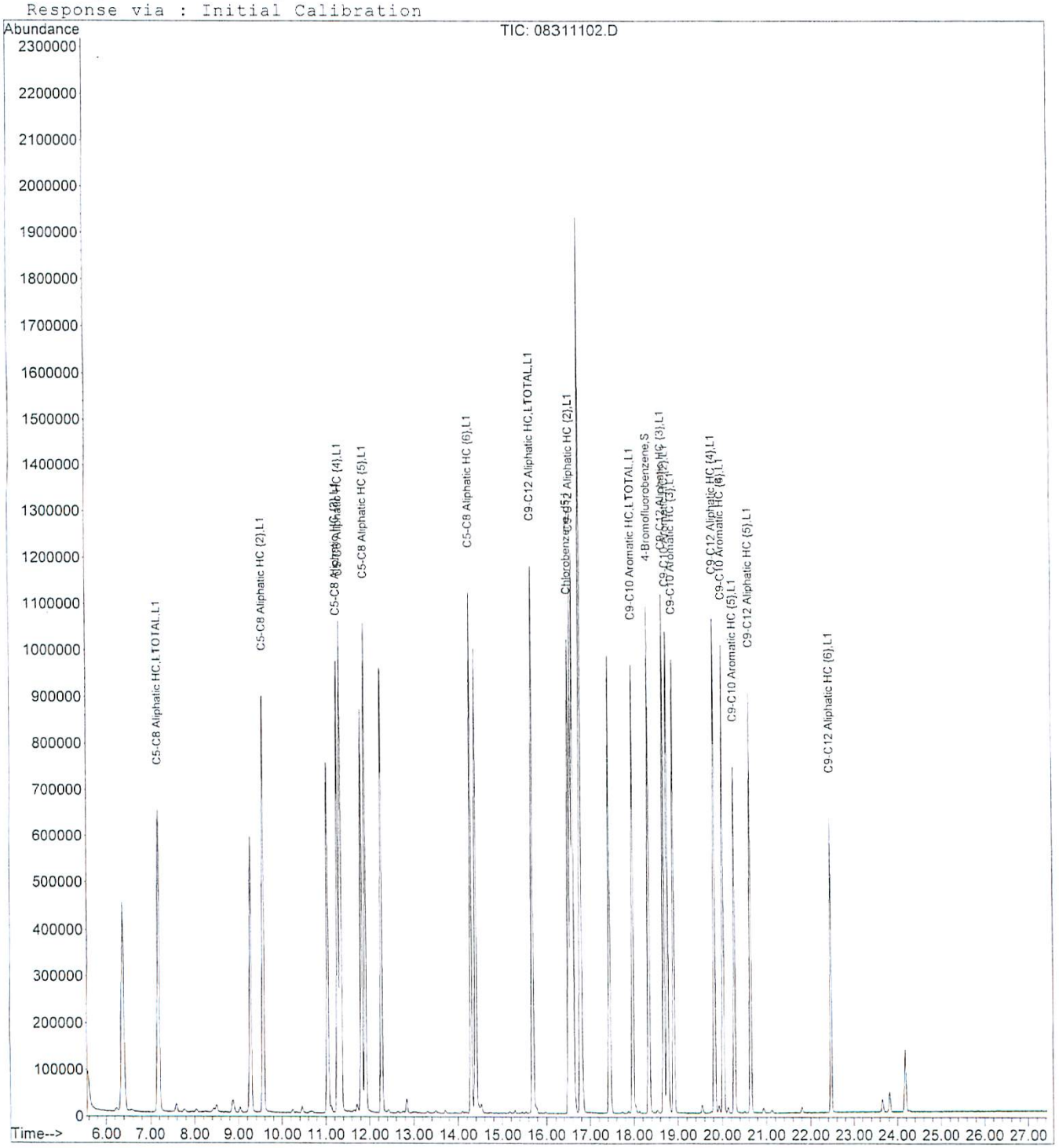
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
40) Chlorobenzene-d5	16.51	117	859276	12.50	ug/m3	-0.01
System Monitoring Compounds						
41) 4-Bromofluorobenzene	18.33	95	559184	85.54	ug/m3	-0.01
Spiked Amount 89.500	Range 70 - 130		Recovery = 95.58%			
Target Compounds						Qvalue
1) C5-C8 Aliphatic HC	7.18	TIC	2262900	25.40	ug/m3	100
2) C5-C8 Aliphatic HC (2)	9.57	TIC	2304740	33.20	ug/m3	100
3) C5-C8 Aliphatic HC (3)	11.28	TIC	2540276	33.52	ug/m3	100
4) C5-C8 Aliphatic HC (4)	11.34	TIC	2776311	39.66	ug/m3	100
5) C5-C8 Aliphatic HC (5)	11.91	TIC	2391690	32.78	ug/m3	100
6) C5-C8 Aliphatic HC (6)	14.29	TIC	2452171	33.52	ug/m3	100
7) C5-C8 Aliphatic HC - TOTAL	7.18	TIC	14728088m	197.61	ug/m3	
8) C9-C12 Aliphatic HC	15.70	TIC	2943580	37.39	ug/m3	100
9) C9-C12 Aliphatic HC (2)	16.57	TIC	2653522	35.11	ug/m3	100
10) C9-C12 Aliphatic HC (3)	18.68	TIC	2420720	36.57	ug/m3	100
11) C9-C12 Aliphatic HC (4)	19.83	TIC	2404221	37.11	ug/m3	100
12) C9-C12 Aliphatic HC (5)	20.64	TIC	1932386	34.14	ug/m3	100
13) C9-C12 Aliphatic HC (6)	22.47	TIC	1302306	29.21	ug/m3	100
14) C9-C12 Aliphatic HC - TOTA	15.70	TIC	13656735m	216.84	ug/m3	
15) C9-C10 Aromatic HC	17.97	120	251475	44.54	ug/m3	100
16) C9-C10 Aromatic HC (2)	18.76	120	299828	50.35	ug/m3	100
17) C9-C10 Aromatic HC (3)	18.91	120	408476	47.97	ug/m3	100
18) C9-C10 Aromatic HC (4)	20.02	120	85256	49.17	ug/m3	100
19) C9-C10 Aromatic HC (5)	20.28	120	274891	42.91	ug/m3	100
20) C9-C10 Aromatic HC (6)	20.02	134	233400	51.60	ug/m3	100
21) C9-C10 Aromatic HC - TOTAL	17.97	TIC	1553326m	237.19	ug/m3	

(#) = qualifier out of range (m) = manual integration
08311102.D 081611V9.M Fri Sep 30 10:42:48 2011

Quantitation Report

Data File : C:\HPCHEM\1\DATA\083111\08311102.D Vial: 2
Acq On : 31 Aug 2011 10:20 am Operator: RACHEL HILL
Sample : CCV 083111 VOA9 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 1 9:13 2011 Quant Results File: 081611V9.RES

Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration



RTI Laboratories

Run ID: VOA9_110901A **Run No.:** 42638

Analytical Run Date: 9/1/2011 **InstrumentID:** VOA9

Analyst: Rachel Hill **Column:**

Calibration ID: **Column ID:**

Column Length:

Run Comments: Ran out of liquid nitrogen during middle of run, this is why ending RLVS is not present.

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB 090111 VOA9	BFB_TUNE	TUNE	R42638	9/1/2011 9:41:00 AM	Charles O`Bryan		
CCV 090111 VOA9	MA_APH	CCV	R42638	9/1/2011 10:25:00 AM	Charles O`Bryan		
RLVS1 090111 VOA	MA_APH	RLVS	R42638	9/1/2011 11:08:00 AM	Charles O`Bryan		
MBLK 090111 VOA9	MA_APH	MBLK	R42638	9/1/2011 12:12:00 PM	Charles O`Bryan		
1108688-003A	MA_APH	SAMP	R42638	9/1/2011 1:34:00 PM	Charles O`Bryan		
1108688-004A	MA_APH	SAMP	R42638	9/1/2011 2:17:00 PM	Charles O`Bryan		
1108899-024A	MA_APH	SAMP	R42638	9/1/2011 2:59:00 PM	Charles O`Bryan		
1108688-011A	MA_APH	SAMP	R42638	9/1/2011 3:42:00 PM	Charles O`Bryan		
1108688-025A	MA_APH	SAMP	R42638	9/1/2011 4:25:00 PM	Charles O`Bryan		
1108688-005A	MA_APH	SAMP	R42638	9/1/2011 5:09:00 PM	Charles O`Bryan		
1108899-019A	MA_APH	SAMP	R42638	9/1/2011 5:52:00 PM	Charles O`Bryan		
1108899-021A	MA_APH	SAMP	R42638	9/1/2011 6:34:00 PM	Charles O`Bryan		
1108899-022A	MA_APH	SAMP	R42638	9/1/2011 7:17:00 PM	Charles O`Bryan		
1108899-022ADUP	MA_APH	DUP	R42638	9/1/2011 8:00:00 PM	Charles O`Bryan		
1108899-023A	MA_APH	SAMP	R42638	9/1/2011 8:42:00 PM	Charles O`Bryan		
1108899-029A	MA_APH	SAMP	R42638	9/1/2011 9:28:00 PM	Charles O`Bryan		

RTI Laboratories

ANALYTICAL RUN Summary

19-Oct-11

RunNo 42638

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
826577	BFB 090111 VOA9	BFB_TUNE	TUNE	.\1\DATA\0901119	1/1/2011 9:41:00	1	R42638		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0	0		0	0	0	0	0	0	0%	0	2	0%	
174	M		86.3	86.3		0	0	0	0	0	0	0%	50	120	0%	
175	M		7.8	7.8		0	0	0	0	0	0	0%	4	9	0%	
176	M		97.8	97.8		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.5	6.5		0	0	0	0	0	0	0%	5	9	0%	
50	M		19.7	19.7		0	0	0	0	0	0	0%	8	40	0%	
75	M		40	40		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		6.6	6.6		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
826578	CCV 090111 VOA9	MA_APH	CCV	.\1\DATA\0901119	1/1/2011 10:25:0	1	R42638		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	189.08	189.08		222	0	0	0	0	0	85%	70	130	0%	
C5-C8 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	29.876	117	0	0%	0	0	0%	
C9-C10 Aromatic HC - TOTAL	A	µg/m³	221.17	221.17		185	0	0	0	0	0	120%	70	130	0%	
C9-C10 Aromatic Hydrocarbons	A	µg/m³		0		0	0	0	35.658	133	0	0%	0	0	0%	
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	208.85	208.85		221	0	0	0	0	0	95%	70	130	0%	
C9-C12 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	25.766	189	0	0%	0	0	0%	
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	87.55	87.55		89.5	0	0	0	0	0	98%	70	130	0%	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090111\09011102.D Vial: 2
Acq On : 1 Sep 2011 10:25 am Operator: RACHEL HILL
Sample : CCV C90111 VOA9 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 6 8:44 2011 Quant Results File: C81611V9.RES

Quant Method : C:\HPCHEM\1\METHODS\C81611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration
DataAcq Meth : C81611V9

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
40) Chlorobenzene-d5	16.51	117	762651	12.50 ug/m3	0.00

System Monitoring Compounds

41) 4-Bromofluorobenzene	18.34	95	507981	97.55 ug/m3	0.00
Spiked Amount 89.500	Range 70 - 130		Recovery = 97.82%		

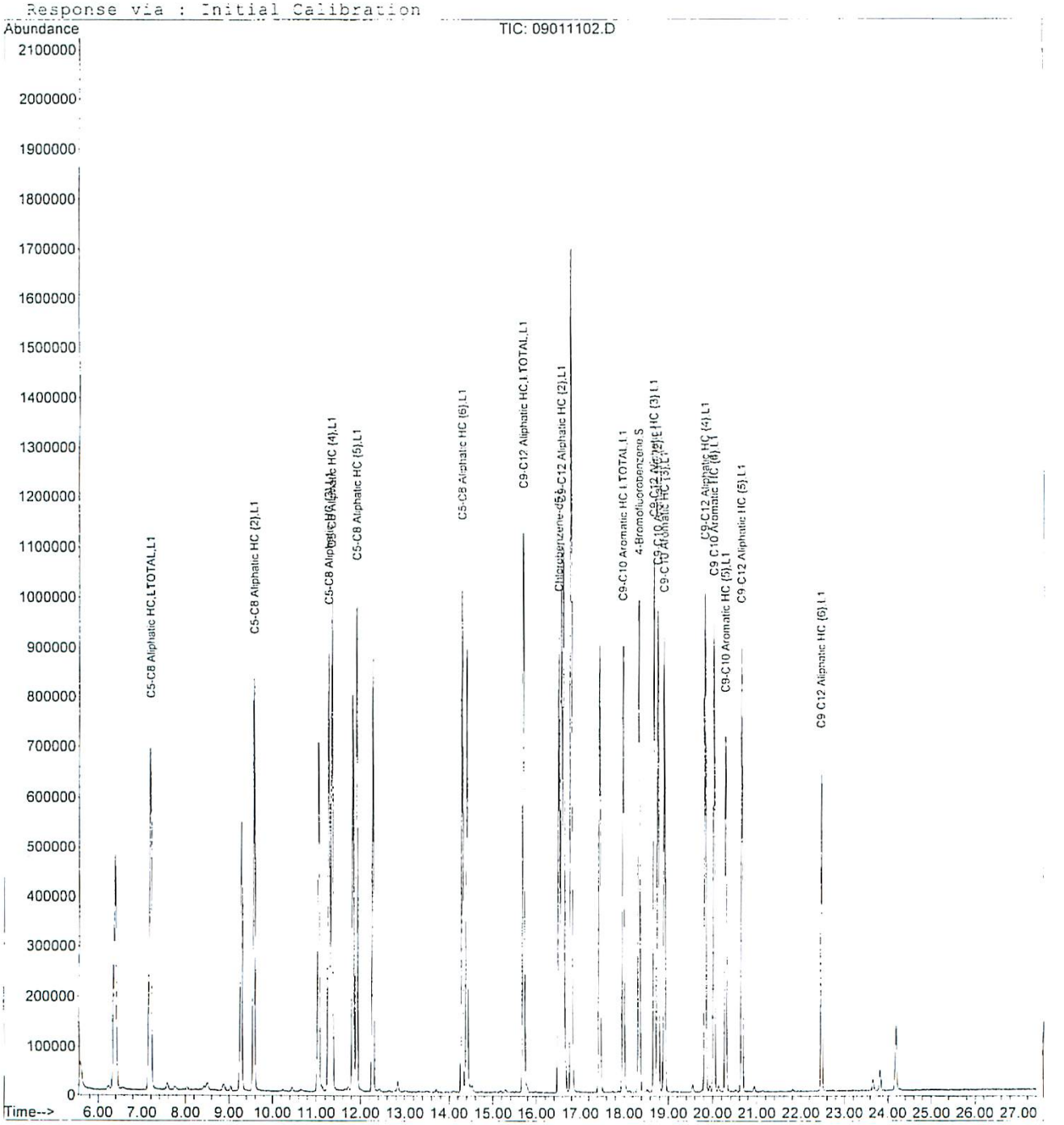
Target Compounds					Qvalue
1) C5-C8 Aliphatic HC	7.18	TIC	2413656	27.09 ug/m3	100
2) C5-C8 Aliphatic HC (2)	9.56	TIC	2163289	31.16 ug/m3	100
3) C5-C8 Aliphatic HC (3)	11.28	TIC	2293668	30.27 ug/m3	100
4) C5-C8 Aliphatic HC (4)	11.34	TIC	2668142	38.11 ug/m3	100
5) C5-C8 Aliphatic HC (5)	11.92	TIC	2244040	30.75 ug/m3	100
6) C5-C8 Aliphatic HC (6)	14.30	TIC	2309263	31.57 ug/m3	100
7) C5-C8 Aliphatic HC - TOTAL	7.18	TIC	14092058m	189.08 ug/m3	
8) C9-C12 Aliphatic HC	15.70	TIC	2815013	35.76 ug/m3	100
9) C9-C12 Aliphatic HC (2)	16.57	TIC	2507760	33.18 ug/m3	100
10) C9-C12 Aliphatic HC (3)	18.68	TIC	2302459	34.79 ug/m3	100
11) C9-C12 Aliphatic HC (4)	19.83	TIC	2321182	35.82 ug/m3	100
12) C9-C12 Aliphatic HC (5)	20.65	TIC	1896952	33.51 ug/m3	100
13) C9-C12 Aliphatic HC (6)	22.47	TIC	1310008	29.38 ug/m3	100
14) C9-C12 Aliphatic HC - TOTA	15.70	TIC	13153374m	208.85 ug/m3	
15) C9-C10 Aromatic HC	17.98	120	230893	40.89 ug/m3	100
16) C9-C10 Aromatic HC (2)	18.77	120	279069	46.56 ug/m3	100
17) C9-C10 Aromatic HC (3)	18.91	120	378769	44.48 ug/m3	100
18) C9-C10 Aromatic HC (4)	20.03	120	81146	46.80 ug/m3	100
19) C9-C10 Aromatic HC (5)	20.29	120	258725	40.38 ug/m3	100
20) C9-C10 Aromatic HC (6)	20.03	134	219796	48.59 ug/m3	100
21) C9-C10 Aromatic HC - TOTAL	17.98	TIC	1448398m	221.17 ug/m3	

(#) = qualifier out of range (m) = manual integration
09011102.D C81611V9.M Fri Sep 30 10:58:59 2011

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090111\09011102.D Vial: 2
Acq On : 1 Sep 2011 10:25 am Operator: RACHEL HILL
Sample : CCV 090111 VOA9 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Sep 6 8:44 2011 Quant Results File: 081611V9.RES

Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration



09011102.D 081611V9.M Fri Sep 30 10:59:00 2011 Page 2

RTI Laboratories

Run ID: VOA9_110921A

Run No.: 42997

Analytical Run Date: 9/21/2011

InstrumentID: VOA9

Analyst: Rachel Hill

Column:

Calibration ID: 42997

Column ID:

Column Length:

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
BFB1 092111 VOA9	BFB_TUNE	TUNE	R42997	9/21/2011 2:19:00 PM	Charles O`Bryan		
APH ICAL Level 1	MA_APH	ICAL	R42997	9/21/2011 3:43:00 PM	Charles O`Bryan		
APH ICAL Level 2	MA_APH	ICAL	R42997	9/21/2011 4:26:00 PM	Charles O`Bryan		
APH ICAL Level 3	MA_APH	ICAL	R42997	9/21/2011 5:09:00 PM	Charles O`Bryan		
APH ICAL Level 4	MA_APH	ICAL	R42997	9/21/2011 5:51:00 PM	Charles O`Bryan		
APH ICAL Level 5	MA_APH	ICAL	R42997	9/21/2011 6:34:00 PM	Charles O`Bryan		
APH ICAL Level 6	MA_APH	ICAL	R42997	9/21/2011 7:18:00 PM	Charles O`Bryan		
APH ICAL Level 7	MA_APH	ICAL	R42997	9/21/2011 8:03:00 PM	Charles O`Bryan		
BFB2 092111 VOA9	BFB_TUNE	TUNE	R42997	9/21/2011 8:45:00 PM	Charles O`Bryan		
CCV 092111 VOA9	MA_APH	CCV	R42997	9/21/2011 9:27:00 PM	Charles O`Bryan		
RLVS1 092111 VOA	MA_APH	RLVS	R42997	9/21/2011 10:09:00 PM	Charles O`Bryan		
BLK1 092111 VOA9	MA_APH	MBLK	R42997	9/21/2011 10:58:00 PM	Charles O`Bryan		
1108899-030A	MA_APH	SAMP	R42997	9/21/2011 11:40:00 PM	Charles O`Bryan	H	
1109555-010A	MA_APH	SAMP	R42997	9/22/2011 1:50:00 AM	Charles O`Bryan		
1109555-011A	MA_APH	SAMP	R42997	9/22/2011 2:35:00 AM	Charles O`Bryan		
1109555-012A	MA_APH	SAMP	R42997	9/22/2011 3:20:00 AM	Charles O`Bryan		
1109555-027A	MA_APH	SAMP	R42997	9/22/2011 4:53:00 AM	Charles O`Bryan		
1109555-028A	MA_APH	SAMP	R42997	9/22/2011 5:38:00 AM	Charles O`Bryan		
1108899-025A	MA_APH	SAMP	R42997	9/22/2011 12:48:00 PM	Charles O`Bryan	H	
1108899-036A	MA_APH	SAMP	R42997	9/22/2011 2:19:00 PM	Charles O`Bryan	H	
1108899-036ADUP	MA_APH	DUP	R42997	9/22/2011 3:01:00 PM	Charles O`Bryan	H	
1108688-012A	MA_APH	SAMP	R42997	9/22/2011 5:17:00 PM	Charles O`Bryan	H	
1108899-001A	MA_APH	SAMP	R42997	9/22/2011 6:06:00 PM	Charles O`Bryan	H	
1108899-006A	MA_APH	SAMP	R42997	9/22/2011 6:48:00 PM	Charles O`Bryan	H	
RLVS2 092111 VOA	MA_APH	RLVS	R42997	9/22/2011 7:30:00 PM	Charles O`Bryan		

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836495	BFB2 092111 VOA9	BFB_TUNE	TUNE	\I\DATA\092111	9/21/2011 8:45:0	1	R42997		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
173	M		0	0		0	0	0	0	0	0	0%	0	2	0%	
174	M		95.7	95.7		0	0	0	0	0	0	0%	50	120	0%	
175	M		8.2	8.2		0	0	0	0	0	0	0%	4	9	0%	
176	M		97.2	97.2		0	0	0	0	0	0	0%	93	101	0%	
177	M		6.9	6.9		0	0	0	0	0	0	0%	5	9	0%	
50	M		20.4	20.4		0	0	0	0	0	0	0%	8	40	0%	
75	M		42.7	42.7		0	0	0	0	0	0	0%	30	66	0%	
95	M		100	100		0	0	0	0	0	0	0%	100	100	0%	
96	M		7.5	7.5		0	0	0	0	0	0	0%	5	9	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
836503	CCV 092111 VOA9	MA_APH	CCV	\I\DATA\092111	9/21/2011 9:27:0	1	R42997		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	261.73	261.73		234	0	0	0	0	0	112%	70	130	0%	
C5-C8 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	29.876	117	0	0%	0	0	0%	
C9-C10 Aromatic HC - TOTAL	A	µg/m³	287.82	287.82		266	0	0	0	0	0	108%	70	130	0%	
C9-C10 Aromatic Hydrocarbons	A	µg/m³		0		0	0	0	35.658	133	0	0%	0	0	0%	
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	414.92	414.92		378	0	0	0	0	0	110%	70	130	0%	
C9-C12 Aliphatic Hydrocarbons	A	µg/m³		0		0	0	0	25.766	189	0	0%	0	0	0%	
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	90.18	90.18		89.5	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
836504	RLVS1 092111 VOA	MA_APH	RLVS	\I\DATA\092111	9/21/2011 10:09:	1	R42997		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\092111\09211111.D
Acq On : 21 Sep 2011 9:27 pm
Sample : CCV 092111 VOA9
Misc : CCV MA_APH
MS Integration Params: rteint.p
Quant Time: Sep 22 10:02 2011

Vial: 11
Operator: MICHAEL TRUCHAN
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 092111V9.RES

Quant Method : C:\HPCHEM\1\METHODS\092111V9.M (RTE Integrator)
Title : MASS APH
Last Update : Thu Sep 22 10:01:26 2011
Response via : Initial Calibration
DataAcq Meth : 092111V9

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
40) Chlorobenzene-d5	16.51	117	574128	12.50 ug/m3	0.00
System Monitoring Compounds					
41) 4-Bromofluorobenzene	18.34	95	370861	90.18 ug/m3	0.00
Spiked Amount 89.500	Range 70 - 130		Recovery = 100.76%		
Target Compounds					Qvalue
1) C5-C8 Aliphatic HC	7.17	TIC	1078911	34.67 ug/m3	100
2) C5-C8 Aliphatic HC {2}	9.56	TIC	1211685	40.22 ug/m3	100
3) C5-C8 Aliphatic HC {3}	11.28	TIC	1573561	47.14 ug/m3	100
4) C5-C8 Aliphatic HC {4}	11.35	TIC	1231808	38.74 ug/m3	100
5) C5-C8 Aliphatic HC {5}	11.92	TIC	1484092	46.42 ug/m3	100
6) C5-C8 Aliphatic HC {6}	14.30	TIC	1782905	54.59 ug/m3	100
7) C5-C8 Aliphatic HC - TOTAL	7.17	TIC	8362962m	261.73 ug/m3	
8) C9-C12 Aliphatic HC	15.70	TIC	2170131	61.39 ug/m3	100
9) C9-C12 Aliphatic HC {2}	16.56	TIC	2105619	62.05 ug/m3	100
10) C9-C12 Aliphatic HC {3}	18.68	TIC	2005671	67.19 ug/m3	100
11) C9-C12 Aliphatic HC {4}	19.83	TIC	2089686	67.12 ug/m3	100
12) C9-C12 Aliphatic HC {5}	20.64	TIC	1985397	75.63 ug/m3	100
13) C9-C12 Aliphatic HC {6}	22.47	TIC	1785177	79.76 ug/m3	100
14) C9-C12 Aliphatic HC - TOTA	15.70	TIC	12141681m	414.92 ug/m3	
15) C9-C10 Aromatic HC	17.98	120	202979	55.41 ug/m3	100
16) C9-C10 Aromatic HC {2}	18.76	120	213353	55.07 ug/m3	100
17) C9-C10 Aromatic HC {3}	18.91	120	320023	56.73 ug/m3	100
18) C9-C10 Aromatic HC {4}	20.03	120	73003	62.76 ug/m3	100
19) C9-C10 Aromatic HC {5}	20.29	120	246107	56.92 ug/m3	100
20) C9-C10 Aromatic HC {6}	20.03	134	202608	63.53 ug/m3	100
21) C9-C10 Aromatic HC - TOTAL	17.98	TIC	1258073m	287.82 ug/m3	

(#) = qualifier out of range (m) = manual integration
09211111.D 092111V9.M Thu Oct 20 10:57:08 2011

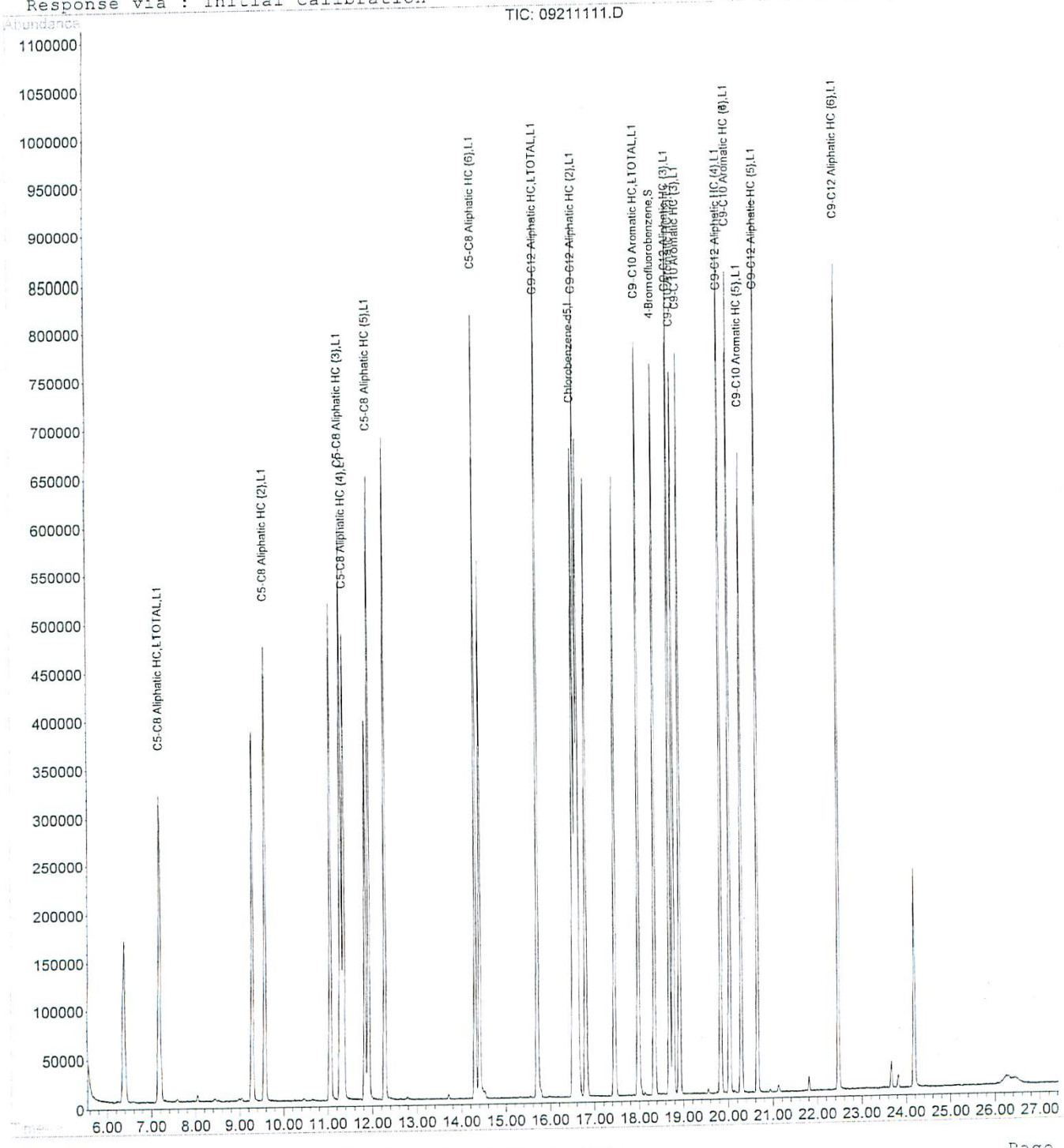
Quantitation Report

Data File : C:\HPCHEM\1\DATA\092111\09211111.D
Acq On : 21 Sep 2011 9:27 pm
Sample : CCV 092111 VOA9
Misc : CCV MA_APH
MS Integration Params: rteint.p
Quant Time: Sep 22 10:02 2011

Vial: 11
Operator: MICHAEL TRUCHAN
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 092111V9.RES

Method : C:\HPCHEM\1\METHODS\092111V9.M (RTE Integrator)
Title : MASS APH
Last Update : Thu Sep 22 10:01:26 2011
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration

Calibration Files
1 =08161105.D 2 =08161106.D 3 =08161107.D
4 =08161108.D 5 =08161109.D 6 =08161110.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	L1	C5-C8 Aliphatic HC	9.819	9.091	8.932	8.680	8.763	8.725	8.909 E4	5.19
2)	L1	C5-C8 Aliphatic HC	8.117	7.136	7.040	6.542	6.567	6.719	6.942 E4	8.30
3)	L1	C5-C8 Aliphatic HC	8.923	7.767	7.617	7.238	7.278	7.273	7.578 E4	8.59
4)	L1	C5-C8 Aliphatic HC	7.905	7.052	7.185	6.596	6.571	6.934	7.001 E4	6.55
5)	L1	C5-C8 Aliphatic HC	8.403	7.440	7.432	7.002	7.033	7.078	7.297 E4	7.57
6)	L1	C5-C8 Aliphatic HC	8.351	7.452	7.529	7.126	7.110	7.076	7.315 E4	7.57
7)	L1	C5-C8 Aliphatic HC	8.542	7.601	7.569	7.155	7.172	7.236	7.453 E4	7.23
8)	L1	C9-C12 Aliphatic HC	9.103	8.077	8.074	7.734	7.681	7.516	7.872 E4	8.51
9)	L1	C9-C12 Aliphatic HC	8.763	7.528	7.897	7.424	7.358	7.348	7.558 E4	8.72
10)	L1	C9-C12 Aliphatic HC	7.593	6.794	6.896	6.507	6.536	6.289	6.619 E4	8.73
11)	L1	C9-C12 Aliphatic HC	7.358	6.622	6.697	6.363	6.356	6.239	6.480 E4	7.71
12)	L1	C9-C12 Aliphatic HC	6.393	5.843	5.848	5.629	5.569	5.405	5.661 E4	7.90
13)	L1	C9-C12 Aliphatic HC	4.745	4.487	4.533	4.413	4.532	4.410	4.459 E4	4.40
14)	L1	C9-C12 Aliphatic HC	7.142	6.415	6.508	6.206	6.204	6.065	6.298 E4	7.70
15)	L1	C9-C10 Aromatic HC	6.298	5.586	5.706	5.410	5.472	5.608	5.646 E3	5.41
16)	L1	C9-C10 Aromatic HC	6.517	5.918	6.008	5.679	5.773	5.924	5.955 E3	4.54
17)	L1	C9-C10 Aromatic HC	9.376	8.453	8.598	8.172	8.336	8.421	8.515 E3	4.74
18)	L1	C9-C10 Aromatic HC	1.920	1.716	1.755	1.667	1.697	1.724	1.734 E3	5.11
19)	L1	C9-C10 Aromatic HC	7.038	6.311	6.455	6.152	6.240	6.358	6.407 E3	4.59
20)	L1	C9-C10 Aromatic HC	4.927	4.476	4.586	4.411	4.450	4.513	4.523 E3	4.39
21)	L1	C9-C10 Aromatic HC	7.221	6.498	6.609	6.280	6.367	6.509	6.549 E3	4.84
22)		C5-C8 Aliphatic	8.542	7.601	7.569	7.155	7.172	7.236	7.453 E4	7.23
23)	L1	non C5-C8	6.927	6.469	6.553	6.443	6.396	6.454	6.517 E4	2.91
24)	L1	non C5-C8 {2}	5.846	5.052	4.954	4.429	4.413	4.581	4.810 E4	11.01
25)	L1	non C5-C8 {3}	3.629	3.375	3.542	3.745	3.605	3.865	3.632 E4	4.25
26)	L1	non C5-C8 {4}	6.915	5.929	5.921	5.290	5.308	5.566	5.766 E4	9.91
27)	L1	non C5-C8 {5}	4.665	4.235	4.548	5.016	4.637	5.181	4.694 E4	6.69
28)	L1	non C5-C8 {6}	6.985	6.362	6.068	5.604	5.883	6.110	6.133 E4	7.20
29)	L1	non C5-C8 - TOTAL	4.992	4.867	5.013	4.961	4.988	5.344	5.057 E4	3.33
30)		C9-C12 Aliphatic	7.142	6.415	6.508	6.206	6.204	6.065	6.298 E4	7.70
31)	L1	non C9-C12	5.017	4.705	4.895	5.120	4.992	5.243	4.971 E4	3.65
32)	L1	non C9-C12 {2}	6.664	6.084	5.810	5.719	5.502	5.600	5.736 E4	10.03
33)	L1	non C9-C12 {3}	6.743	5.980	6.047	5.656	5.673	5.837	5.947 E4	6.45
34)	L1	non C9-C12 {4}	6.557	5.818	5.833	5.442	5.498	5.629	5.750 E4	6.78
35)	L1	non C9-C12 {5}	3.303	3.137	3.349	3.535	3.400	3.749	3.414 E4	5.62
36)	L1	non C9-C12 - TOTAL	4.290	4.047	4.110	4.058	3.988	4.122	4.063 E4	3.49
37)	L1	C9-C10 Aromatic	7.221	6.498	6.609	6.280	6.367	6.509	6.549 E3	4.84
38)	L1	C9-C10 Aromatic {2}	7.221	6.498	6.609	6.280	6.367	6.509	6.549 E3	4.84
39)	L1	C9-C10 Aromatic - T	7.221	6.498	6.609	6.280	6.367	6.509	6.549 E3	4.84
40)	I	Chlorobenzene-d5	----------ISTD----------							
41)	S	4-Bromofluorobenzen	0.094	0.096	0.096	0.094	0.096	0.095	0.095	0.84

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

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\081611V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Aug 17 10:38:55 2011
Response via : Initial Calibration
Total Cpnds : 41

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 L1	C5-C8 Aliphatic HC	TIC	7.21	1.000	A	0	A	B
2 L1	C5-C8 Aliphatic HC {2}	TIC	9.59	1.000	A	0	A	B
3 L1	C5-C8 Aliphatic HC {3}	TIC	11.30	1.000	A	0	A	B
4 L1	C5-C8 Aliphatic HC {4}	TIC	11.37	1.000	A	0	A	B
5 L1	C5-C8 Aliphatic HC {5}	TIC	11.93	1.000	A	0	A	B
6 L1	C5-C8 Aliphatic HC {6}	TIC	14.31	1.000	A	0	A	B
7 L1	C5-C8 Aliphatic HC - TOTAL	TIC	7.00	1.000	A	0	A	B
8 L1	C9-C12 Aliphatic HC	TIC	15.71	1.000	A	0	A	B
9 L1	C9-C12 Aliphatic HC {2}	TIC	16.58	1.000	A	0	A	B
10 L1	C9-C12 Aliphatic HC {3}	TIC	18.69	1.000	A	0	A	B
11 L1	C9-C12 Aliphatic HC {4}	TIC	19.84	1.000	A	0	A	B
12 L1	C9-C12 Aliphatic HC {5}	TIC	20.66	1.000	A	0	A	B
13 L1	C9-C12 Aliphatic HC {6}	TIC	22.48	1.000	A	0	A	B
14 L1	C9-C12 Aliphatic HC - TOTAL	TIC	15.71	1.000	A	0	A	B
15 L1	C9-C10 Aromatic HC	120	17.99	1.000	A	0	A	B
16 L1	C9-C10 Aromatic HC {2}	120	18.78	1.000	A	0	A	B
17 L1	C9-C10 Aromatic HC {3}	120	18.92	1.000	A	0	A	B
18 L1	C9-C10 Aromatic HC {4}	120	20.04	1.000	A	0	A	B
19 L1	C9-C10 Aromatic HC {5}	120	20.30	1.000	A	0	A	B
20 L1	C9-C10 Aromatic HC {6}	134	20.04	1.000	A	0	A	B
21 L1	C9-C10 Aromatic HC - TOTAL	TIC	17.99	1.000	A	0	A	B
22	C5-C8 Aliphatic	TIC	7.00	1.000	A	0	A	B
23 L1	non C5-C8	TIC	6.41	1.000	A	0	A	B
24 L1	non C5-C8 {2}	TIC	9.30	1.000	A	0	A	B
25 L1	non C5-C8 {3}	TIC	11.07	1.000	A	0	A	B
26 L1	non C5-C8 {4}	TIC	11.84	1.000	A	0	A	B
27 L1	non C5-C8 {5}	TIC	12.29	1.000	A	0	A	B
28 L1	non C5-C8 {6}	TIC	14.42	1.000	A	0	A	B
29 L1	non C5-C8 - TOTAL	TIC	6.41	1.000	A	0	A	B
30	C9-C12 Aliphatic	TIC	16.54	1.000	A	0	A	B
31 L1	non C9-C12	TIC	16.52	1.000	A	0	A	B
32 L1	non C9-C12 {2}	TIC	16.63	1.000	A	0	A	B
33 L1	non C9-C12 {3}	TIC	16.80	1.000	A	0	A	B
34 L1	non C9-C12 {4}	TIC	17.45	1.000	A	0	A	B
35 L1	non C9-C12 {5}	TIC	18.35	1.000	A	0	A	B
36 L1	non C9-C12 - TOTAL	TIC	16.52	1.000	A	0	A	B
37 L1	C9-C10 Aromatic	120	17.62	1.000	A	0	A	B
38 L1	C9-C10 Aromatic {2}	134	17.62	1.000	A	0	A	B
39 L1	C9-C10 Aromatic - TOTAL	134	0.00	1.000	A	1	A	B
40 I	Chlorobenzene-d5	117	16.52	1.000	A	2	A	B
41 S	4-Bromofluorobenzene	95	18.35	1.111	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

081611V9.M Thu Oct 20 10:52:09 2011

Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\092111V9.M (RTE Integrator)
Title : MASS APH
Last Update : Thu Sep 22 10:01:26 2011
Response via : Initial Calibration

Calibration Files
1 =09211103.D 2 =09211104.D 3 =09211105.D
4 =09211106.D 5 =09211107.D 6 =09211108.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	L1	C5-C8 Aliphatic HC	3.342	3.501	3.431	3.048	2.961	2.792	3.112 E4	10.14
2)	L1	C5-C8 Aliphatic HC	3.085	3.144	3.314	3.157	3.035	2.776	3.013 E4	8.35
3)	L1	C5-C8 Aliphatic HC	3.482	3.500	3.661	3.492	3.355	3.043	3.338 E4	8.81
4)	L1	C5-C8 Aliphatic HC	3.266	3.329	3.432	3.293	3.244	2.975	3.180 E4	7.73
5)	L1	C5-C8 Aliphatic HC	3.409	3.292	3.437	3.366	3.216	2.933	3.197 E4	8.39
6)	L1	C5-C8 Aliphatic HC	3.531	3.389	3.563	3.402	3.284	2.973	3.266 E4	9.52
7)	L1	C5-C8 Aliphatic HC	3.367	3.358	3.481	3.317	3.202	2.924	3.195 E4	8.60
8)	L1	C9-C12 Aliphatic HC	3.835	3.715	3.856	3.686	3.548	3.204	3.535 E4	10.07
9)	L1	C9-C12 Aliphatic HC	3.862	3.468	3.551	3.532	3.337	3.128	3.393 E4	9.41
10)	L1	C9-C12 Aliphatic HC	3.397	3.098	3.226	3.063	2.977	2.651	2.985 E4	10.66
11)	L1	C9-C12 Aliphatic HC	3.530	3.258	3.337	3.218	3.094	2.779	3.113 E4	10.60
12)	L1	C9-C12 Aliphatic HC	3.001	2.731	2.825	2.691	2.573	2.324	2.625 E4	10.37
13)	L1	C9-C12 Aliphatic HC	2.572	2.269	2.387	2.288	2.231	2.003	2.238 E4	9.90
14)	L1	C9-C12 Aliphatic HC	3.308	3.031	3.139	3.020	2.904	2.628	2.926 E4	10.08
15)	L1	C9-C10 Aromatic HC	4.152	3.792	3.941	3.790	3.620	3.289	3.663 E3	10.30
16)	L1	C9-C10 Aromatic HC	4.471	4.015	4.104	3.947	3.798	3.490	3.874 E3	10.14
17)	L1	C9-C10 Aromatic HC	6.548	5.926	5.959	5.780	5.547	5.034	5.641 E3	10.97
18)	L1	C9-C10 Aromatic HC	1.324	1.207	1.250	1.181	1.141	1.042	1.163 E3	9.79
19)	L1	C9-C10 Aromatic HC	5.007	4.496	4.588	4.444	4.249	3.863	4.323 E3	10.77
20)	L1	C9-C10 Aromatic HC	3.712	3.332	3.387	3.235	3.158	2.825	3.189 E3	10.94
21)	L1	C9-C10 Aromatic HC	5.054	4.563	4.642	4.466	4.290	3.912	4.371 E3	10.62
22)		C5-C8 Aliphatic	3.367	3.358	3.481	3.317	3.202	2.924	3.195 E4	8.60
23)	L1	non C5-C8	2.485	2.302	2.785	2.563	2.422	2.260	2.422 E4	8.87
24)	L1	non C5-C8 {2}	2.950	2.744	2.795	2.687	2.592	2.369	2.629 E4	9.15
25)	L1	non C5-C8 {3}	1.800	2.105	2.247	2.164	2.090	2.028	2.049 E4	7.42
26)	L1	non C5-C8 {4}	2.957	2.860	2.965	2.850	2.769	2.509	2.757 E4	8.12
27)	L1	non C5-C8 {5}	2.635	3.065	3.334	3.156	3.074	2.978	2.984 E4	8.72
28)	L1	non C5-C8 {6}	3.653	3.195	3.353	3.122	3.047	2.900	3.147 E4	9.36
29)	L1	non C5-C8 - TOTAL	2.502	2.694	2.894	2.759	2.681	2.526	2.636 E4	6.48
30)		C9-C12 Aliphatic	3.308	3.031	3.139	3.020	2.904	2.628	2.926 E4	10.08
31)	L1	non C9-C12	2.660	2.963	3.258	3.026	2.928	2.829	2.900 E4	7.49
32)	L1	non C9-C12 {2}	3.509	3.217	3.358	3.219	3.177	2.702	3.102 E4	11.42
33)	L1	non C9-C12 {3}	3.768	3.330	3.474	3.327	3.232	2.980	3.280 E4	9.28
34)	L1	non C9-C12 {4}	3.594	3.238	3.370	3.251	3.157	2.910	3.182 E4	8.82
35)	L1	non C9-C12 {5}	2.094	2.244	2.445	2.372	2.319	2.288	2.267 E4	5.75
36)	L1	non C9-C12 - TOTAL	2.426	2.421	2.560	2.434	2.357	2.139	2.332 E4	8.48
37)	L1	C9-C10 Aromatic	5.054	4.563	4.642	4.466	4.290	3.912	4.371 E3	10.62
38)	L1	C9-C10 Aromatic {2}	5.054	4.563	4.642	4.466	4.290	3.912	4.371 E3	10.62
39)	L1	C9-C10 Aromatic - T	5.054	4.563	4.642	4.466	4.290	3.912	4.371 E3	10.62
40)	I	Chlorobenzene-d5	----------ISTD----------							
41)	S	4-Bromofluorobenzen	0.090	0.088	0.088	0.089	0.091	0.090	0.090	1.33

(#) = Out of Range ### Number of calibration levels exceeded format ###
092111V9.M Thu Oct 20 10:56:55 2011

Compound List Report GC/MS TMS

Method : C:\HPCHEM\1\METHODS\092111V9.M (RTE Integrator)
Title : MASS APH
Last Update : Thu Sep 22 10:01:26 2011
Response via : Initial Calibration
Total Cpnds : 41

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	L1	C5-C8 Aliphatic HC	TIC	7.21	1.000	A	0	A	B
2	L1	C5-C8 Aliphatic HC {2}	TIC	9.59	1.000	A	0	A	B
3	L1	C5-C8 Aliphatic HC {3}	TIC	11.30	1.000	A	0	A	B
4	L1	C5-C8 Aliphatic HC {4}	TIC	11.37	1.000	A	0	A	B
5	L1	C5-C8 Aliphatic HC {5}	TIC	11.93	1.000	A	0	A	B
6	L1	C5-C8 Aliphatic HC {6}	TIC	14.31	1.000	A	0	A	B
7	L1	C5-C8 Aliphatic HC - TOTAL	TIC	7.00	1.000	A	0	A	B
8	L1	C9-C12 Aliphatic HC	TIC	15.71	1.000	A	0	A	B
9	L1	C9-C12 Aliphatic HC {2}	TIC	16.58	1.000	A	0	A	B
10	L1	C9-C12 Aliphatic HC {3}	TIC	18.69	1.000	A	0	A	B
11	L1	C9-C12 Aliphatic HC {4}	TIC	19.84	1.000	A	0	A	B
12	L1	C9-C12 Aliphatic HC {5}	TIC	20.66	1.000	A	0	A	B
13	L1	C9-C12 Aliphatic HC {6}	TIC	22.48	1.000	A	0	A	B
14	L1	C9-C12 Aliphatic HC - TOTAL	TIC	15.71	1.000	A	0	A	B
15	L1	C9-C10 Aromatic HC	120	17.99	1.000	A	0	A	B
16	L1	C9-C10 Aromatic HC {2}	120	18.78	1.000	A	0	A	B
17	L1	C9-C10 Aromatic HC {3}	120	18.92	1.000	A	0	A	B
18	L1	C9-C10 Aromatic HC {4}	120	20.04	1.000	A	0	A	B
19	L1	C9-C10 Aromatic HC {5}	120	20.30	1.000	A	0	A	B
20	L1	C9-C10 Aromatic HC {6}	134	20.04	1.000	A	0	A	B
21	L1	C9-C10 Aromatic HC - TOTAL	TIC	17.99	1.000	A	0	A	B
22		C5-C8 Aliphatic	TIC	7.00	1.000	A	0	A	B
23	L1	non C5-C8	TIC	6.41	1.000	A	0	A	B
24	L1	non C5-C8 {2}	TIC	9.30	1.000	A	0	A	B
25	L1	non C5-C8 {3}	TIC	11.07	1.000	A	0	A	B
26	L1	non C5-C8 {4}	TIC	11.84	1.000	A	0	A	B
27	L1	non C5-C8 {5}	TIC	12.29	1.000	A	0	A	B
28	L1	non C5-C8 {6}	TIC	14.42	1.000	A	0	A	B
29	L1	non C5-C8 - TOTAL	TIC	6.41	1.000	A	0	A	B
30		C9-C12 Aliphatic	TIC	16.54	1.000	A	0	A	B
31	L1	non C9-C12	TIC	16.52	1.000	A	0	A	B
32	L1	non C9-C12 {2}	TIC	16.63	1.000	A	0	A	B
33	L1	non C9-C12 {3}	TIC	16.80	1.000	A	0	A	B
34	L1	non C9-C12 {4}	TIC	17.45	1.000	A	0	A	B
35	L1	non C9-C12 {5}	TIC	18.35	1.000	A	0	A	B
36	L1	non C9-C12 - TOTAL	TIC	16.52	1.000	A	0	A	B
37	L1	C9-C10 Aromatic	120	17.62	1.000	A	0	A	B
38	L1	C9-C10 Aromatic {2}	134	17.62	1.000	A	0	A	B
39	L1	C9-C10 Aromatic - TOTAL	134	0.00	1.000	A	1	A	B
40	I	Chlorobenzene-d5	117	16.52	1.000	A	2	A	B
41	S	4-Bromofluorobenzene	95	18.35	1.111	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

092111V9.M Thu Oct 20 10:56:57 2011

RTI Laboratories

Run ID: GC-TCD 1_110829A **Run No.:** 42684

Analytical Run Date: 8/29/2011 **InstrumentID:** GC-TCD 1

Analyst: Mike Budziak **Column:** GC-TCD 1

Calibration ID: **Column ID:** 100/120mesh x 1mm ID

Column Length: 2m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
mblk	ASTM-D2504	MBLK	R42684	8/29/2011 10:51:00 AM	Robert Lynch		
ccv std 1-2 a	ASTM-D2504	CCV	R42684	8/29/2011 11:11:00 AM	Robert Lynch		
lcs	ASTM-D2504	LCS	R42684	8/29/2011 11:35:00 AM	Robert Lynch		
crql std 2% a	ASTM-D2504	CRQL	R42684	8/29/2011 11:54:00 AM	Robert Lynch		
1108688-001b	ASTM-D2504	SAMP	R42684	8/29/2011 12:18:00 PM	Robert Lynch		
1108688-002b	ASTM-D2504	SAMP	R42684	8/29/2011 12:52:00 PM	Robert Lynch		
1108688-003b	ASTM-D2504	SAMP	R42684	8/29/2011 1:10:00 PM	Robert Lynch		
1108688-004b	ASTM-D2504	SAMP	R42684	8/29/2011 1:47:00 PM	Robert Lynch		
1108688-005b	ASTM-D2504	SAMP	R42684	8/29/2011 2:06:00 PM	Robert Lynch		
1108688-006b	ASTM-D2504	SAMP	R42684	8/29/2011 2:25:00 PM	Robert Lynch		
1108688-007b	ASTM-D2504	SAMP	R42684	8/29/2011 2:44:00 PM	Robert Lynch		
1108688-008b	ASTM-D2504	SAMP	R42684	8/29/2011 3:23:00 PM	Robert Lynch		
1108688-009b	ASTM-D2504	SAMP	R42684	8/29/2011 3:44:00 PM	Robert Lynch		
1108688-010b	ASTM-D2504	SAMP	R42684	8/29/2011 4:03:00 PM	Robert Lynch		
1108688-010bdup	ASTM-D2504	DUP	R42684	8/29/2011 4:25:00 PM	Robert Lynch		
ccv std 1-2 b	ASTM-D2504	CCV	R42684	8/29/2011 4:43:00 PM	Robert Lynch		
1108688-011b	ASTM-D2504	SAMP	R42684	8/29/2011 5:03:00 PM	Robert Lynch		
1108688-012b	ASTM-D2504	SAMP	R42684	8/29/2011 5:23:00 PM	Robert Lynch		
1108688-013b	ASTM-D2504	SAMP	R42684	8/29/2011 5:45:00 PM	Robert Lynch		
ccv std 1-2 c	ASTM-D2504	CCV	R42684	8/29/2011 6:47:00 PM	Robert Lynch		
crql std 2% c	ASTM-D2504	CRQL	R42684	8/29/2011 7:17:00 PM	Robert Lynch		

RTI Laboratories

ANALYTICAL RUN Summary

20-Oct-11

RunNo 42684

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
827961	mblk	ASTM-D2504	MBLK	.TA\082911\0829	8/29/2011 10:51:	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Carbon Monoxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Methane	A	%	0	0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Nitrogen	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	0	0		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
827962	ccv std 1-2 a	ASTM-D2504	CCV	.TA\082911\0829	8/29/2011 11:11:	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.82	2.82		2.5	0	0	0.025	0.1	0	113%	85	115	0%	
Carbon Monoxide	A	%	2.568	2.568		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.916	1.916		2	0	0	0.025	0.5	0	96%	85	115	0%	
Nitrogen	A	%	2.622	2.622		2.5	0	0	0.025	0.1	0	105%	85	115	0%	
Oxygen	A	%	2.624	2.624		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
827963	lcs	ASTM-D2504	LCS	.TA\082911\0829	8/29/2011 11:35:	1	R42684		0	827962	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.82	2.82		2.5	0	2.82	0.025	0.1	0	113%	70	130	0%	
Carbon Monoxide	A	%	2.587	2.587		2.5	0	2.568	0.025	0.1	0	103%	70	130	1%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Methane	A	%	1.951	1.951		2	0	1.916	0.025	0.5	0	98%	70	130	2%	
Nitrogen	A	%	2.554	2.554		2.5	0	2.622	0.025	0.1	0	102%	70	130	3%	
Oxygen	A	%	2.621	2.621		2.5	0	2.624	0.025	0.1	0	105%	70	130	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
827974	1108688-010b (Container-01 of 01)	ASTM-D2504	SAMP	.TA\082911\0829	8/29/2011 4:03:0	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nitrogen	A	%	78.17	78.17		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	20.484	20.484		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
827975	1108688-010bdup	ASTM-D2504	DUP	.TA\082911\0829	8/29/2011 4:25:0	1	R42684		0	827974	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0.237	0.237		0	0	0.236	0.025	0.1	0	0%	0	0	0%	
Carbon Monoxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Methane	A	%	0	0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Nitrogen	A	%	78.561	78.561		0	0	78.17	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	20.51	20.51		0	0	20.484	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
827976	ccv std 1-2 b	ASTM-D2504	CCV	.TA\082911\0829	8/29/2011 4:43:0	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.832	2.832		2.5	0	0	0.025	0.1	0	113%	85	115	0%	
Carbon Monoxide	A	%	2.581	2.581		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.948	1.948		2	0	0	0.025	0.5	0	97%	85	115	0%	
Nitrogen	A	%	2.681	2.681		2.5	0	0	0.025	0.1	0	107%	85	115	0%	
Oxygen	A	%	2.653	2.653		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
827996	1108688-013b (Container-01 of 01)	ASTM-D2504	SAMP	.TA\082911\0829	8/29/2011 5:45:0	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nitrogen	A	%	78.326	78.326		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	21.005	21.005		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
827980	ccv std 1-2 c	ASTM-D2504	CCV	.TA\082911\0829	8/29/2011 6:47:0	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.808	2.808		2.5	0	0	0.025	0.1	0	112%	85	115	0%	
Carbon Monoxide	A	%	2.592	2.592		2.5	0	0	0.025	0.1	0	104%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.943	1.943		2	0	0	0.025	0.5	0	97%	85	115	0%	
Nitrogen	A	%	2.692	2.692		2.5	0	0	0.025	0.1	0	108%	85	115	0%	
Oxygen	A	%	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
827981	crql std 2% c	ASTM-D2504	CRQL	.TA\082911\0829	8/29/2011 7:17:0	1	R42684		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0.351	0.351		0.3	0	0	0.025	0.1	0	117%	80	120	0%	
Carbon Monoxide	A	%	0.151	0.151		0.14	0	0	0.025	0.1	0	108%	80	120	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	80	120	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	80	120	0%	
Methane	A	%	0.107	0.107		0.09	0	0	0.025	0.5	0	119%	80	120	0%	
Nitrogen	A	%	1.412	1.412		1.39	0	0	0.025	0.1	0	102%	80	120	0%	
Oxygen	A	%	0.078	0.078		0.08	0	0	0.025	0.1	0	98%	80	120	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\082911\08291102.D
Acq On : 29 Aug 2011 11:11 am
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	2.624	-5.0	0	0.04
2	Nitrogen	2.500	2.622	-4.9	0	0.03
3	Carbon Monoxide	2.500	2.568	-2.7	0	0.00
4	Methane	2.000	1.916	4.2	0	-0.02
5	Carbon dioxide	2.500	2.820	-12.8	0	-0.04

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\082911\08291102.D
Acq On : 29 Aug 2011 11:11 am
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:10:05 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291102.D Vial: 1
Acq On : 29 Aug 2011 11:11 am Operator:
Sample : ccv std 1-2 a Inst : GC/TCD
Misc : CCV ASTM-D2504 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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	376210	2.624 %
2)	Nitrogen	2.33	451747	2.622 %
3)	Carbon Monoxide	3.02	404466	2.568 %
4)	Methane	6.23	245960	1.916 %
5)	Carbon dioxide	11.13	513110	2.820 %

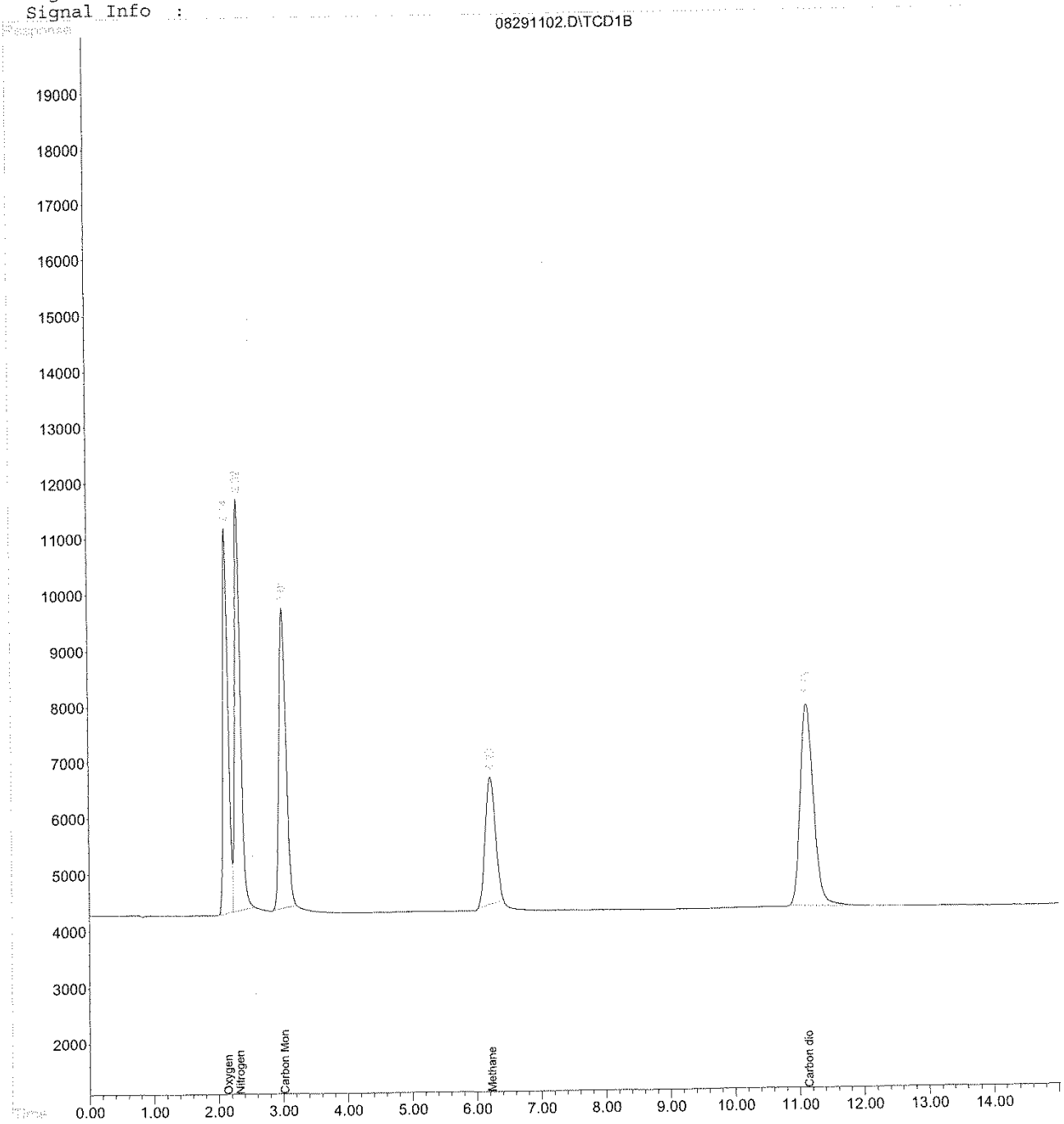
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291102.D
Acq On : 29 Aug 2011 11:11 am
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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\082911\08291116.D
Acq On : 29 Aug 2011 4:43 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	2.653	-6.1	0	0.03
2	Nitrogen	2.500	2.681	-7.2	0	0.02
3	Carbon Monoxide	2.500	2.581	-3.2	0	-0.01
4	Methane	2.000	1.948	2.6	0	-0.02
5	Carbon dioxide	2.500	2.832	-13.3	0	-0.05

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\082911\08291116.D
Acq On : 29 Aug 2011 4:43 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:11:06 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291116.D
Acq On : 29 Aug 2011 4:43 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : events.e
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) Oxygen	2.13	380454	2.653 %
2) Nitrogen	2.32	461921	2.681 %
3) Carbon Monoxide	3.01	406592	2.581 %
4) Methane	6.23	250508	1.948 %
5) Carbon dioxide	11.13	515329	2.832 %

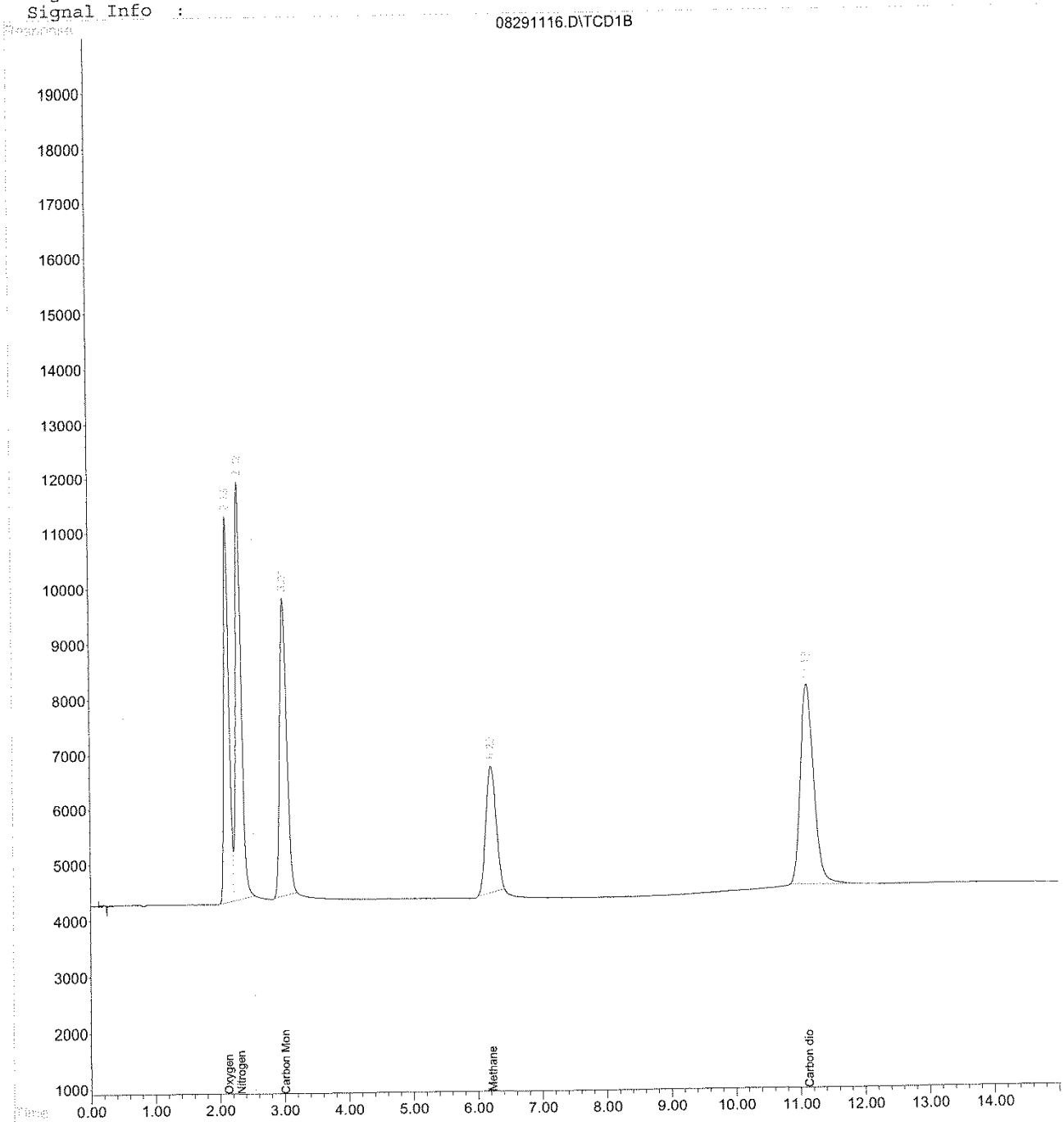
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291116.D
Acq On : 29 Aug 2011 4:43 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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\082911\08291120.D
Acq On : 29 Aug 2011 6:47 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	0.04
2	Nitrogen	2.500	2.692	-7.7	0	0.02
3	Carbon Monoxide	2.500	2.592	-3.7	0	-0.01
4	Methane	2.000	1.943	2.8	0	-0.02
5	Carbon dioxide	2.500	2.808	-12.3	0	-0.06

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\082911\08291120.D
Acq On : 29 Aug 2011 6:47 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:11:42 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291120.D
Acq On : 29 Aug 2011 6:47 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : events.e
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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	382178	2.665 %
2)	Nitrogen	2.32	463719	2.692 %
3)	Carbon Monoxide	3.01	408294	2.592 %
4)	Methane	6.22	249704	1.943 %
5)	Carbon dioxide	11.12	510829	2.808 %

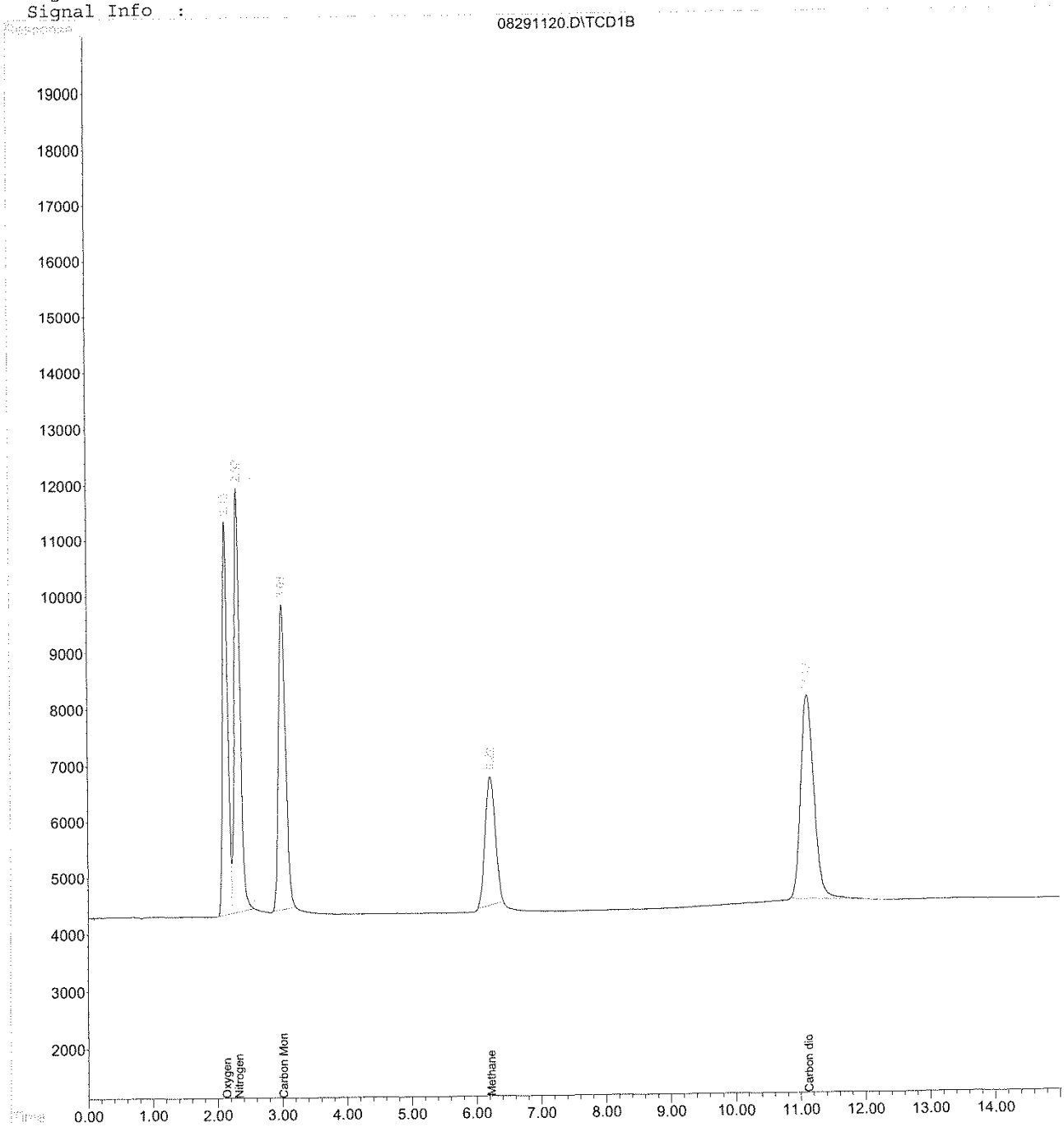
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\082911\08291120.D
Acq On : 29 Aug 2011 6:47 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:08 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



RTI Laboratories

Run ID: GC-TCD 1_110901A **Run No.:** 42685

Analytical Run Date: 9/1/2011 **InstrumentID:** GC-TCD 1

Analyst: Mike Budziak **Column:** GC-TCD 1

Calibration ID: **Column ID:** 100/120mesh x 1mm ID

Column Length: 2m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
mblk	ASTM-D2504	MBLK	R42685	9/1/2011 11:53:00 AM	Robert Lynch		
ccv std 1-2 a	ASTM-D2504	CCV	R42685	9/1/2011 12:25:00 PM	Robert Lynch		
lcs	ASTM-D2504	LCS	R42685	9/1/2011 12:50:00 PM	Robert Lynch		
crql std 2% a	ASTM-D2504	CRQL	R42685	9/1/2011 1:28:00 PM	Robert Lynch		
1108688-020b	ASTM-D2504	SAMP	R42685	9/1/2011 1:52:00 PM	Robert Lynch		
1108688-021b	ASTM-D2504	SAMP	R42685	9/1/2011 2:16:00 PM	Robert Lynch		
1108688-014b	ASTM-D2504	SAMP	R42685	9/1/2011 2:40:00 PM	Robert Lynch		
1108688-015b	ASTM-D2504	SAMP	R42685	9/1/2011 4:19:00 PM	Robert Lynch		
1108688-016b	ASTM-D2504	SAMP	R42685	9/1/2011 4:44:00 PM	Robert Lynch		
1108688-017b	ASTM-D2504	SAMP	R42685	9/1/2011 5:13:00 PM	Robert Lynch		
1108688-022b	ASTM-D2504	SAMP	R42685	9/1/2011 5:36:00 PM	Robert Lynch		
1108688-023b	ASTM-D2504	SAMP	R42685	9/1/2011 5:56:00 PM	Robert Lynch		
1108899-037b	ASTM-D2504	SAMP	R42685	9/1/2011 6:17:00 PM	Robert Lynch		
1108688-023bdup	ASTM-D2504	DUP	R42685	9/1/2011 6:37:00 PM	Robert Lynch		
ccv std 1-2 c	ASTM-D2504	CCV	R42685	9/1/2011 6:58:00 PM	Robert Lynch		
crql std 2% c	ASTM-D2504	CRQL	R42685	9/1/2011 7:25:00 PM	Robert Lynch		

RTI Laboratories

ANALYTICAL RUN Summary

19-Oct-11

RunNo 42685

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
828009	mblk	ASTM-D2504	MBLK	\TA\090111\0901	9/1/2011 11:53:0	1	R42685		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Carbon Monoxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Methane	A	%	0	0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Nitrogen	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	0	0		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
828010	ccv std 1-2 a	ASTM-D2504	CCV	\TA\090111\0901	9/1/2011 12:25:0	1	R42685		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.784	2.784		2.5	0	0	0.025	0.1	0	111%	85	115	0%	
Carbon Monoxide	A	%	2.589	2.589		2.5	0	0	0.025	0.1	0	104%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.963	1.963		2	0	0	0.025	0.5	0	98%	85	115	0%	
Nitrogen	A	%	2.583	2.583		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Oxygen	A	%	2.63	2.63		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
828011	lcs	ASTM-D2504	LCS	\TA\090111\0901	9/1/2011 12:50:0	1	R42685		0	828010	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.711	2.711		2.5	0	2.784	0.025	0.1	0	108%	70	130	3%	
Carbon Monoxide	A	%	2.594	2.594		2.5	0	2.589	0.025	0.1	0	104%	70	130	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Methane	A	%	1.966	1.966		2	0	1.963	0.025	0.5	0	98%	70	130	0%	
Nitrogen	A	%	2.653	2.653		2.5	0	2.583	0.025	0.1	0	106%	70	130	3%	
Oxygen	A	%	2.653	2.653		2.5	0	2.63	0.025	0.1	0	106%	70	130	1%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
828022	1108688-023bdup	ASTM-D2504	DUP	.TA\090111\0901	9/1/2011 6:37:00	1	R42685		0	828020	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Oxygen	A	%	20.757	20.757		0	0	20.739	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
828023	ccv std 1-2 c	ASTM-D2504	CCV	.TA\090111\0901	9/1/2011 6:58:00	1	R42685		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.713	2.713		2.5	0	0	0.025	0.1	0	109%	85	115	0%	
Carbon Monoxide	A	%	2.569	2.569		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.949	1.949		2	0	0	0.025	0.5	0	97%	85	115	0%	
Nitrogen	A	%	2.538	2.538		2.5	0	0	0.025	0.1	0	102%	85	115	0%	
Oxygen	A	%	2.6	2.6		2.5	0	0	0.025	0.1	0	104%	85	115	0%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
828024	crql std 2% c	ASTM-D2504	CRQL	.TA\090111\0901	9/1/2011 7:25:00	1	R42685		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0.337	0.337		0.3	0	0	0.025	0.1	0	112%	80	120	0%	
Carbon Monoxide	A	%	0.145	0.145		0.14	0	0	0.025	0.1	0	104%	80	120	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	80	120	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	80	120	0%	
Methane	A	%	0.104	0.104		0.09	0	0	0.025	0.5	0	116%	80	120	0%	
Nitrogen	A	%	1.36	1.36		1.39	0	0	0.025	0.1	0	98%	80	120	0%	
Oxygen	A	%	0.071	0.071		0.08	0	0	0.025	0.1	0	89%	80	120	0%	

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\090111\09011102.D
Acq On : 1 Sep 2011 12:25 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	2.630	-5.2	0	0.03
2	Nitrogen	2.500	2.583	-3.3	0	0.02
3	Carbon Monoxide	2.500	2.589	-3.6	0	-0.02
4	Methane	2.000	1.963	1.8	0	-0.03
5	Carbon dioxide	2.500	2.784	-11.4	0	-0.06

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\090111\09011102.D
Acq On : 1 Sep 2011 12:25 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:13:34 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090111\09011102.D
Acq On : 1 Sep 2011 12:25 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : events.e
Quant Time: Sep 7 12:06 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	Oxygen	2.13	377070	2.630 %
2)	Nitrogen	2.32	445010	2.583 %
3)	Carbon Monoxide	3.01	407713	2.589 %
4)	Methane	6.22	252504	1.963 %
5)	Carbon dioxide	11.12	506213	2.784 %

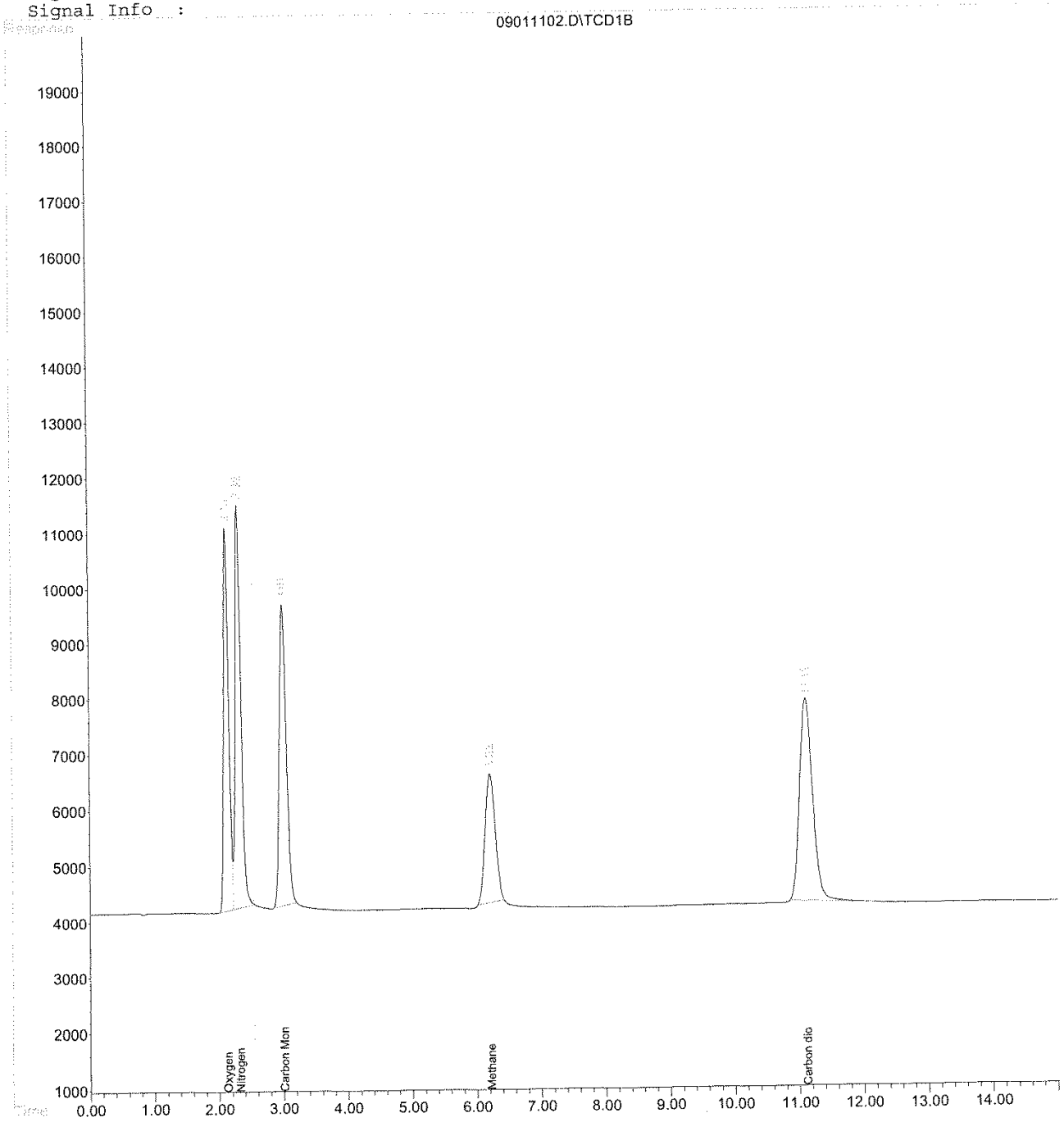
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090111\09011102.D
Acq On : 1 Sep 2011 12:25 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:06 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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\090111\09011115.D
Acq On : 1 Sep 2011 6:58 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	2.600	-4.0	0	0.03
2	Nitrogen	2.500	2.538	-1.5	0	0.02
3	Carbon Monoxide	2.500	2.569	-2.8	0	-0.02
4	Methane	2.000	1.949	2.5	0	-0.03
5	Carbon dioxide	2.500	2.713	-8.5	0	-0.06

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\090111\09011115.D
Acq On : 1 Sep 2011 6:58 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:14:27 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090111\09011115.D
Acq On : 1 Sep 2011 6:58 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : events.e
Quant Time: Sep 7 12:07 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	Oxygen	2.13	372852	2.600 %
2)	Nitrogen	2.32	437276	2.538 %
3)	Carbon Monoxide	3.01	404581	2.569 %
4)	Methane	6.22	250537	1.949 %
5)	Carbon dioxide	11.12	492882	2.713 %

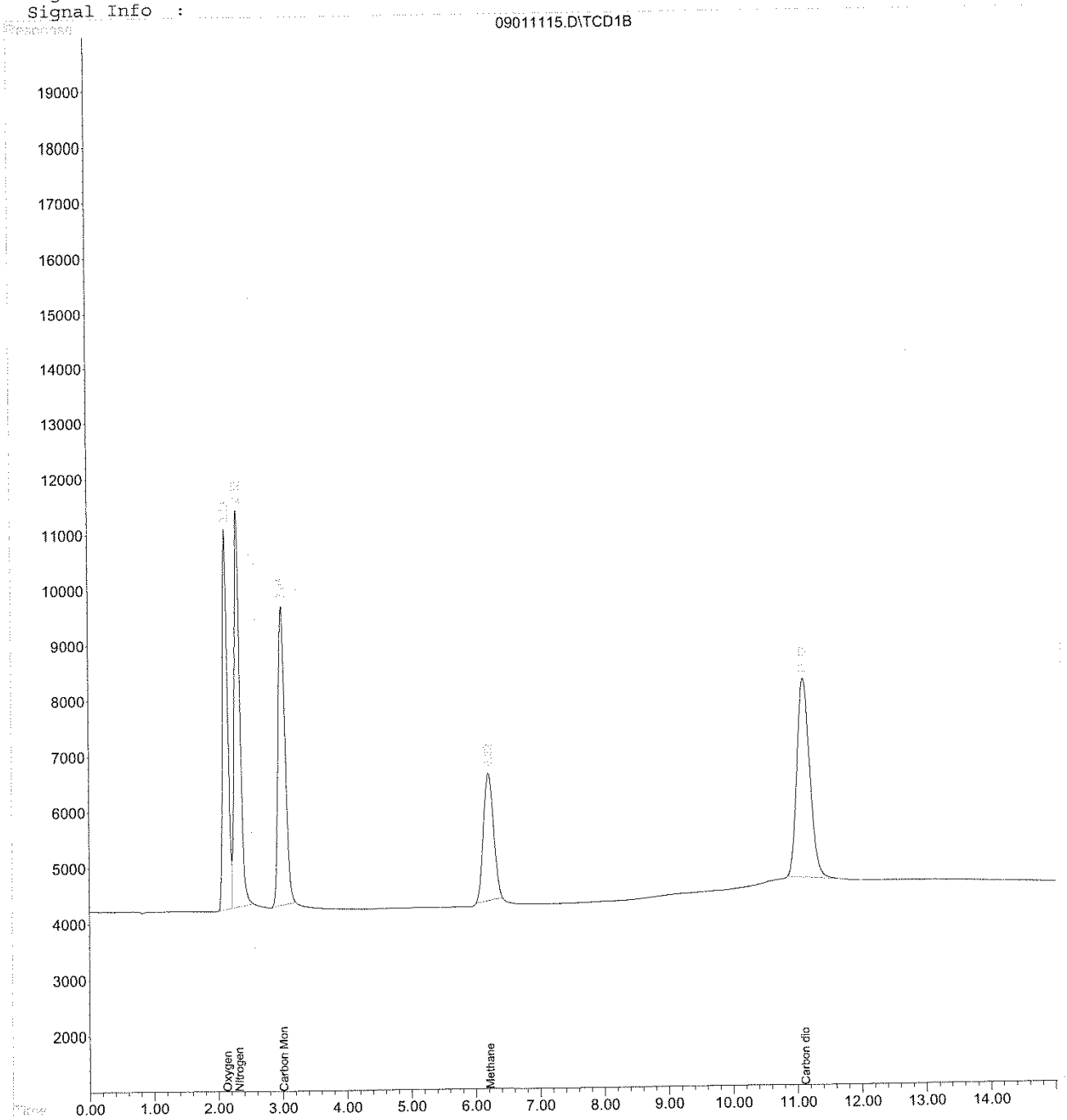
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090111\09011115.D
Acq On : 1 Sep 2011 6:58 pm
Sample : ccv std 1-2 c
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:07 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



RTI Laboratories

Run ID: GC-TCD 1_110902A **Run No.:** 42686

Analytical Run Date: 9/2/2011 **InstrumentID:** GC-TCD 1

Analyst: Mike Budziak **Column:** GC-TCD 1

Calibration ID: **Column ID:** 100/120mesh x 1mm ID

Column Length: 2m

SampID	TestCode	SampType	Batch ID	Analysis Date/Time	QA By	Q	Comments
mblk	ASTM-D2504	MBLK	R42686	9/2/2011 11:18:00 AM	Robert Lynch		
ccv std 1-2 a	ASTM-D2504	CCV	R42686	9/2/2011 12:04:00 PM	Robert Lynch		
lcs	ASTM-D2504	LCS	R42686	9/2/2011 12:23:00 PM	Robert Lynch		
crql std 2% a	ASTM-D2504	CRQL	R42686	9/2/2011 12:47:00 PM	Robert Lynch		
1108688-018b	ASTM-D2504	SAMP	R42686	9/2/2011 1:42:00 PM	Robert Lynch		
1108688-019b	ASTM-D2504	SAMP	R42686	9/2/2011 2:33:00 PM	Robert Lynch		
1108899-016b	ASTM-D2504	SAMP	R42686	9/2/2011 2:55:00 PM	Robert Lynch		
1108899-017b	ASTM-D2504	SAMP	R42686	9/2/2011 3:53:00 PM	Robert Lynch		
1108899-018b	ASTM-D2504	SAMP	R42686	9/2/2011 4:24:00 PM	Robert Lynch		
1108899-018bdup	ASTM-D2504	DUP	R42686	9/2/2011 4:47:00 PM	Robert Lynch		
ccv std 1-2 b	ASTM-D2504	CCV	R42686	9/2/2011 5:10:00 PM	Robert Lynch		
crql std 2% b	ASTM-D2504	CRQL	R42686	9/2/2011 5:48:00 PM	Robert Lynch		

RTI Laboratories

ANALYTICAL RUN Summary

19-Oct-11

RunNo 42686

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
827997	mblk	ASTM-D2504	MBLK	,TA\090211\0902	9/2/2011 11:18:0	1	R42686		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Carbon Monoxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Methane	A	%	0	0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Nitrogen	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	0	0		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
827998	ccv std 1-2 a	ASTM-D2504	CCV	,TA\090211\0902	9/2/2011 12:04:0	1	R42686		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.762	2.762		2.5	0	0	0.025	0.1	0	110%	85	115	0%	
Carbon Monoxide	A	%	2.582	2.582		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.963	1.963		2	0	0	0.025	0.5	0	98%	85	115	0%	
Nitrogen	A	%	2.569	2.569		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Oxygen	A	%	2.621	2.621		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
827999	lcs	ASTM-D2504	LCS	,TA\090211\0902	9/2/2011 12:23:0	1	R42686		0	827998	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.763	2.763		2.5	0	2.762	0.025	0.1	0	111%	70	130	0%	
Carbon Monoxide	A	%	2.561	2.561		2.5	0	2.582	0.025	0.1	0	102%	70	130	1%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	70	130	0%	
Methane	A	%	1.928	1.928		2	0	1.963	0.025	0.5	0	96%	70	130	2%	
Nitrogen	A	%	2.555	2.555		2.5	0	2.569	0.025	0.1	0	102%	70	130	1%	
Oxygen	A	%	2.601	2.601		2.5	0	2.621	0.025	0.1	0	104%	70	130	1%	

Seq No	Sample ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist
828005	1108899-018b (Container-1 of 1)	ASTM-D2504	SAMP	.TA\090211\0902	9/2/2011 4:24:00	1	R42686		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nitrogen	A	%	79.594	79.594		0	0	0	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	19.179	19.179		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
828006	1108899-018bdup	ASTM-D2504	DUP	.TA\090211\0902	9/2/2011 4:47:00	1	R42686		0	828005	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	0.21	0.21		0	0	0.21	0.025	0.1	0	0%	0	0	0%	
Carbon Monoxide	A	%	0	0		0	0	0	0.025	0.1	0	0%	0	0	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Methane	A	%	0	0		0	0	0	0.025	0.5	0	0%	0	0	0%	
Nitrogen	A	%	79.364	79.364		0	0	79.594	0.025	0.1	0	0%	0	0	0%	
Oxygen	A	%	19.116	19.116		0	0	19.179	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
828007	ccv std 1-2 b	ASTM-D2504	CCV	.TA\090211\0902	9/2/2011 5:10:00	1	R42686		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Carbon dioxide	A	%	2.762	2.762		2.5	0	0	0.025	0.1	0	110%	85	115	0%	
Carbon Monoxide	A	%	2.573	2.573		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Ethane	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Hydrogen	A	%		0		0	0	0	0.025	0.5	0	0%	85	115	0%	
Methane	A	%	1.934	1.934		2	0	0	0.025	0.5	0	97%	85	115	0%	
Nitrogen	A	%	2.569	2.569		2.5	0	0	0.025	0.1	0	103%	85	115	0%	
Oxygen	A	%	2.613	2.613		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
828008	crql std 2% b	ASTM-D2504	CRQL	.TA\090211\0902	9/2/2011 5:48:00	1	R42686		0	0	

Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\090211\09021102.D
Acq On : 2 Sep 2011 12:04 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	2.621	-4.8	0	0.03
2	Nitrogen	2.500	2.569	-2.8	0	0.02
3	Carbon Monoxide	2.500	2.582	-3.3	0	-0.02
4	Methane	2.000	1.963	1.8	0	-0.03
5	Carbon dioxide	2.500	2.762	-10.5	0	-0.06

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\090211\09021102.D
Acq On : 2 Sep 2011 12:04 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:31:23 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090211\09021102.D Vial: 1
Acq On : 2 Sep 2011 12:04 pm Operator:
Sample : ccv std 1-2 a Inst : GC/TCD
Misc : CCV ASTM-D2504 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 7 12:05 2011 Quant Results File: 030511.RES

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	Oxygen	2.13	375843	2.621 %
2)	Nitrogen	2.32	442588	2.569 %
3)	Carbon Monoxide	3.01	406691	2.582 %
4)	Methane	6.22	252475	1.963 %
5)	Carbon dioxide	11.12	502124	2.762 %

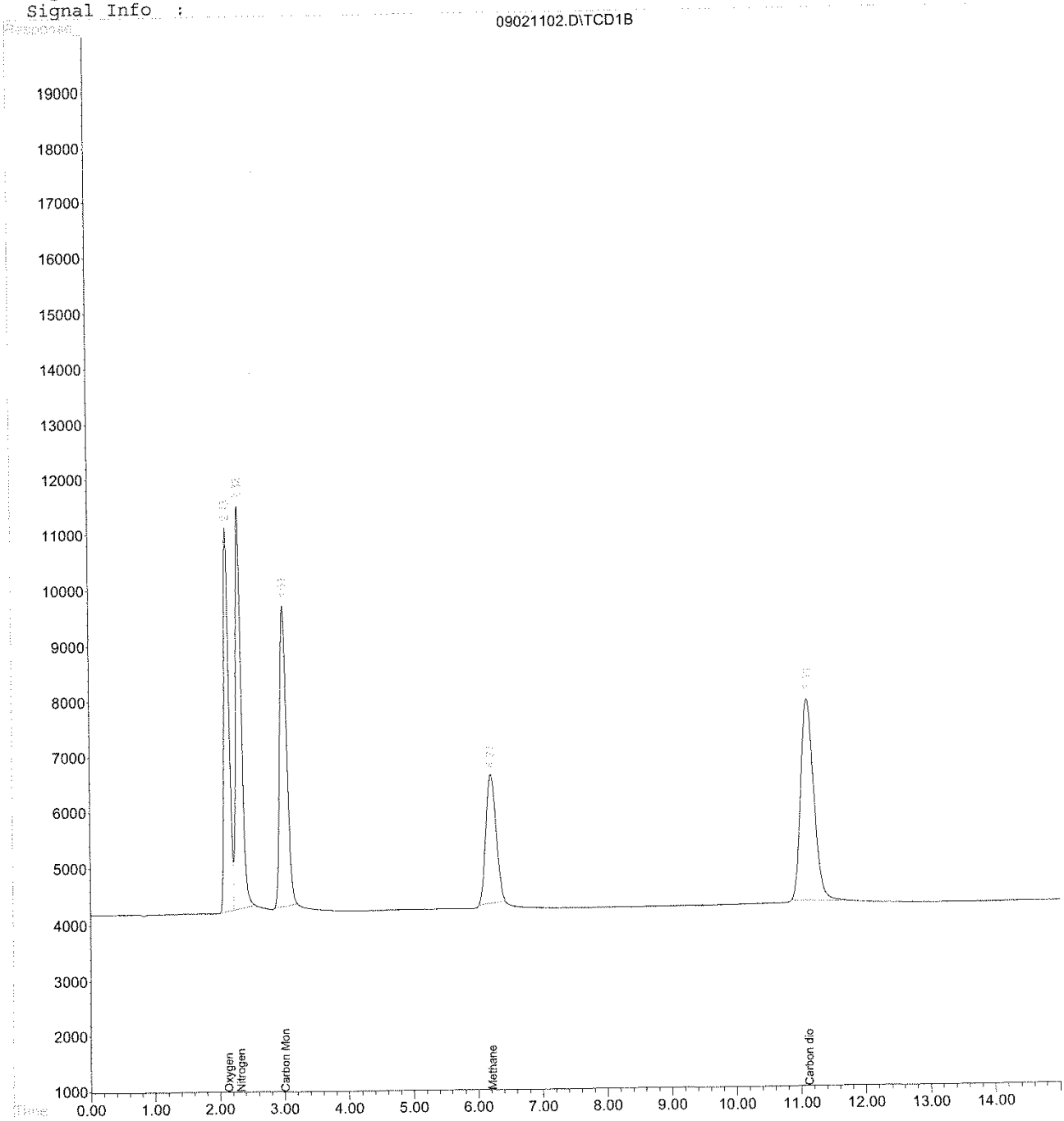
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090211\09021102.D
Acq On : 2 Sep 2011 12:04 pm
Sample : ccv std 1-2 a
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:05 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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\090211\09021111.D
Acq On : 2 Sep 2011 5:10 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	Oxygen	2.500	2.613	-4.5	0	0.03
2	Nitrogen	2.500	2.569	-2.8	0	0.02
3	Carbon Monoxide	2.500	2.573	-2.9	0	-0.02
4	Methane	2.000	1.934	3.3	0	-0.03
5	Carbon dioxide	2.500	2.762	-10.5	0	-0.07

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\090211\09021111.D
Acq On : 2 Sep 2011 5:10 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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
03051113.D 030511.M Thu Oct 20 13:32:22 2011 TESTCAL

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090211\09021111.D
Acq On : 2 Sep 2011 5:10 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : events.e
Quant Time: Sep 7 12:06 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1)	Oxygen	2.13	374733	2.613 %
2)	Nitrogen	2.32	442574	2.569 %
3)	Carbon Monoxide	3.01	405186	2.573 %
4)	Methane	6.21	248467	1.934 %
5)	Carbon dioxide	11.11	502055	2.762 %

(f)=RT Delta > 1/2 Window (m)=manual int.
09021111.D 030511.M Thu Oct 20 13:32:20 2011 TESTCAL

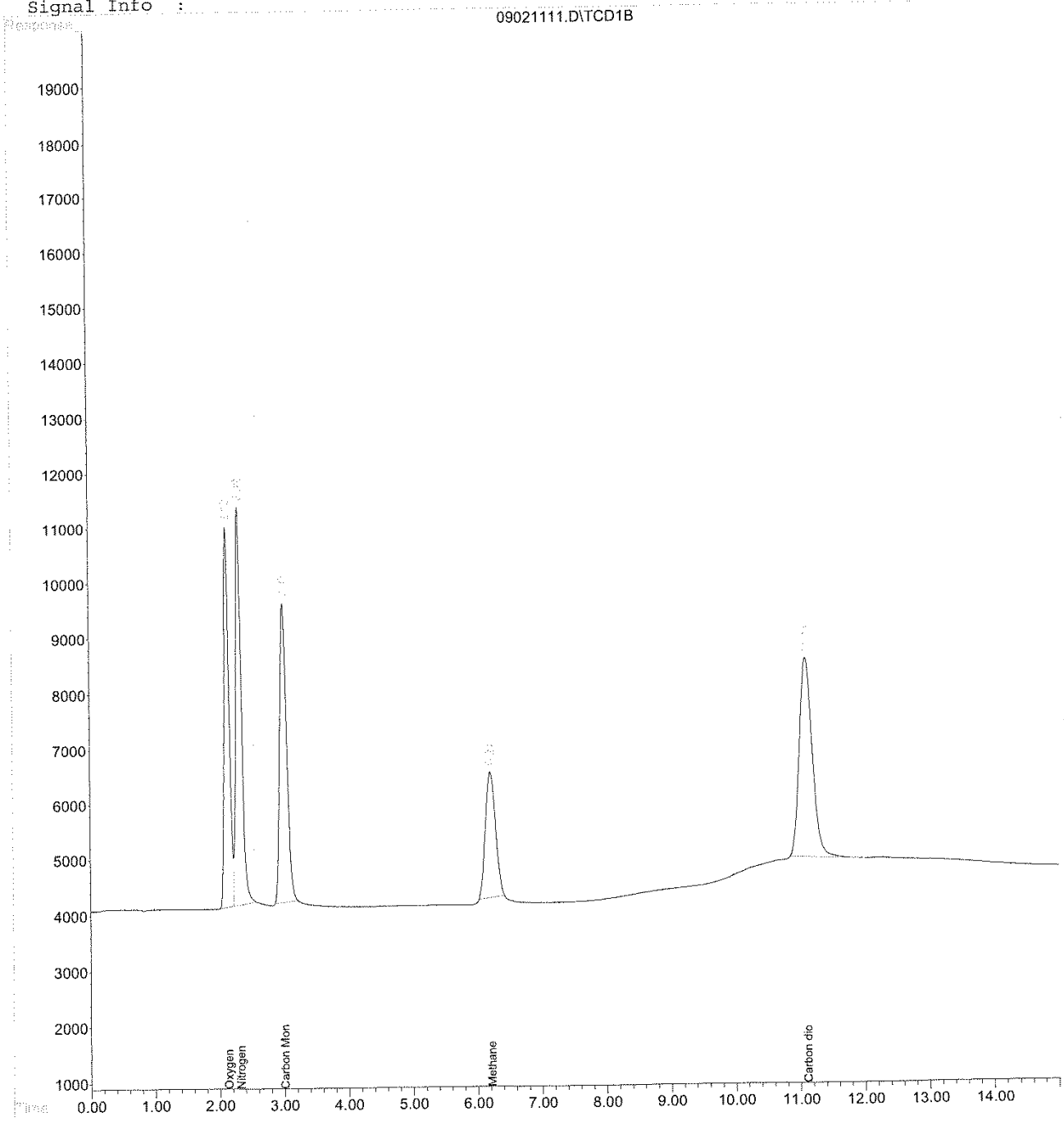
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\090211\09021111.D
Acq On : 2 Sep 2011 5:10 pm
Sample : ccv std 1-2 b
Misc : CCV ASTM-D2504
IntFile : EVENTS.E
Quant Time: Sep 7 12:06 2011 Quant Results File: 030511.RES

Vial: 1
Operator:
Inst : GC/TCD
Multiplr: 1.00

Quant Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 17 19:07:55 2011
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\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011

Calibration Files
1 =03051102.D 2 =03051103.D 3 =03051104.D
4 =03051105.D 5 =03051106.D 6 =03051107.D

	Compound	1	2	3	4	5	6	Avg	%RSD
1)	Oxygen	1.450	1.444	1.427	1.365	1.324	2.791	1.624 E5	32.03
2)	Nitrogen	1.748	1.695	1.678	1.586	1.522	2.053	1.723 E5	9.90
3)	Carbon Monoxide	1.690	1.628	1.621	1.517	1.472	1.522	1.575 E5	5.32
4)	Methane	1.422	1.364	1.344	1.267	1.212	1.210	1.303 E5	6.66
5)	Carbon dioxide	2.121	2.009	2.012	1.874	1.813	1.842	1.945 E5	6.21

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

030511.M Thu Oct 20 10:42:38 2011 TESTCAL

Compound List Report GC/TCD

Method : C:\HPCHEM\2\METHODS\030511.M (Chemstation Integrator)
Title : Method d2504 air analysis
Last Update : Thu May 12 16:13:25 2011
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	Q	A	R
2		Nitrogen	2.30	1.000	A	A	R
3		Carbon Monoxide	3.03	1.000	A	A	R
4		Methane	6.25	1.000	Q	A	R
5		Carbon dioxide	11.18	1.000	Q	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

030511.M Thu Oct 20 10:42:24 2011 TESTCAL