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Mr. David Szymanski
NYSDEC, Region 9
270 Michigan Avenue
Buffalo, NY 14203

Subject:
Supplemental Off-Site Soil Vapor Investigation for 3707 Broadway Street, Cheektowaga, New York

Date:
July 8, 2013

Contact:
Marc Sanford

Phone:
518.250.7385

Email:
marc.sanford@arcadis-us.com

Our ref:
AY000220.0017

Dear Mr. Szymanski:

On behalf of Ingersoll Rand Company, ARCADIS has prepared this summary report for additional Soil Vapor Investigation (SVI) activities conducted at an off-site property near the ARO Corporation Site (the Site) in Cheektowaga, New York (Figure 1). An addendum to the soil vapor investigation (SVI) work plan was submitted to the New York State Department of Environmental Conservation (NYSDEC) on January 21, 2013 to address NYSDEC's letter dated January 24, 2013 requesting additional SVI activities at 3707 Broadway Street, Cheektowaga, New York. The *Revised Addendum to the SVI Work Plan – 3707 Broadway Street, Cheektowaga, New York* (ARCADIS February 4, 2013) was approved by the NYSDEC in a letter dated February 22, 2013.

The objective of this phase of the SVI was to determine whether site-related volatile organic compounds (VOCs) consisting of trichloroethene (TCE), cis-1,2 dichloroethene (DCE) and vinyl chloride are present in the sub-slab gas in the unsaturated (vadose) zone and, if present, evaluate the potential for sub-slab vapor to migrate into indoor air at concentrations above background, as a result of the vapor intrusion pathway. Following access approval from the 3707 Broadway Street property owner, ARCADIS conducted the supplemental SVI on March 21, 2013.

Background

The site description, with respect to its location, setting, history and current use, and previous investigations, is detailed in the *Work Plan for Supplemental Off-Site Soil Vapor Investigation Study – 3707 Broadway Street* submitted to the NYSDEC June 2011.

An updated chemical inventory taken at the time of the sampling at the 3707 Broadway Street residence is provided as an attachment to this report. No other changes to the residence relative to previous sampling events were noted during the March 21, 2013 sampling event.

Scope of Work

The scope of work for the supplemental phase of the off-site SVI focused on evaluating the presence, concentration, and distribution of site-related constituents in the sub-slab gas (if present) at the off–site property of the 3707 residence, which is located hydraulically upgradient of the ARO site. One indoor air sample (IA-01-032113) and one sub-slab vapor sample (SS-01-032113) were collected from the basement of the residence. Two ambient outdoor air samples (AA-01-032113 and AA-02-032113) were collected concurrently with the indoor air and sub-slab samples to evaluate potential background sources from outside the residence. The locations of air/vapor samples are shown on Figure 2.

Weather conditions at the time of sampling were cloudy with snow flurries in the afternoon and temperatures from 25 to 30 degrees Fahrenheit. Wind was from the west/southwest ranging from 10 to 30 miles per hour. Barometric pressure was 29.8 inches of mercury and falling during the day. The interior temperature of the residence was approximately 65-70 degrees Fahrenheit.

Sample Collection and Analysis

The indoor, sub-slab and ambient air samples were collected in accordance with the methodologies outlined in the work plan, and the *Guidance for Evaluating Vapor Intrusion in New York State*, New York State Department of Health (NYSDOH 2006). A sample collection log has been provided in Attachment A. Appropriate quality assurance/quality control (QA/QC) protocols were followed during sample collection and laboratory analysis, including:

- Certified clean sample devices and containers were used.
- Sample holding times (30 days) and temperatures documented.
- Chain-of-custody practices followed.

A single duplicate sub-slab gas sample (DUP-1) was collected. The duplicate sample was collected concurrently with the parent sample using a "T" fitting to effectively split the sample into a separate sample canister.

All samples were analyzed for chlorinated compounds by Eurofins Air Toxics, Inc. using United States Environmental Protection Agency (USEPA) method T0-15 for analysis (*Determination of VOCs in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography Mass Spectrometry)*. The laboratory analytical report is included in Attachment B.

Chemical Inventory

A detailed chemical inventory of the basement of the 3707 Broadway residence was conducted during the sampling event and is summarized in Attachment C. The chemical inventory consisted of identifying the existing chemicals stored in the area which may impact air quality and sampling results. This mainly included visually inspecting and documenting the presence of various household products (e.g., paints, cleaners, detergents, etc.) located in the basement of the 3707 Broadway residence. It should be noted that storage of opened paint and varnish containers was observed in the vicinity of the basement sump.

Data Validation

The laboratory analytical data generated during the soil gas investigation were accompanied by a NYSDEC Analytical Services Protocol (ASP) deliverable package. The data package was validated by an ARCADIS data validator area summarized in the memorandum provided in Attachment D.

Results

The site-related VOCs TCE, cis-1,2 DCE and vinyl chloride were not detected in the indoor air sample or sub-slab soil gas sample. This is consistent with the prior indoor air sampling event conducted at the residence in 2012 which confirmed the vapor intrusion pathway was incomplete for any potential VOCs present in sub-slab soil gas. The only detected parameter in the sub-slab soil gas sample was tetrachloroethene (PCE) at a concentration of 1.4 micrograms per meter-cubed ($\mu g/m^3$). This result is below the sub-slab concentration of <100 $\mu g/m^3$ in the NYSDOH guidance. The PCE results are also below the USEPA Residential Air

Regional Screening Level (RSL) of 9.4 µg/m^3 and below the USEPA sub-slab soil gas vapor intrusion screening level of 94 µg/m^3.

Summary

PCE has not been detected in groundwater samples collected near the residence. PCE is commonly found in the environment due to releases from dry cleaning facilities and is found in consumer products such as paint, glues, water repellents, brake and wood cleaners and suede protectors. The NYSDOH considers its air guideline to be protective of human health. Since the sub-slab soil gas concentration is almost an order of magnitude below the NYSDOH guideline and the USEPA sub-slab soil gas screening level, further investigation of this exposure pathway is not warranted.

Based on these data, the lack of a groundwater source to sub-slab soil gas from the site, the absence of VOCs in the indoor air, and the very low sub-slab soil gas concentration of PCE, no further investigation of soil gas or indoor air is warranted.

Please contact us if you have any questions or require additional information.

Sincerely,

ARCADIS of New York, Inc.

Marc W. Sanford
Principal Scientist

Chris Davern
Staff Engineer

Copies:
Dave Sordi – Ingersoll Rand
Matt Forcucci – NYSDOH
James Charles - NYSDEC
File

ARCADIS

Figures

CITY:(KNOXVILLE) DIV/GROUP:(ENVCAD) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.SANFORD) PM:(M.SANFORD) TM(:C.DAVERN)
G:\ENVCAD\Knoxville\ACT\AY000220\0017\00003\2013 OFF-SITE VI\F1 AY220_OFF_reg.dwg LAYOUT: 1 SAVED: 6/24/2013 1:29 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 6/24/2013 4:28 PM BY: ALTOM, BRENDA

INGERSOLL RAND, ARO CORPORATION SITE
CHEEKTOWAGA, NEW YORK
OFF-SITE VAPOR INTRUSION REPORT

Site Location Map

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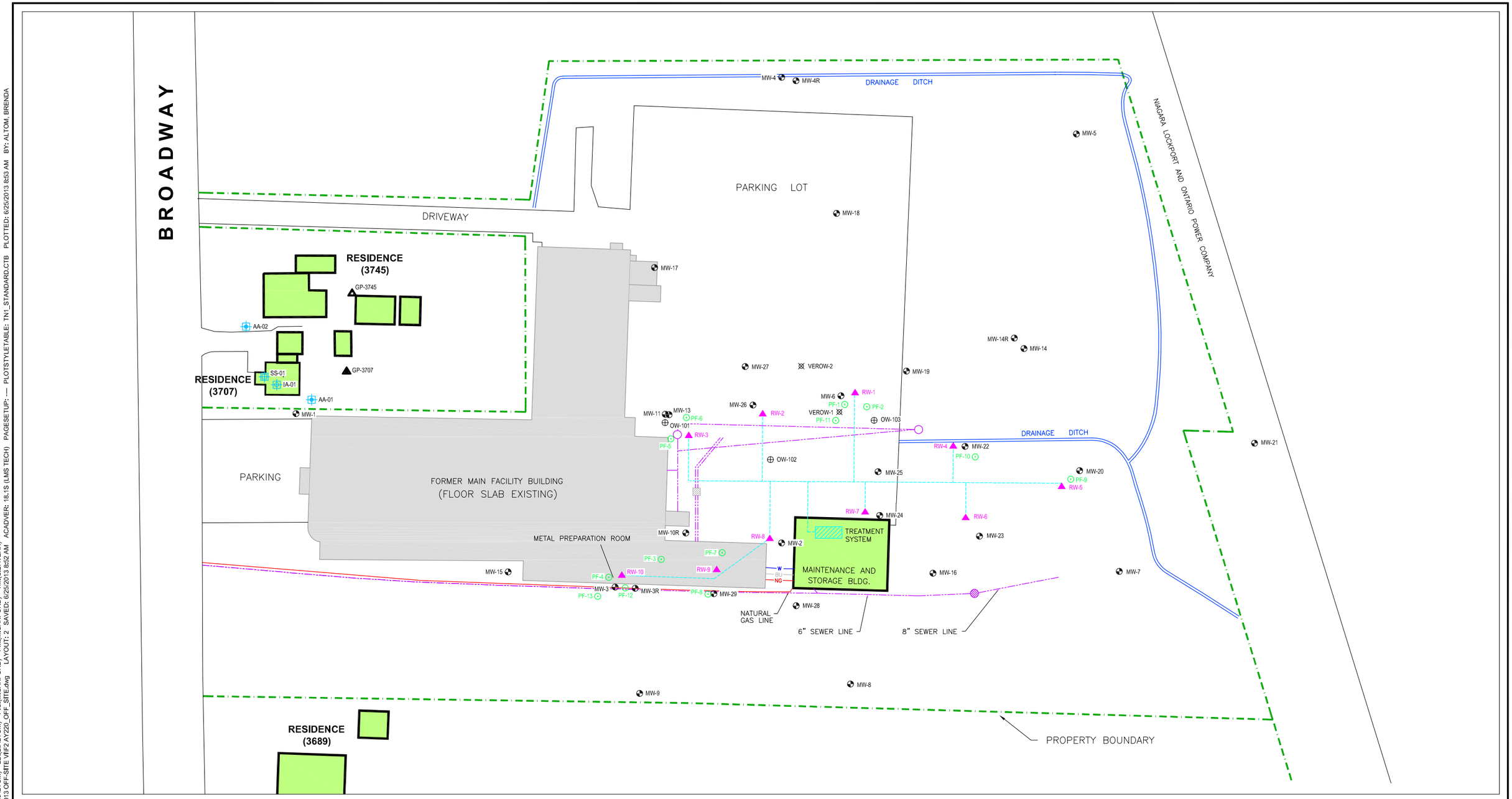
FIGURE
1



SOURCE: RAY L. SONNENBERGER LAND SURVEYOR, 1997

LEGEND

MW-17	MONITORING WELL LOCATION AND DESIGNATION
OW-101	OBSERVATION WELL LOCATION AND DESIGNATION
RW-2	RECOVERY WELL LOCATION AND DESIGNATION
VEROW-2	MONITORING WELL LOCATION AND DESIGNATION
	RECOVERY SYSTEM TRENCH/PIPING
PF-2	PNEUMATIC FRACTURING WELL LOCATION AND DESIGNATION
AA	AMBIENT AIR SAMPLING LOCATION
IA	INDOOR AIR SAMPLING LOCATION
SS	SUB-SLAB AIR SAMPLING LOCATION
GP-3707	GEOPROBE GROUNDWATER SAMPLE (AUGUST 2010)

N

0 80 FT

INGERSOLL RAND, ARO CORPORATION SITE
CHEEKTOWAGA, NEW YORK
OFF-SITE VAPOR INTRUSION REPORT

Off-Site Sample Locations

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FIGURE
2

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Attachment A

Sub-slab/Soil-Gas Sample Collection Log

		Sample ID:	**SS-01-032113**
Client:	Ingersoll-Rand	**Boring Equipment:**	Electrical hammer drill
Project:	IR-ARO (Cheektowaga, NY)	**Sealant:**	Shrink-resistant clay
Location:	Off-site Property (3707 Broadway St.)	**Tubing Information:**	¼" O.D. teflon
Project #:	AY000220.0017	**Miscellaneous Equipment:**	-
Samplers:	Chris Davern, Mike Nasca	**Subcontractor:**	None
		Equipment:	-
Sampling Depth:	Bottom tubing at 6" below top floor; sub-slab borehole is from 4.25-7" below top floor	**Moisture Content of Sampling Zone):**	No moisture/water observed in sample tubing trap
Time and Date of Installation:	9:45; 3/21/13	**Approximate Purge Volume:**	3 volumes (approx. 4 cu. In.)

Instrument Readings:

Date	Time	Canister Vacuum (a) (inches of Hg)	Temperature (°F)	Air Speed (mph)	Barometric Pressure (inches of Hg)
3/21/13	12:07	30	65 (int.), 29 (ext.)	10-30	29.8
3/21/13	19:00	9.3	65 (int.), 29 (ext.)	10-30	29.7

(a) Record canister information at a minimum at the beginning and end of sampling

SUMMA® Canister Information:

Size:	**1L**
Canister ID:	1651
Flow Controller ID:	1651
Notes:	

Tracer Test Information (if applicable):

Helium in Shroud:	**70%**
Helium in Sample Tubing:	**1,200 ppm (0.12%)**
Tracer Test Passed:	**Yes**
Notes:	

General Observations/Notes:

Tiled floor. Bottom of slab is 4.25" below top of tile. Location is 18" north of basement stairwell.

Approximating One-Well Volume (for purging):

$V_1 + V_2 + V_3 = V_t$ where: $V_1 = \pi r^2 h$ = open space volume of soil-gas screen; $V_2 = \pi r^2 h$ = open space volume of sample tubing; $V_3 = \pi r^2 h \rho$ = estimated open pore space for sand pack and dry bentonite seal; V_t = total volume; r = inner radius of soil-gas screen, borehole, or sample tubing; h = height of soil-gas screen or height (length) of tubing or height of sand pack and dry bentonite seal; ρ = porosity of sand pack and dry bentonite seal (40%).

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Attachment B

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7/3/2013
Mr. Christopher Davern
ARCADIS, Inc. (Malcolm Pirnie)
855 Route 146
Suite 210
Clifton Park NY 12065

Project Name: IR-ARO
Project #: AY000220.0017.00006
Workorder #: 1303545R2

Dear Mr. Christopher Davern

The following report includes the data for the above referenced project for sample(s) received on 3/26/2013 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1303545R2

Work Order Summary

CLIENT:	Mr. Christopher Davern ARCADIS, Inc. (Malcolm Pirnie) 855 Route 146 Suite 210 Clifton Park, NY 12065	**BILL TO:**	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	518-250-7300	**P.O. #**	AY000220.0017.00006
FAX:	518-250-7301	**PROJECT #**	AY000220.0017.00006 IR-ARO
DATE RECEIVED:	03/26/2013	**CONTACT:**	Ausha Scott
DATE COMPLETED:	04/09/2013		
DATE REISSUED:	07/03/2013		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	AA-01-032113	Modified TO-15	6.1 "Hg	4.9 psi
01B	AA-01-032113	Modified TO-15	6.1 "Hg	4.9 psi
02A	AA-02-032113	Modified TO-15	3.2 "Hg	5.2 psi
02B	AA-02-032113	Modified TO-15	3.2 "Hg	5.2 psi
03A	IA-01-032113	Modified TO-15	6.9 "Hg	4.8 psi
03B	IA-01-032113	Modified TO-15	6.9 "Hg	4.8 psi
04A	SS-01-032113	Modified TO-15	8.3 "Hg	5.1 psi
04B	SS-01-032113	Modified TO-15	8.3 "Hg	5.1 psi
05A	DUP-01	Modified TO-15	8.8 "Hg	5.1 psi
05B	DUP-01	Modified TO-15	8.8 "Hg	5.1 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 07/03/13

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291,
TX NELAP - T104704434-12-4, UT NELAP CA009332012-3, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2012, Expiration date: 10/17/2013.
Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
ARCADIS, Inc. (Malcolm Pirnie)
Workorder# 1303545R2

Five 6 Liter Summa Canister (100% Certified) samples were received on March 26, 2013. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is

defined at the bottom of this Case Narrative and on each Sample Result Summary page.

THE WORK ORDER WAS REISSUED ON 6/27/13 TO AMEND THE TARGET COMPOUND LIST AND REPORTING LIMITS AS REQUIRED BY THE SPECIFIC CLIENT OR PROJECT. CHANGING THE COMPOUND LIST AND REPORTING LIMITS CAUSED SOME PREVIOUSLY REPORTED COMPOUNDS TO BECOME NOT REPORTED.

PER CLIENT REQUEST, THE WORK ORDER WAS REISSUED ON 7/3/13 TO SHORTEN THE COMPOUND LIST. CHANGING THE COMPOUND LIST CAUSED SOME PREVIOUSLY REPORTED COMPOUNDS TO BECOME NOT REPORTED.

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	0.75	0.35	1.6

Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01B

No Detections Were Found.

Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.15	0.70	0.31	1.4

Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02B

No Detections Were Found.

Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	2.8	0.36	5.8
Chloroform	0.17	0.29	0.84	1.4

Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03B

No Detections Were Found.

Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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

Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.19	0.22	1.3	1.5

Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04B

No Detections Were Found.

Client Sample ID: DUP-01

Lab ID#: 1303545R2-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.19	0.22	0.39	0.45
Tetrachloroethene	0.19	0.22	1.3	1.5

Client Sample ID: DUP-01

Lab ID#: 1303545R2-05B

No Detections Were Found.

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Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032912r1**	**Date of Collection:**	**3/21/13 11:22:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/29/13 08:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	0.75	0.35	1.6
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Carbon Tetrachloride	0.17	Not Detected UJ	1.0	Not Detected UJ
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032912r1sim**	**Date of Collection: 3/21/13 11:22:00 AM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/29/13 08:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032914r1**	**Date of Collection:**	**3/21/13 11:37:00 AM**
Dil. Factor:	**1.52**	**Date of Analysis:**	**3/29/13 10:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.15	0.70	0.31	1.4
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Carbon Tetrachloride	0.15	Not Detected UJ	0.96	Not Detected UJ
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032914r1sim**	**Date of Collection: 3/21/13 11:37:00 AM**	
Dil. Factor:	**1.52**	**Date of Analysis: 3/29/13 10:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032915r1**	**Date of Collection:**	**3/21/13 11:43:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/29/13 11:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	2.8	0.36	5.8
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Chloroform	0.17	0.29	0.84	1.4
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Carbon Tetrachloride	0.17	Not Detected UJ	1.1	Not Detected UJ
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032915r1sim**	**Date of Collection:**	**3/21/13 11:43:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/29/13 11:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032916r1**	**Date of Collection:**	**3/21/13 12:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**3/30/13 08:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.19	Not Detected	0.39	Not Detected
Vinyl Chloride	0.19	Not Detected	0.48	Not Detected
Chloroethane	0.94	Not Detected	2.5	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.74	Not Detected
3-Chloropropene	0.94	Not Detected	2.9	Not Detected
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
1,1-Dichloroethane	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.19	Not Detected UJ	1.2	Not Detected UJ
1,2-Dichloroethane	0.19	Not Detected	0.76	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.86	Not Detected
Bromodichloromethane	0.19	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
trans-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	0.22	1.3	1.5
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
Chlorobenzene	0.19	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.19	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.94	Not Detected	6.9	Not Detected
Hexachlorobutadiene	0.94	Not Detected	10	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032916r1sim**	**Date of Collection: 3/21/13 12:07:00 PM**	
Dil. Factor:	**1.87**	**Date of Analysis: 3/30/13 08:36 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: DUP-01

Lab ID#: 1303545R2-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032917r1**	**Date of Collection: 3/21/13**	
Dil. Factor:	**1.91**	**Date of Analysis: 3/30/13 09:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.19	0.22	0.39	0.45
Vinyl Chloride	0.19	Not Detected	0.49	Not Detected
Chloroethane	0.96	Not Detected	2.5	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.76	Not Detected
3-Chloropropene	0.96	Not Detected	3.0	Not Detected
Methylene Chloride	0.38	Not Detected	1.3	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
1,1-Dichloroethane	0.19	Not Detected	0.77	Not Detected
cis-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
Chloroform	0.19	Not Detected	0.93	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.19	Not Detected UJ	1.2	Not Detected UJ
1,2-Dichloroethane	0.19	Not Detected	0.77	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.88	Not Detected
Bromodichloromethane	0.19	Not Detected	1.3	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.87	Not Detected
trans-1,3-Dichloropropene	0.19	Not Detected	0.87	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	0.22	1.3	1.5
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
Chlorobenzene	0.19	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.19	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.96	Not Detected	7.1	Not Detected
Hexachlorobutadiene	0.96	Not Detected	10	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: DUP-01

Lab ID#: 1303545R2-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032917r1sim**	**Date of Collection: 3/21/13**	
Dil. Factor:	**1.91**	**Date of Analysis: 3/30/13 09:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.038	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1303545R2-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032907r1**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 03:58 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.10	Not Detected	0.21	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.10	Not Detected UJ	0.63	Not Detected UJ
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1303545R2-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032907sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 03:58 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: CCV

Lab ID#: 1303545R2-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 12:27 PM**	

Compound	%Recovery
Chloromethane	104
Vinyl Chloride	92
Chloroethane	88
1,1-Dichloroethene	79
3-Chloropropene	87
Methylene Chloride	83
trans-1,2-Dichloroethene	81
1,1-Dichloroethane	91
cis-1,2-Dichloroethene	82
Chloroform	86
1,1,1-Trichloroethane	85
Carbon Tetrachloride	69 Q
1,2-Dichloroethane	100
1,2-Dichloropropane	90
Bromodichloromethane	87
cis-1,3-Dichloropropene	87
trans-1,3-Dichloropropene	90
1,1,2-Trichloroethane	82
Tetrachloroethene	83
Dibromochloromethane	80
Chlorobenzene	80
1,1,2,2-Tetrachloroethane	82
1,3-Dichlorobenzene	74
1,4-Dichlorobenzene	73
alpha-Chlorotoluene	82
1,2-Dichlorobenzene	77
1,2,4-Trichlorobenzene	129
Hexachlorobutadiene	96

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: CCV

Lab ID#: 1303545R2-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 12:27 PM**	

Compound	**%Recovery**
Trichloroethene	72

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCS

Lab ID#: 1303545R2-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 01:20 PM**	

Compound	%Recovery
Chloromethane	108
Vinyl Chloride	97
Chloroethane	91
1,1-Dichloroethene	88
3-Chloropropene	96
Methylene Chloride	84
trans-1,2-Dichloroethene	93
1,1-Dichloroethane	93
cis-1,2-Dichloroethene	84
Chloroform	91
1,1,1-Trichloroethane	89
Carbon Tetrachloride	78
1,2-Dichloroethane	106
1,2-Dichloropropane	95
Bromodichloromethane	91
cis-1,3-Dichloropropene	87
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	82
Tetrachloroethene	79
Dibromochloromethane	80
Chlorobenzene	83
1,1,2,2-Tetrachloroethane	82
1,3-Dichlorobenzene	71
1,4-Dichlorobenzene	70
alpha-Chlorotoluene	69 Q
1,2-Dichlorobenzene	72
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	89

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	93	70-130

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Client Sample ID: LCSD

Lab ID#: 1303545R2-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 02:08 PM**	

Compound	%Recovery
Chloromethane	109
Vinyl Chloride	97
Chloroethane	91
1,1-Dichloroethene	86
3-Chloropropene	98
Methylene Chloride	84
trans-1,2-Dichloroethene	93
1,1-Dichloroethane	92
cis-1,2-Dichloroethene	83
Chloroform	90
1,1,1-Trichloroethane	89
Carbon Tetrachloride	78
1,2-Dichloroethane	105
1,2-Dichloropropane	95
Bromodichloromethane	92
cis-1,3-Dichloropropene	89
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	85
Tetrachloroethene	83
Dibromochloromethane	83
Chlorobenzene	84
1,1,2,2-Tetrachloroethane	84
1,3-Dichlorobenzene	74
1,4-Dichlorobenzene	72
alpha-Chlorotoluene	72
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCS

Lab ID#: 1303545R2-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 01:20 PM**	

Compound	**%Recovery**
Trichloroethene	76

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCSD

Lab ID#: 1303545R2-08BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/29/13 02:08 PM**	

Compound	**%Recovery**
Trichloroethene	76

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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Attachment C

ATTACHMENT C: CHEMICAL INVENTORY FORM

Location	Product Description	Size (units)	Condition*	Chemical Ingredients
Residence Basement	Behr Premium Plus ® Interior Satin Enamel Deep Base No. 7300 paint	3.43 L	Good	Nepheline Syenite (5-10%), Hydrophobed polyethylene glycol (1-5%)
Residence Basement	latex varnish (manufacturer name not legible)	3.43 L	Opened, product present on exterior of container	VOC: 97 g/L – 0.81 lb/gal, Vinyl Polymer, Quartz, Cristobalite, Amorphous Diatomaceous Earth, Ethylene Glycol
Residence Basement	Ronson ® Multi-Fill Butane	2.5 oz	Good	100% petroleum gases
Residence Basement	Arm & Hammer ® Plus Oxiclean No. ING-097	1.33 L	Good	C12-15 Alcohol Ethoxylate, Propylene Glycol, Sodium Alkyl Aryl Ether Sulfate, C12-14 Alcohol Ethoxylate
Residence Basement	Fabuloso ®All-Purpose Cleaner, lavender	650 mL	Good	Propylene Glycol Propyl Ether (1-5%), Sodium Dodecyl Benzene Sulfonate (1-5%)
Residence Basement	Resolve ® Laundry Stain Remover	887 mL	Good	Alcohols, C12-C16, ethoxylate (2.5-10%), 1,2-Propanediol (1-2.5%), Sodium Citrate (1-2.5%), Subtilisin carlsburg (0-0.1%)
Residence Basement	Air Wick ® Lavender and Chamomile Air Freshener	8 oz	Good	Propane (7-13%), Butane (10-30%), 1,1-difluoroethane (10-30%)
Residence Basement	Sun ® With Bleach, Mountain Fresh	1.5 lb	Good	Anionic and/or nonionic surfactants
Residence Basement	Tide ® Washing Machine Cleaner	7.9 oz	Good	Sodium Carbonate (10-20%), Proprietary Mixture (10-20%), Sodium Carbonate Peroxide (10-20%), Linear Alkyl Benzene Sulfonate (1-5%)
Residence Basement	Clorox ® Splash-less Clean Linen Bleach	2.4 L	Good	Sodium Hypochlorite (1-5%), Sodium Hydroxide (0.1-1%)
Residence Basement	Xtra ® Liquid Laundry Detergent (multiple fragrances)	1.33 L, 1.33L, and 2.21 L	Good	Sodium Carbonate (4-7%), Alcohol Ethoxy Sulfate (3-4%)
Residence Basement	Wegmans ® Advance Ocean Breeze Laundry Detergent	1.47 L	Good	Anionic and/or nonionic surfactants, enzymes
Residence Basement	Dynamo ® Detergent with Oxi-Plus	1.47 L	Good	Anionic and/or nonionic surfactants
Residence Basement	Listerine ® Total Care Plus Whitening Anticavity Mouthwash	437 mL	Good	Sodium Fluoride and Acidulated Phosphate topical solution
Residence Basement	Suave ® Refreshing Waterfall Mist Shampoo	444 mL	Good	Ammonium Chloride (0-3%)

Notes:

- Ingredients listed are those obtained from manufacturer's Material Safety Data Sheets (MSDS)
- Inventory conducted on 3/21/13 at 3707 Broadway St. residence in Cheektowaga, New York

ARCADIS

Attachment D

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Infrastructure · Water · Environment · Buildings

Imagine the result

IR - ARO

Data Review

CHEEKTOWAGA, NY

VOCs-TO-15

SDG #1303545

Analyses Performed By:
Air Toxics – Folsom. CA

Report: #19366R
Review Level: Tier II
Project No.: AY000220.0017.00006

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #1303545 for sampling from the IR ARO site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis					
					VOC	SVOC	Pest/ PCB	Herb	Metals	Misc.
AA-01-032113	1303545-1	Air	03/21/13		X					
AA-02-032113	1303545-2	Air	03/21/13		X					
IA-01-032113	1303545-3	Air	03/21/13		X					
SS-01-032113	1303545-4	Air	03/21/13		X					
DUP-01	1303545-5	Air	03/21/13	SS-01-032113	X					

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) Method TO-15. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999, USEPA Region II SOP HW-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006, New York State DEC Analytical Method ASP 2005 TO-15 (QA/QC Criteria R9 TO-15), NYSDEC Modifications to R9 TO-15 QA/QC Criteria February 2008 and NYSDEC Proposed Change to the ASP Regarding Canister Vacuum June 26, 2009.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on

data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
EPA TO-15	Air	30 days from collection to analysis	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Laboratory Control Sample/Laboratory Control Sample Duplicate

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the established acceptance limits of 70% to 130%. The relative percent difference (RPD) between the LCS recoveries must exhibit an RPD within the laboratory-established acceptance limits.

All LCS/LCSD recoveries were within the laboratory control limits.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 100% for air matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for air matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SS-01-032113/DUP-01	Chloromethane	0.19 U	0.22	AC
	Tetrachloroethene	0.20	0.21	AC

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

5. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Canister return pressure/vacuum (>1"Hg)		X		X	
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks		X		X	
A. Method blanks		X		X	
B. Equipment blanks	X				X
C. Trip blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Field/Lab Duplicate (%D)		X		X	
Dilution Factor		X		X	
Moisture Content	X				X

%R Percent recovery
RPD Relative percent difference

VALIDATION PERFORMED BY: Rachelle Borne

SIGNATURE: 

DATE: May 20, 2013 Revised July 9, 2013

PEER REVIEW: Dennis Capria

DATE: June 3, 2013

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Marc Sanford
Collected by: (Print and Sign) Chris Daverm
Company: ARCADIS Email: cdaverm@arcadis-us.com
Address: 855 Route 146 Suite 210 City: Clifton Park State: NY Zip: 12065
Phone: 518-250-7300 Fax: 518-250-7301

Project Info:
P.O. #: —
Project #: AY000220.0017.00006
Project Name: IR-ARO

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	AA-01-032113	34749	3/21/13	11:22	TO-15 hi/lo	30	8.3		
02A	AA-02-032113	33590		11:37	TO-15 hi/lo	30	7.8		
03A	1A-01-032113	4358		11:43	TO-15 hi/lo	30	7.8		
04A	SS-01-032113	1651		12:07	TO-15 LL	30	9.3		
05A	DUP-01	927		—	TO-15 LL	30	9.8		

Relinquished by: (signature) Date/Time: 3/25/13; 16:00
Received by: (signature) Date/Time: 3/26/13 1015
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes:
Compounds requested to be analyzed for shall be chlorinateds only and consistent with those in list sent by Aysha Scott (3/19/13)

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		N/A	Good	Yes No (None)	1303545

Form 1293 rev.11

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Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032912r1**	**Date of Collection:**	**3/21/13 11:22:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**3/29/13 08:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	0.75	0.35	1.6
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Carbon Tetrachloride	0.17	Not Detected ~~UJ~~	1.0	Not Detected ~~UJ~~
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-01-032113

Lab ID#: 1303545R2-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032912r1sim**	**Date of Collection: 3/21/13 11:22:00 AM**	
Dil. Factor:	**1.68**	**Date of Analysis: 3/29/13 08:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032914r1**	**Date of Collection:**	**3/21/13 11:37:00 AM**
Dil. Factor:	**1.52**	**Date of Analysis:**	**3/29/13 10:27 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.15	0.70	0.31	1.4
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Carbon Tetrachloride	0.15	Not Detected ~~UJ~~	0.96	Not Detected ~~UJ~~
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: AA-02-032113

Lab ID#: 1303545R2-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032914r1sim**	**Date of Collection: 3/21/13 11:37:00 AM**	
Dil. Factor:	**1.52**	**Date of Analysis: 3/29/13 10:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.030	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032915r1**	**Date of Collection:**	**3/21/13 11:43:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/29/13 11:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.17	2.8	0.36	5.8
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Chloroform	0.17	0.29	0.84	1.4
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Carbon Tetrachloride	0.17	Not Detected ~~UJ~~	1.1	Not Detected ~~UJ~~
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: IA-01-032113

Lab ID#: 1303545R2-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032915r1sim**	**Date of Collection:**	**3/21/13 11:43:00 AM**
Dil. Factor:	**1.72**	**Date of Analysis:**	**3/29/13 11:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032916r1**	**Date of Collection:**	**3/21/13 12:07:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**3/30/13 08:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.19	Not Detected	0.39	Not Detected
Vinyl Chloride	0.19	Not Detected	0.48	Not Detected
Chloroethane	0.94	Not Detected	2.5	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.74	Not Detected
3-Chloropropene	0.94	Not Detected	2.9	Not Detected
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
1,1-Dichloroethane	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.19	Not Detected ~~UJ~~	1.2	Not Detected ~~UJ~~
1,2-Dichloroethane	0.19	Not Detected	0.76	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.86	Not Detected
Bromodichloromethane	0.19	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
trans-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	0.22	1.3	1.5
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
Chlorobenzene	0.19	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.19	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.94	Not Detected	6.9	Not Detected
Hexachlorobutadiene	0.94	Not Detected	10	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: SS-01-032113

Lab ID#: 1303545R2-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032916r1sim**	**Date of Collection: 3/21/13 12:07:00 PM**	
Dil. Factor:	**1.87**	**Date of Analysis: 3/30/13 08:36 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.037	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: DUP-01

Lab ID#: 1303545R2-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032917r1**	**Date of Collection:**	**3/21/13**
Dil. Factor:	**1.91**	**Date of Analysis:**	**3/30/13 09:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.19	0.22	0.39	0.45
Vinyl Chloride	0.19	Not Detected	0.49	Not Detected
Chloroethane	0.96	Not Detected	2.5	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.76	Not Detected
3-Chloropropene	0.96	Not Detected	3.0	Not Detected
Methylene Chloride	0.38	Not Detected	1.3	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
1,1-Dichloroethane	0.19	Not Detected	0.77	Not Detected
cis-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
Chloroform	0.19	Not Detected	0.93	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.19	Not Detected ~~UJ~~	1.2	Not Detected ~~UJ~~
1,2-Dichloroethane	0.19	Not Detected	0.77	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.88	Not Detected
Bromodichloromethane	0.19	Not Detected	1.3	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.87	Not Detected
trans-1,3-Dichloropropene	0.19	Not Detected	0.87	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	0.22	1.3	1.5
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
Chlorobenzene	0.19	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.19	Not Detected	0.99	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.96	Not Detected	7.1	Not Detected
Hexachlorobutadiene	0.96	Not Detected	10	Not Detected

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: DUP-01

Lab ID#: 1303545R2-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**v032917r1sim**	**Date of Collection: 3/21/13**	
Dil. Factor:	**1.91**	**Date of Analysis: 3/30/13 09:25 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.038	Not Detected	0.20	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130