



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

August 18, 2014

Deborah Gray
Stantec Consulting Services, Inc.
1500 Lake Shore Drive Suite 100
Columbus, OH 43204

RE: Bridgeton / 182608020

Dear Deborah:

Enclosed are the results of the samples submitted to our laboratory on July 31, 2014. For your reference, these analyses have been assigned our service request number P1403074.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Samantha Henningsen at 9:09 am, Aug 18, 2014

Samantha Henningsen
Project Manager



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Stantec Consulting Services, Inc.
Project: Bridgeton / 182608020

Service Request No: P1403074

CASE NARRATIVE

The samples were received intact under chain of custody on July 31, 2014 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Please note sample "730-GRAB-B" (P1403074-013) was canceled per client request.

Fixed Gases Analysis

Some samples were analyzed for fixed gases (hydrogen, oxygen/argon, nitrogen, carbon monoxide, methane and carbon dioxide) according to modified EPA Method 3C (single injection) using a gas chromatograph equipped with a thermal conductivity detector (TCD). This procedure is described in laboratory SOP VOA-EPA3C. This method is not included on the laboratory's NELAP or AIHA-LAP scope of accreditation.

Sulfur Analysis

All samples were analyzed for twenty sulfur compounds per ASTM D 5504-12 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan. This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Volatile Organic Compound Analysis

The samples were also analyzed for volatile organic compounds and tentatively identified compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. The method was modified to include the use of helium as a diluent gas in place of zero-grade air for container pressurization. When necessary, analytical sample volumes were adjusted by a correction factor for containers pressurized with helium. A summary sheet has been included listing the affected samples. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.



2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



2655 Park Center Dr., Suite A
 Simi Valley, CA 93065
 T: +1 805 526 7161
 F: +1 805 526 7270
www.alsglobal.com

ALS Environmental – Simi Valley
 Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L14-2
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	643428
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-14-5
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 3-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Stantec Consulting Services, Inc.
Project ID: Bridgeton / 182608020

Service Request: P1403074

Date Received: 7/31/2014
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)			
								ASTM D5504-08 - Sulfur Can	TO-15 - VOC Cans	3C Modified - Fxd Gases Can
730U1-SUMMA	P1403074-001	Air	7/30/2014	17:21	AS00322	-3.26	3.52	X	X	
730D1-SUMMA	P1403074-002	Air	7/30/2014	16:56	AS00541	-2.49	4.22	X	X	
730D2-SUMMA	P1403074-003	Air	7/30/2014	16:55	AS00604	-2.18	3.62	X	X	
730N-SUMMA	P1403074-004	Air	7/30/2014	16:45	AS00688	-1.54	4.04	X	X	X
730NQ-SUMMA	P1403074-005	Air	7/30/2014	16:40	AS00162	-2.47	4.05	X	X	X
730SQ-SUMMA	P1403074-006	Air	7/30/2014	16:32	AS00417	-0.31	3.80	X	X	X
730D3-SUMMA	P1403074-007	Air	7/30/2014	17:00	AS00341	-6.50	3.55	X	X	
730N-GRAB	P1403074-008	Air	7/30/2014	14:25	1SS00019	-0.63	5.90	X	X	X
730NQ-GRAB	P1403074-009	Air	7/30/2014	13:08	1SS00075	-0.70	6.08	X	X	X
730SQ-GRAB	P1403074-010	Air	7/30/2014	15:53	1SS00124	-0.64	5.20	X	X	X
730F-GRAB	P1403074-011	Air	7/30/2014	16:59	1SS00084	-0.06	5.31	X	X	X
730-SUMMA-B	P1403074-012	Air	7/30/2014	16:00	AS00338	-14.19	4.49	X	X	X



Page 1 of 1

Company Name & Address (Reporting Information) Stantec 1500 Lake Shore Dr Suite 100 Columbus, Ohio 43204 Phone (805) 526-7161 Fax (805) 526-7270				Requested Turnaround Time in Business Days (Surcharges) please circle 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard				ALS Project No. 91405074	
				Project Name Bridgeton				ALS Contact:	
Project Manager Deb Gray				Project Number 182608020				Analysis Method EPA 30 m (Fixed Gases)	
Phone 614-643-4362				Deb Gray Fax				Comments e.g. Actual Preservative or specific instructions	
Email Address for Result Reporting deb.gray@stantec.com, nick.iannaggi@stantec.com				P.O. # / Billing Information Direct Bill: Republic Services				ASTM D5604	
Client Sample ID 730U1-SUMMA				Laboratory ID Number 1-321				Time Collected 17:21	
730D1-SUMMA				2-241				16:56	
730D2-SUMMA				3-214				16:55	
730N-SUMMA				4-148				16:45	
730NQ-SUMMA				5-234				16:40	
730SQ-SUMMA				6-063				16:32	
730D3-SUMMA				7-646				17:00	
730N-Grab				8-054				14:25	
730NQ-Grab				9-056				13:08	
730SQ-Grab				10-053				15:53	
730F-Grab				11-004				16:59	
730-SUMMA-B				12-420				16:00	
730-GRAB-B				13-411				16:00	

Project Levels - please select

Tier I - Results (Default if not specified) _____

Tier II (Results + QC Summaries) _____

Tier III (Results + QC & Calibration Summaries) ☒ _____

Tier IV (Data Validation Package) 10% Surcharge _____

Report Levels - please select

Tier I - Results (Default if not specified) _____

Tier II (Results + QC Summaries) _____

Tier III (Results + QC & Calibration Summaries) ☒ _____

Tier IV (Data Validation Package) 10% Surcharge _____

Relinquished by: (Signature) <i>[Signature]</i>		Date: 7/30/14		Time: 20:00	
Relinquished by: (Signature) <i>[Signature]</i>		Date: 7/30/14		Time: 20:00	

Received by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*

Date: **7/31/14**

Time: **0930**

Chain of Custody Seal: (Circle)

INTACT ☒ BROKEN ☐ ABSENT ☐

Signature: *[Signature]*

Project Requirements
(MRLs, QAPP)

Project Requirements
(MRLs, QAPP)

ALS Environmental
Sample Acceptance Check Form

Client: Stantec Consulting Services, Inc.

Work order: P1403074

Project: Bridgeton / 182608020

Sample(s) received on: 7/31/14

Date opened: 7/31/14

by: RMARTENIES

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

	Yes	No	N/A
1 Were sample containers properly marked with client sample ID?	☒	☐	☐
2 Container(s) supplied by ALS ?	☒	☐	☐
3 Did sample containers arrive in good condition?	☒	☐	☐
4 Were chain-of-custody papers used and filled out?	☒	☐	☐
5 Did sample container labels and/or tags agree with custody papers?	☒	☐	☐
6 Was sample volume received adequate for analysis?	☒	☐	☐
7 Are samples within specified holding times?	☒	☐	☐
8 Was proper temperature (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9 Was a trip blank received?	☒	☐	☐
10 Were custody seals on outside of cooler/Box?	☒	☐	☐
Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
Were signature and date included?	☒	☐	☐
Were seals intact?	☒	☐	☐
Were custody seals on outside of sample container?	☐	☒	☐
Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
Were signature and date included?	☐	☐	☒
Were seals intact?	☐	☐	☒
11 Do containers have appropriate preservation , according to method/SOP or Client specified information?	☐	☐	☒
Is there a client indication that the submitted samples are pH preserved?	☐	☐	☒
Were VOA vials checked for presence/absence of air bubbles?	☐	☐	☒
Does the client/method/SOP require that the analyst check the sample pH and <u>if necessary</u> alter it?	☐	☐	☒
12 Tubes: Are the tubes capped and intact?	☐	☐	☒
Do they contain moisture?	☐	☐	☒
13 Badges: Are the badges properly capped and intact?	☐	☐	☒
Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1403074-001.01	6.0 L Silonite Can					
P1403074-002.01	6.0 L Silonite Can					
P1403074-003.01	6.0 L Silonite Can					
P1403074-004.01	6.0 L Silonite Can					
P1403074-005.01	6.0 L Silonite Can					
P1403074-006.01	6.0 L Silonite Can					
P1403074-007.01	6.0 L Silonite Can					
P1403074-008.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers): _____

ALS Environmental Sample Acceptance Check Form

Client: Stantec Consulting Services, Inc.

Work order: P1403074

Project: Bridgeton / 182608020

Sample(s) received on: 7/31/14

Date opened: 7/31/14 by: RMARTENIES

by: RMARTENIES

[illegible]

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO₂, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730N-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-004

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.54 **Final Pressure (psig):** 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.14	
7782-44-7	Oxygen +			
7440-37-1	Argon	21.9	0.14	
7727-37-9	Nitrogen	78.0	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	ND	0.14	
124-38-9	Carbon Dioxide	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730NQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-005

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.47 **Final Pressure (psig):** 4.05

Canister Dilution Factor: 1.53

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	Oxygen +			
7440-37-1	Argon	21.9	0.15	
7727-37-9	Nitrogen	78.0	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	ND	0.15	
124-38-9	Carbon Dioxide	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730SQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-006

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.31 **Final Pressure (psig):** 3.80

Canister Dilution Factor: 1.29

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.13	
7782-44-7	Oxygen +			
7440-37-1	Argon	21.9	0.13	
7727-37-9	Nitrogen	78.1	0.13	
630-08-0	Carbon Monoxide	ND	0.13	
74-82-8	Methane	ND	0.13	
124-38-9	Carbon Dioxide	ND	0.13	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730N-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-008

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.63 **Final Pressure (psig):** 5.90

Canister Dilution Factor: 1.46

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	Oxygen +			
7440-37-1	Argon	3.67	0.15	
7727-37-9	Nitrogen	31.7	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	32.0	0.15	
124-38-9	Carbon Dioxide	32.7	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730NQ-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-009

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.70 **Final Pressure (psig):** 6.08

Canister Dilution Factor: 1.48

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.15	
7782-44-7	Oxygen +			
7440-37-1	Argon	0.352	0.15	
7727-37-9	Nitrogen	22.4	0.15	
630-08-0	Carbon Monoxide	ND	0.15	
74-82-8	Methane	39.3	0.15	
124-38-9	Carbon Dioxide	38.0	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730SQ-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-010

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.64 **Final Pressure (psig):** 5.20

Canister Dilution Factor: 1.42

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	22.3	0.14	
7782-44-7	Oxygen +			
7440-37-1	Argon	2.62	0.14	
7727-37-9	Nitrogen	9.68	0.14	
630-08-0	Carbon Monoxide	0.232	0.14	
74-82-8	Methane	7.14	0.14	
124-38-9	Carbon Dioxide	58.0	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730F-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-011

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.06 **Final Pressure (psig):** 5.31

Canister Dilution Factor: 1.37

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	12.4	0.14	
7782-44-7	Oxygen +			
7440-37-1	Argon	5.14	0.14	
7727-37-9	Nitrogen	21.6	0.14	
630-08-0	Carbon Monoxide	0.161	0.14	
74-82-8	Methane	11.7	0.14	
124-38-9	Carbon Dioxide	49.0	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730-SUMMA-B
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-012

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/5/14
Volume(s) Analyzed: 0.10 ml(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	ND	0.10	
7727-37-9	Nitrogen	0.392	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: Method Blank
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
ALS Sample ID: P140805-MB

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/05/14
Volume(s) Analyzed: 0.10 ml(s)

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140805-LCS

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Nalini Lall

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/05/14

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	ALS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	37,300	93	84-110	
7782-44-7	Oxygen +					
7440-37-1	Argon	50,000	51,600	103	88-114	
7727-37-9	Nitrogen	50,000	53,100	106	88-114	
630-08-0	Carbon Monoxide	50,000	50,900	102	88-113	
74-82-8	Methane	40,000	39,900	100	87-110	
124-38-9	Carbon Dioxide	50,000	50,400	101	84-109	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-004DUP

Test Code: EPA Method 3C Modified

Instrument ID: HP5890 II/GC1/TCD

Analyst: Nalini Lall

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/5/14

Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.54

Final Pressure (psig): 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Sample Result %, v/v	Duplicate Sample Result %, v/v	Average	% RPD	RPD Limit	Data Qualifier
1333-74-0	Hydrogen	ND	ND	-	-	10	
7782-44-7	Oxygen +			21.9			
7440-37-1	Argon	21.9	21.9		0	9	
7727-37-9	Nitrogen	78.0	78.0	78	0	10	
630-08-0	Carbon Monoxide	ND	ND	-	-	9	
74-82-8	Methane	ND	ND	-	-	9	
124-38-9	Carbon Dioxide	ND	ND	-	-	9	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730U1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-001

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00322

Date Collected: 7/30/14
Time Collected: 17:21
Date Received: 7/31/14
Date Analyzed: 8/5/14
Time Analyzed: 16:37
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -3.26 **Final Pressure (psig):** 3.52

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	11	ND	8.0	
463-58-1	Carbonyl Sulfide	ND	20	ND	8.0	
74-93-1	Methyl Mercaptan	ND	16	ND	8.0	
75-08-1	Ethyl Mercaptan	ND	20	ND	8.0	
75-18-3	Dimethyl Sulfide	ND	20	ND	8.0	
75-15-0	Carbon Disulfide	ND	12	ND	4.0	
75-33-2	Isopropyl Mercaptan	ND	25	ND	8.0	
75-66-1	tert-Butyl Mercaptan	ND	29	ND	8.0	
107-03-9	n-Propyl Mercaptan	ND	25	ND	8.0	
624-89-5	Ethyl Methyl Sulfide	ND	25	ND	8.0	
110-02-1	Thiophene	ND	27	ND	8.0	
513-44-0	Isobutyl Mercaptan	ND	29	ND	8.0	
352-93-2	Diethyl Sulfide	ND	29	ND	8.0	
109-79-5	n-Butyl Mercaptan	ND	29	ND	8.0	
624-92-0	Dimethyl Disulfide	ND	15	ND	4.0	
616-44-4	3-Methylthiophene	ND	32	ND	8.0	
110-01-0	Tetrahydrothiophene	ND	29	ND	8.0	
638-02-8	2,5-Dimethylthiophene	ND	36	ND	8.0	
872-55-9	2-Ethylthiophene	ND	36	ND	8.0	
110-81-6	Diethyl Disulfide	ND	20	ND	4.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730D1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-002

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00541

Date Collected: 7/30/14
Time Collected: 16:56
Date Received: 7/31/14
Date Analyzed: 8/5/14
Time Analyzed: 16:21
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.49 **Final Pressure (psig):** 4.22

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	11	ND	7.8	
463-58-1	Carbonyl Sulfide	ND	19	ND	7.8	
74-93-1	Methyl Mercaptan	ND	15	ND	7.8	
75-08-1	Ethyl Mercaptan	ND	20	ND	7.8	
75-18-3	Dimethyl Sulfide	ND	20	ND	7.8	
75-15-0	Carbon Disulfide	ND	12	ND	3.9	
75-33-2	Isopropyl Mercaptan	ND	24	ND	7.8	
75-66-1	tert-Butyl Mercaptan	ND	29	ND	7.8	
107-03-9	n-Propyl Mercaptan	ND	24	ND	7.8	
624-89-5	Ethyl Methyl Sulfide	ND	24	ND	7.8	
110-02-1	Thiophene	ND	27	ND	7.8	
513-44-0	Isobutyl Mercaptan	ND	29	ND	7.8	
352-93-2	Diethyl Sulfide	ND	29	ND	7.8	
109-79-5	n-Butyl Mercaptan	ND	29	ND	7.8	
624-92-0	Dimethyl Disulfide	ND	15	ND	3.9	
616-44-4	3-Methylthiophene	ND	31	ND	7.8	
110-01-0	Tetrahydrothiophene	ND	28	ND	7.8	
638-02-8	2,5-Dimethylthiophene	ND	36	ND	7.8	
872-55-9	2-Ethylthiophene	ND	36	ND	7.8	
110-81-6	Diethyl Disulfide	ND	19	ND	3.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730D2-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-003

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00604

Date Collected: 7/30/14
Time Collected: 16:55
Date Received: 7/31/14
Date Analyzed: 8/5/14
Time Analyzed: 16:53
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.18 **Final Pressure (psig):** 3.62

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	10	ND	7.3	
463-58-1	Carbonyl Sulfide	ND	18	ND	7.3	
74-93-1	Methyl Mercaptan	ND	14	ND	7.3	
75-08-1	Ethyl Mercaptan	ND	19	ND	7.3	
75-18-3	Dimethyl Sulfide	ND	19	ND	7.3	
75-15-0	Carbon Disulfide	ND	11	ND	3.7	
75-33-2	Isopropyl Mercaptan	ND	23	ND	7.3	
75-66-1	tert-Butyl Mercaptan	ND	27	ND	7.3	
107-03-9	n-Propyl Mercaptan	ND	23	ND	7.3	
624-89-5	Ethyl Methyl Sulfide	ND	23	ND	7.3	
110-02-1	Thiophene	ND	25	ND	7.3	
513-44-0	Isobutyl Mercaptan	ND	27	ND	7.3	
352-93-2	Diethyl Sulfide	ND	27	ND	7.3	
109-79-5	n-Butyl Mercaptan	ND	27	ND	7.3	
624-92-0	Dimethyl Disulfide	ND	14	ND	3.7	
616-44-4	3-Methylthiophene	ND	29	ND	7.3	
110-01-0	Tetrahydrothiophene	ND	26	ND	7.3	
638-02-8	2,5-Dimethylthiophene	ND	33	ND	7.3	
872-55-9	2-Ethylthiophene	ND	33	ND	7.3	
110-81-6	Diethyl Disulfide	ND	18	ND	3.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730N-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-004

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00688

Date Collected: 7/30/14
Time Collected: 16:45
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 08:14
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -1.54 **Final Pressure (psig):** 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.9	ND	7.1	
463-58-1	Carbonyl Sulfide	ND	17	ND	7.1	
74-93-1	Methyl Mercaptan	ND	14	ND	7.1	
75-08-1	Ethyl Mercaptan	ND	18	ND	7.1	
75-18-3	Dimethyl Sulfide	ND	18	ND	7.1	
75-15-0	Carbon Disulfide	ND	11	ND	3.6	
75-33-2	Isopropyl Mercaptan	ND	22	ND	7.1	
75-66-1	tert-Butyl Mercaptan	ND	26	ND	7.1	
107-03-9	n-Propyl Mercaptan	ND	22	ND	7.1	
624-89-5	Ethyl Methyl Sulfide	ND	22	ND	7.1	
110-02-1	Thiophene	ND	24	ND	7.1	
513-44-0	Isobutyl Mercaptan	ND	26	ND	7.1	
352-93-2	Diethyl Sulfide	ND	26	ND	7.1	
109-79-5	n-Butyl Mercaptan	ND	26	ND	7.1	
624-92-0	Dimethyl Disulfide	ND	14	ND	3.6	
616-44-4	3-Methylthiophene	ND	28	ND	7.1	
110-01-0	Tetrahydrothiophene	ND	26	ND	7.1	
638-02-8	2,5-Dimethylthiophene	ND	33	ND	7.1	
872-55-9	2-Ethylthiophene	ND	33	ND	7.1	
110-81-6	Diethyl Disulfide	ND	18	ND	3.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730NQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-005

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00162

Date Collected: 7/30/14
Time Collected: 16:40
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 08:34
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.47 **Final Pressure (psig):** 4.05

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	11	ND	7.7	
463-58-1	Carbonyl Sulfide	ND	19	ND	7.7	
74-93-1	Methyl Mercaptan	ND	15	ND	7.7	
75-08-1	Ethyl Mercaptan	ND	19	ND	7.7	
75-18-3	Dimethyl Sulfide	ND	19	ND	7.7	
75-15-0	Carbon Disulfide	ND	12	ND	3.8	
75-33-2	Isopropyl Mercaptan	ND	24	ND	7.7	
75-66-1	tert-Butyl Mercaptan	ND	28	ND	7.7	
107-03-9	n-Propyl Mercaptan	ND	24	ND	7.7	
624-89-5	Ethyl Methyl Sulfide	ND	24	ND	7.7	
110-02-1	Thiophene	ND	26	ND	7.7	
513-44-0	Isobutyl Mercaptan	ND	28	ND	7.7	
352-93-2	Diethyl Sulfide	ND	28	ND	7.7	
109-79-5	n-Butyl Mercaptan	ND	28	ND	7.7	
624-92-0	Dimethyl Disulfide	ND	15	ND	3.8	
616-44-4	3-Methylthiophene	ND	31	ND	7.7	
110-01-0	Tetrahydrothiophene	ND	28	ND	7.7	
638-02-8	2,5-Dimethylthiophene	ND	35	ND	7.7	
872-55-9	2-Ethylthiophene	ND	35	ND	7.7	
110-81-6	Diethyl Disulfide	ND	19	ND	3.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730SQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-006

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00417

Date Collected: 7/30/14
Time Collected: 16:32
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 08:49
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.31 **Final Pressure (psig):** 3.80

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.0	ND	6.5	
463-58-1	Carbonyl Sulfide	ND	16	ND	6.5	
74-93-1	Methyl Mercaptan	ND	13	ND	6.5	
75-08-1	Ethyl Mercaptan	ND	16	ND	6.5	
75-18-3	Dimethyl Sulfide	ND	16	ND	6.5	
75-15-0	Carbon Disulfide	ND	10	ND	3.2	
75-33-2	Isopropyl Mercaptan	ND	20	ND	6.5	
75-66-1	tert-Butyl Mercaptan	ND	24	ND	6.5	
107-03-9	n-Propyl Mercaptan	ND	20	ND	6.5	
624-89-5	Ethyl Methyl Sulfide	ND	20	ND	6.5	
110-02-1	Thiophene	ND	22	ND	6.5	
513-44-0	Isobutyl Mercaptan	ND	24	ND	6.5	
352-93-2	Diethyl Sulfide	ND	24	ND	6.5	
109-79-5	n-Butyl Mercaptan	ND	24	ND	6.5	
624-92-0	Dimethyl Disulfide	ND	12	ND	3.2	
616-44-4	3-Methylthiophene	ND	26	ND	6.5	
110-01-0	Tetrahydrothiophene	ND	23	ND	6.5	
638-02-8	2,5-Dimethylthiophene	ND	30	ND	6.5	
872-55-9	2-Ethylthiophene	ND	30	ND	6.5	
110-81-6	Diethyl Disulfide	ND	16	ND	3.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730D3-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-007

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00341

Date Collected: 7/30/14
Time Collected: 17:00
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 09:05
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -6.50 **Final Pressure (psig):** 3.55

Canister Dilution Factor: 2.23

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	16	ND	11	
463-58-1	Carbonyl Sulfide	ND	27	ND	11	
74-93-1	Methyl Mercaptan	ND	22	ND	11	
75-08-1	Ethyl Mercaptan	ND	28	ND	11	
75-18-3	Dimethyl Sulfide	ND	28	ND	11	
75-15-0	Carbon Disulfide	ND	17	ND	5.6	
75-33-2	Isopropyl Mercaptan	ND	35	ND	11	
75-66-1	tert-Butyl Mercaptan	ND	41	ND	11	
107-03-9	n-Propyl Mercaptan	ND	35	ND	11	
624-89-5	Ethyl Methyl Sulfide	ND	35	ND	11	
110-02-1	Thiophene	ND	38	ND	11	
513-44-0	Isobutyl Mercaptan	ND	41	ND	11	
352-93-2	Diethyl Sulfide	ND	41	ND	11	
109-79-5	n-Butyl Mercaptan	ND	41	ND	11	
624-92-0	Dimethyl Disulfide	ND	21	ND	5.6	
616-44-4	3-Methylthiophene	ND	45	ND	11	
110-01-0	Tetrahydrothiophene	ND	40	ND	11	
638-02-8	2,5-Dimethylthiophene	ND	51	ND	11	
872-55-9	2-Ethylthiophene	ND	51	ND	11	
110-81-6	Diethyl Disulfide	ND	28	ND	5.6	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730N-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-008

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00019

Date Collected: 7/30/14
Time Collected: 14:25
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 10:07
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.63 **Final Pressure (psig):** 5.90

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	10	ND	7.3	
463-58-1	Carbonyl Sulfide	ND	18	ND	7.3	
74-93-1	Methyl Mercaptan	ND	14	ND	7.3	
75-08-1	Ethyl Mercaptan	ND	19	ND	7.3	
75-18-3	Dimethyl Sulfide	2,100	19	810	7.3	
75-15-0	Carbon Disulfide	28	11	9.0	3.7	
75-33-2	Isopropyl Mercaptan	ND	23	ND	7.3	
75-66-1	tert-Butyl Mercaptan	ND	27	ND	7.3	
107-03-9	n-Propyl Mercaptan	ND	23	ND	7.3	
624-89-5	Ethyl Methyl Sulfide	44	23	14	7.3	
110-02-1	Thiophene	1,700	25	490	7.3	
513-44-0	Isobutyl Mercaptan	ND	27	ND	7.3	
352-93-2	Diethyl Sulfide	ND	27	ND	7.3	
109-79-5	n-Butyl Mercaptan	ND	27	ND	7.3	
624-92-0	Dimethyl Disulfide	330	14	86	3.7	
616-44-4	3-Methylthiophene	340	29	84	7.3	
110-01-0	Tetrahydrothiophene	ND	26	ND	7.3	
638-02-8	2,5-Dimethylthiophene	ND	33	ND	7.3	
872-55-9	2-Ethylthiophene	ND	33	ND	7.3	
110-81-6	Diethyl Disulfide	ND	18	ND	3.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730NQ-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-009

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00075

Date Collected: 7/30/14
Time Collected: 13:08
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 09:47
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.70 **Final Pressure (psig):** 6.08

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	10	ND	7.4	
463-58-1	Carbonyl Sulfide	ND	18	ND	7.4	
74-93-1	Methyl Mercaptan	ND	15	ND	7.4	
75-08-1	Ethyl Mercaptan	ND	19	ND	7.4	
75-18-3	Dimethyl Sulfide	4,900	19	1,900	7.4	
75-15-0	Carbon Disulfide	25	12	8.0	3.7	
75-33-2	Isopropyl Mercaptan	ND	23	ND	7.4	
75-66-1	tert-Butyl Mercaptan	ND	27	ND	7.4	
107-03-9	n-Propyl Mercaptan	ND	23	ND	7.4	
624-89-5	Ethyl Methyl Sulfide	52	23	17	7.4	
110-02-1	Thiophene	1,200	25	350	7.4	
513-44-0	Isobutyl Mercaptan	ND	27	ND	7.4	
352-93-2	Diethyl Sulfide	ND	27	ND	7.4	
109-79-5	n-Butyl Mercaptan	ND	27	ND	7.4	
624-92-0	Dimethyl Disulfide	1,100	14	290	3.7	
616-44-4	3-Methylthiophene	120	30	30	7.4	
110-01-0	Tetrahydrothiophene	180	27	49	7.4	
638-02-8	2,5-Dimethylthiophene	ND	34	ND	7.4	
872-55-9	2-Ethylthiophene	ND	34	ND	7.4	
110-81-6	Diethyl Disulfide	ND	18	ND	3.7	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730SQ-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-010

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00124

Date Collected: 7/30/14
Time Collected: 15:53
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 09:06
Volume(s) Analyzed: 0.030 ml(s)

Initial Pressure (psig): -0.64 **Final Pressure (psig):** 5.20

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	330	ND	240	
463-58-1	Carbonyl Sulfide	1,300	580	510	240	
74-93-1	Methyl Mercaptan	2,400	470	1,200	240	
75-08-1	Ethyl Mercaptan	ND	600	ND	240	
75-18-3	Dimethyl Sulfide	1,100,000	600	420,000	240	
75-15-0	Carbon Disulfide	1,200	370	380	120	
75-33-2	Isopropyl Mercaptan	ND	740	ND	240	
75-66-1	tert-Butyl Mercaptan	ND	870	ND	240	
107-03-9	n-Propyl Mercaptan	ND	740	ND	240	
624-89-5	Ethyl Methyl Sulfide	9,400	740	3,000	240	
110-02-1	Thiophene	15,000	810	4,300	240	
513-44-0	Isobutyl Mercaptan	ND	870	ND	240	
352-93-2	Diethyl Sulfide	ND	870	ND	240	
109-79-5	n-Butyl Mercaptan	2,800	870	770	240	
624-92-0	Dimethyl Disulfide	110,000	460	30,000	120	
616-44-4	3-Methylthiophene	3,800	950	940	240	
110-01-0	Tetrahydrothiophene	5,400	850	1,500	240	
638-02-8	2,5-Dimethylthiophene	ND	1,100	ND	240	
872-55-9	2-Ethylthiophene	ND	1,100	ND	240	
110-81-6	Diethyl Disulfide	ND	590	ND	120	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730F-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-011

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00084

Date Collected: 7/30/14
Time Collected: 16:59
Date Received: 7/31/14
Date Analyzed: 8/6/14
Time Analyzed: 08:48
Volume(s) Analyzed: 0.030 ml(s)

Initial Pressure (psig): -0.06 **Final Pressure (psig):** 5.31

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	320	320	230	230	
463-58-1	Carbonyl Sulfide	1,100	560	450	230	
74-93-1	Methyl Mercaptan	210,000	450	110,000	230	
75-08-1	Ethyl Mercaptan	2,200	580	870	230	
75-18-3	Dimethyl Sulfide	2,400,000	580	940,000	230	
75-15-0	Carbon Disulfide	1,600	360	520	110	
75-33-2	Isopropyl Mercaptan	ND	710	ND	230	
75-66-1	tert-Butyl Mercaptan	ND	840	ND	230	
107-03-9	n-Propyl Mercaptan	ND	710	ND	230	
624-89-5	Ethyl Methyl Sulfide	18,000	710	5,700	230	
110-02-1	Thiophene	30,000	790	8,700	230	
513-44-0	Isobutyl Mercaptan	ND	840	ND	230	
352-93-2	Diethyl Sulfide	ND	840	ND	230	
109-79-5	n-Butyl Mercaptan	5,200	840	1,400	230	
624-92-0	Dimethyl Disulfide	210,000	440	54,000	110	
616-44-4	3-Methylthiophene	4,600	920	1,100	230	
110-01-0	Tetrahydrothiophene	8,600	820	2,400	230	
638-02-8	2,5-Dimethylthiophene	4,100	1,000	890	230	
872-55-9	2-Ethylthiophene	2,600	1,000	580	230	
110-81-6	Diethyl Disulfide	ND	570	ND	110	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730-SUMMA-B
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-012

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00338

Date Collected: 7/30/14
Time Collected: 16:00
Date Received: 7/31/14
Date Analyzed: 8/5/14
Time Analyzed: 16:35
Volume(s) Analyzed: 1.0 ml(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: Method Blank
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P140805-MB

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 8/05/14
Time Analyzed: 09:00
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: Method Blank
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P140805-MB

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 8/05/14
Time Analyzed: 08:58
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: Method Blank
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P140806-MB

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 8/06/14
Time Analyzed: 07:58
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: Method Blank
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P140806-MB

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 6.0 L Silonite Canister
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 8/06/14
Time Analyzed: 07:59
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140805-LCS

Test Code: ASTM D 5504-12

Instrument ID: Agilent 6890A/GC13/SCD

Analyst: Mike Conejo

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/05/14

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	2,050	2,060	100	66-131	
463-58-1	Carbonyl Sulfide	2,020	2,040	101	64-131	
74-93-1	Methyl Mercaptan	1,890	2,060	109	68-160	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140805-LCS

Test Code: ASTM D 5504-12

Instrument ID: Agilent 7890A/GC22/SCD

Analyst: Mike Conejo

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/05/14

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	2,050	2,480	121	66-131	
463-58-1	Carbonyl Sulfide	2,020	2,490	123	64-131	
74-93-1	Methyl Mercaptan	1,890	2,450	130	68-160	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140806-LCS

Test Code: ASTM D 5504-12

Instrument ID: Agilent 6890A/GC13/SCD

Analyst: Mike Conejo

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/06/14

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	2,050	2,350	115	66-131	
463-58-1	Carbonyl Sulfide	2,020	2,380	118	64-131	
74-93-1	Methyl Mercaptan	1,890	2,410	128	68-160	

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140806-LCS

Test Code: ASTM D 5504-12

Instrument ID: Agilent 7890A/GC22/SCD

Analyst: Mike Conejo

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/06/14

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	2,050	1,780	87	66-131	
463-58-1	Carbonyl Sulfide	2,020	1,820	90	64-131	
74-93-1	Methyl Mercaptan	1,890	1,760	93	68-160	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.80	0.22	ND	0.46	0.13	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.80	0.27	0.41	0.16	0.055	
74-87-3	Chloromethane	0.45	0.80	0.24	0.22	0.39	0.12	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.80	0.30	ND	0.11	0.043	
75-01-4	Vinyl Chloride	ND	0.80	0.27	ND	0.31	0.11	
106-99-0	1,3-Butadiene	ND	0.80	0.35	ND	0.36	0.16	
74-83-9	Bromomethane	ND	0.80	0.30	ND	0.20	0.078	
75-00-3	Chloroethane	ND	0.80	0.27	ND	0.30	0.10	
64-17-5	Ethanol	3.8	8.0	1.3	2.0	4.2	0.68	J
75-05-8	Acetonitrile	0.43	0.80	0.29	0.26	0.47	0.17	J
107-02-8	Acrolein	0.27	3.2	0.27	0.12	1.4	0.12	J
67-64-1	Acetone	9.0	8.0	1.2	3.8	3.3	0.52	
75-69-4	Trichlorofluoromethane	1.2	0.80	0.27	0.22	0.14	0.048	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	8.0	0.67	ND	3.2	0.27	
107-13-1	Acrylonitrile	ND	0.80	0.27	ND	0.37	0.12	
75-35-4	1,1-Dichloroethene	ND	0.80	0.27	ND	0.20	0.068	
75-09-2	Methylene Chloride	1.5	0.80	0.27	0.44	0.23	0.078	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.80	0.25	ND	0.25	0.081	
76-13-1	Trichlorotrifluoroethane	0.54	0.80	0.27	0.070	0.10	0.035	J
75-15-0	Carbon Disulfide	ND	8.0	0.24	ND	2.6	0.077	
156-60-5	trans-1,2-Dichloroethene	ND	0.80	0.30	ND	0.20	0.076	
75-34-3	1,1-Dichloroethane	ND	0.80	0.25	ND	0.20	0.063	
1634-04-4	Methyl tert-Butyl Ether	ND	0.80	0.27	ND	0.22	0.075	
108-05-4	Vinyl Acetate	ND	8.0	1.0	ND	2.3	0.29	
78-93-3	2-Butanone (MEK)	0.56	8.0	0.33	0.19	2.7	0.11	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.80	0.25	ND	0.20	0.064	
141-78-6	Ethyl Acetate	4.6	1.6	0.56	1.3	0.44	0.15	
110-54-3	n-Hexane	ND	0.80	0.24	ND	0.23	0.068	
67-66-3	Chloroform	ND	0.80	0.27	ND	0.16	0.055	
109-99-9	Tetrahydrofuran (THF)	ND	0.80	0.32	ND	0.27	0.11	
107-06-2	1,2-Dichloroethane	ND	0.80	0.25	ND	0.20	0.063	
71-55-6	1,1,1-Trichloroethane	ND	0.80	0.27	ND	0.15	0.050	
71-43-2	Benzene	ND	0.80	0.25	ND	0.25	0.080	
56-23-5	Carbon Tetrachloride	0.45	0.80	0.24	0.072	0.13	0.038	J
110-82-7	Cyclohexane	ND	1.6	0.46	ND	0.46	0.13	
78-87-5	1,2-Dichloropropane	ND	0.80	0.25	ND	0.17	0.055	
75-27-4	Bromodichloromethane	ND	0.80	0.24	ND	0.12	0.036	
79-01-6	Trichloroethene	ND	0.80	0.22	ND	0.15	0.041	
123-91-1	1,4-Dioxane	ND	0.80	0.25	ND	0.22	0.071	
80-62-6	Methyl Methacrylate	ND	1.6	0.49	ND	0.39	0.12	
142-82-5	n-Heptane	ND	0.80	0.27	ND	0.19	0.066	
10061-01-5	cis-1,3-Dichloropropene	ND	0.80	0.22	ND	0.18	0.049	
108-10-1	4-Methyl-2-pentanone	ND	0.80	0.25	ND	0.19	0.062	
10061-02-6	trans-1,3-Dichloropropene	ND	0.80	0.25	ND	0.18	0.056	
79-00-5	1,1,2-Trichloroethane	ND	0.80	0.25	ND	0.15	0.047	
108-88-3	Toluene	0.87	0.80	0.27	0.23	0.21	0.072	
591-78-6	2-Hexanone	ND	0.80	0.25	ND	0.19	0.062	
124-48-1	Dibromochloromethane	ND	0.80	0.25	ND	0.093	0.030	
106-93-4	1,2-Dibromoethane	ND	0.80	0.25	ND	0.10	0.033	
123-86-4	n-Butyl Acetate	ND	0.80	0.25	ND	0.17	0.054	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.80	0.29	ND	0.17	0.061	
127-18-4	Tetrachloroethene	ND	0.80	0.22	ND	0.12	0.033	
108-90-7	Chlorobenzene	ND	0.80	0.25	ND	0.17	0.055	
100-41-4	Ethylbenzene	ND	0.80	0.25	ND	0.18	0.059	
179601-23-1	m,p-Xylenes	ND	1.6	0.48	ND	0.37	0.11	
75-25-2	Bromoform	ND	0.80	0.24	ND	0.077	0.023	
100-42-5	Styrene	ND	0.80	0.24	ND	0.19	0.056	
95-47-6	o-Xylene	ND	0.80	0.24	ND	0.18	0.055	
111-84-2	n-Nonane	ND	0.80	0.24	ND	0.15	0.045	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.80	0.24	ND	0.12	0.035	
98-82-8	Cumene	ND	0.80	0.24	ND	0.16	0.049	
80-56-8	alpha-Pinene	ND	0.80	0.22	ND	0.14	0.040	
103-65-1	n-Propylbenzene	ND	0.80	0.25	ND	0.16	0.052	
622-96-8	4-Ethyltoluene	ND	0.80	0.25	ND	0.16	0.052	
108-67-8	1,3,5-Trimethylbenzene	ND	0.80	0.25	ND	0.16	0.052	
95-63-6	1,2,4-Trimethylbenzene	ND	0.80	0.24	ND	0.16	0.049	
100-44-7	Benzyl Chloride	ND	0.80	0.17	ND	0.15	0.034	
541-73-1	1,3-Dichlorobenzene	ND	0.80	0.24	ND	0.13	0.040	
106-46-7	1,4-Dichlorobenzene	ND	0.80	0.22	ND	0.13	0.037	
95-50-1	1,2-Dichlorobenzene	ND	0.80	0.24	ND	0.13	0.040	
5989-27-5	d-Limonene	ND	0.80	0.22	ND	0.14	0.040	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.80	0.16	ND	0.082	0.016	
120-82-1	1,2,4-Trichlorobenzene	ND	0.80	0.25	ND	0.11	0.034	
91-20-3	Naphthalene	ND	0.80	0.29	ND	0.15	0.055	
87-68-3	Hexachlorobutadiene	ND	0.80	0.22	ND	0.075	0.021	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: T

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
9.99	Trimethylsilanol	3.2	
17.13	Hexamethylcyclotrisiloxane	26	
20.04	n-Octanal	5.0	
20.13	Unidentified Compound	20	
21.35	n-Nonanal	24	
22.04	Unidentified Siloxane	66	
22.09	Unidentified Compound	3.3	
22.43	n-Decanal	22	
23.69	Unidentified Siloxane	98	
25.38	Unidentified Siloxane	27	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-002

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00541

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.49 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.8	0.78	0.22	1.1	0.45	0.13	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.78	0.26	0.42	0.16	0.053	
74-87-3	Chloromethane	0.50	0.78	0.23	0.24	0.38	0.11	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.78	0.29	ND	0.11	0.042	
75-01-4	Vinyl Chloride	ND	0.78	0.26	ND	0.30	0.10	
106-99-0	1,3-Butadiene	ND	0.78	0.34	ND	0.35	0.15	
74-83-9	Bromomethane	ND	0.78	0.29	ND	0.20	0.076	
75-00-3	Chloroethane	ND	0.78	0.26	ND	0.29	0.10	
64-17-5	Ethanol	6.0	7.8	1.2	3.2	4.1	0.66	J
75-05-8	Acetonitrile	0.71	0.78	0.28	0.42	0.46	0.17	J
107-02-8	Acrolein	ND	3.1	0.26	ND	1.4	0.11	
67-64-1	Acetone	8.6	7.8	1.2	3.6	3.3	0.50	
75-69-4	Trichlorofluoromethane	2.0	0.78	0.26	0.36	0.14	0.047	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.3	7.8	0.65	1.8	3.2	0.26	J
107-13-1	Acrylonitrile	ND	0.78	0.26	ND	0.36	0.12	
75-35-4	1,1-Dichloroethene	ND	0.78	0.26	ND	0.20	0.066	
75-09-2	Methylene Chloride	0.58	0.78	0.26	0.17	0.22	0.076	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.78	0.25	ND	0.25	0.079	
76-13-1	Trichlorotrifluoroethane	0.54	0.78	0.26	0.071	0.10	0.034	J
75-15-0	Carbon Disulfide	ND	7.8	0.23	ND	2.5	0.075	
156-60-5	trans-1,2-Dichloroethene	ND	0.78	0.29	ND	0.20	0.074	
75-34-3	1,1-Dichloroethane	ND	0.78	0.25	ND	0.19	0.061	
1634-04-4	Methyl tert-Butyl Ether	ND	0.78	0.26	ND	0.22	0.073	
108-05-4	Vinyl Acetate	ND	7.8	1.0	ND	2.2	0.29	
78-93-3	2-Butanone (MEK)	0.73	7.8	0.33	0.25	2.6	0.11	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-002

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00541

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.49 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.78	0.25	ND	0.20	0.063	
141-78-6	Ethyl Acetate	5.3	1.6	0.54	1.5	0.43	0.15	
110-54-3	n-Hexane	ND	0.78	0.23	ND	0.22	0.066	
67-66-3	Chloroform	ND	0.78	0.26	ND	0.16	0.054	
109-99-9	Tetrahydrofuran (THF)	ND	0.78	0.31	ND	0.26	0.11	
107-06-2	1,2-Dichloroethane	ND	0.78	0.25	ND	0.19	0.061	
71-55-6	1,1,1-Trichloroethane	ND	0.78	0.26	ND	0.14	0.048	
71-43-2	Benzene	0.35	0.78	0.25	0.11	0.24	0.078	J
56-23-5	Carbon Tetrachloride	0.48	0.78	0.23	0.076	0.12	0.037	J
110-82-7	Cyclohexane	ND	1.6	0.45	ND	0.45	0.13	
78-87-5	1,2-Dichloropropane	ND	0.78	0.25	ND	0.17	0.054	
75-27-4	Bromodichloromethane	ND	0.78	0.23	ND	0.12	0.035	
79-01-6	Trichloroethene	ND	0.78	0.22	ND	0.14	0.040	
123-91-1	1,4-Dioxane	ND	0.78	0.25	ND	0.22	0.069	
80-62-6	Methyl Methacrylate	ND	1.6	0.48	ND	0.38	0.12	
142-82-5	n-Heptane	ND	0.78	0.26	ND	0.19	0.064	
10061-01-5	cis-1,3-Dichloropropene	ND	0.78	0.22	ND	0.17	0.048	
108-10-1	4-Methyl-2-pentanone	ND	0.78	0.25	ND	0.19	0.061	
10061-02-6	trans-1,3-Dichloropropene	ND	0.78	0.25	ND	0.17	0.055	
79-00-5	1,1,2-Trichloroethane	ND	0.78	0.25	ND	0.14	0.045	
108-88-3	Toluene	0.54	0.78	0.26	0.14	0.21	0.070	J
591-78-6	2-Hexanone	ND	0.78	0.25	ND	0.19	0.061	
124-48-1	Dibromochloromethane	ND	0.78	0.25	ND	0.091	0.029	
106-93-4	1,2-Dibromoethane	ND	0.78	0.25	ND	0.10	0.032	
123-86-4	n-Butyl Acetate	ND	0.78	0.25	ND	0.16	0.052	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-002

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00541

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.49 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.78	0.28	ND	0.17	0.060	
127-18-4	Tetrachloroethene	ND	0.78	0.22	ND	0.11	0.032	
108-90-7	Chlorobenzene	ND	0.78	0.25	ND	0.17	0.054	
100-41-4	Ethylbenzene	ND	0.78	0.25	ND	0.18	0.057	
179601-23-1	m,p-Xylenes	ND	1.6	0.47	ND	0.36	0.11	
75-25-2	Bromoform	ND	0.78	0.23	ND	0.075	0.022	
100-42-5	Styrene	ND	0.78	0.23	ND	0.18	0.055	
95-47-6	o-Xylene	ND	0.78	0.23	ND	0.18	0.054	
111-84-2	n-Nonane	ND	0.78	0.23	ND	0.15	0.044	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.78	0.23	ND	0.11	0.034	
98-82-8	Cumene	ND	0.78	0.23	ND	0.16	0.047	
80-56-8	alpha-Pinene	ND	0.78	0.22	ND	0.14	0.039	
103-65-1	n-Propylbenzene	ND	0.78	0.25	ND	0.16	0.050	
622-96-8	4-Ethyltoluene	ND	0.78	0.25	ND	0.16	0.050	
108-67-8	1,3,5-Trimethylbenzene	ND	0.78	0.25	ND	0.16	0.050	
95-63-6	1,2,4-Trimethylbenzene	ND	0.78	0.23	ND	0.16	0.047	
100-44-7	Benzyl Chloride	ND	0.78	0.17	ND	0.15	0.033	
541-73-1	1,3-Dichlorobenzene	ND	0.78	0.23	ND	0.13	0.039	
106-46-7	1,4-Dichlorobenzene	ND	0.78	0.22	ND	0.13	0.036	
95-50-1	1,2-Dichlorobenzene	ND	0.78	0.23	ND	0.13	0.039	
5989-27-5	d-Limonene	0.22	0.78	0.22	0.040	0.14	0.039	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.78	0.15	ND	0.080	0.016	
120-82-1	1,2,4-Trichlorobenzene	ND	0.78	0.25	ND	0.10	0.033	
91-20-3	Naphthalene	ND	0.78	0.28	ND	0.15	0.053	
87-68-3	Hexachlorobutadiene	ND	0.78	0.22	ND	0.073	0.020	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-002

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00541

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.49 Final Pressure (psig): 4.22

Canister Dilution Factor: 1.55

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
17.14	Hexamethylcyclotrisiloxane	4.0	
21.35	n-Nonanal	6.5	
22.04	Unidentified Siloxane	4.7	
22.43	n-Decanal	6.5	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00604

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.5	0.73	0.20	0.85	0.42	0.12	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.73	0.25	0.43	0.15	0.050	
74-87-3	Chloromethane	0.44	0.73	0.22	0.21	0.35	0.11	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.73	0.28	ND	0.10	0.040	
75-01-4	Vinyl Chloride	ND	0.73	0.25	ND	0.29	0.097	
106-99-0	1,3-Butadiene	ND	0.73	0.32	ND	0.33	0.15	
74-83-9	Bromomethane	ND	0.73	0.28	ND	0.19	0.071	
75-00-3	Chloroethane	ND	0.73	0.25	ND	0.28	0.094	
64-17-5	Ethanol	6.8	7.3	1.2	3.6	3.9	0.62	J
75-05-8	Acetonitrile	2.3	0.73	0.26	1.4	0.43	0.16	
107-02-8	Acrolein	0.42	2.9	0.25	0.19	1.3	0.11	J
67-64-1	Acetone	14	7.3	1.1	6.0	3.1	0.47	
75-69-4	Trichlorofluoromethane	2.3	0.73	0.25	0.41	0.13	0.044	
67-63-0	2-Propanol (Isopropyl Alcohol)	3.5	7.3	0.61	1.4	3.0	0.25	J
107-13-1	Acrylonitrile	ND	0.73	0.25	ND	0.34	0.11	
75-35-4	1,1-Dichloroethene	ND	0.73	0.25	ND	0.18	0.063	
75-09-2	Methylene Chloride	0.55	0.73	0.25	0.16	0.21	0.071	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.73	0.23	ND	0.23	0.075	
76-13-1	Trichlorotrifluoroethane	0.55	0.73	0.25	0.072	0.095	0.032	J
75-15-0	Carbon Disulfide	ND	7.3	0.22	ND	2.3	0.070	
156-60-5	trans-1,2-Dichloroethene	ND	0.73	0.28	ND	0.18	0.070	
75-34-3	1,1-Dichloroethane	ND	0.73	0.23	ND	0.18	0.058	
1634-04-4	Methyl tert-Butyl Ether	ND	0.73	0.25	ND	0.20	0.069	
108-05-4	Vinyl Acetate	ND	7.3	0.95	ND	2.1	0.27	
78-93-3	2-Butanone (MEK)	1.4	7.3	0.31	0.47	2.5	0.10	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00604

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.73	0.23	ND	0.18	0.059	
141-78-6	Ethyl Acetate	8.7	1.5	0.51	2.4	0.41	0.14	
110-54-3	n-Hexane	ND	0.73	0.22	ND	0.21	0.062	
67-66-3	Chloroform	ND	0.73	0.25	ND	0.15	0.051	
109-99-9	Tetrahydrofuran (THF)	0.44	0.73	0.29	0.15	0.25	0.099	J
107-06-2	1,2-Dichloroethane	ND	0.73	0.23	ND	0.18	0.058	
71-55-6	1,1,1-Trichloroethane	ND	0.73	0.25	ND	0.13	0.046	
71-43-2	Benzene	1.6	0.73	0.23	0.51	0.23	0.073	
56-23-5	Carbon Tetrachloride	0.51	0.73	0.22	0.081	0.12	0.035	J
110-82-7	Cyclohexane	ND	1.5	0.42	ND	0.42	0.12	
78-87-5	1,2-Dichloropropane	ND	0.73	0.23	ND	0.16	0.051	
75-27-4	Bromodichloromethane	ND	0.73	0.22	ND	0.11	0.033	
79-01-6	Trichloroethene	ND	0.73	0.20	ND	0.14	0.038	
123-91-1	1,4-Dioxane	ND	0.73	0.23	ND	0.20	0.065	
80-62-6	Methyl Methacrylate	ND	1.5	0.45	ND	0.36	0.11	
142-82-5	n-Heptane	ND	0.73	0.25	ND	0.18	0.061	
10061-01-5	cis-1,3-Dichloropropene	ND	0.73	0.20	ND	0.16	0.045	
108-10-1	4-Methyl-2-pentanone	ND	0.73	0.23	ND	0.18	0.057	
10061-02-6	trans-1,3-Dichloropropene	ND	0.73	0.23	ND	0.16	0.051	
79-00-5	1,1,2-Trichloroethane	ND	0.73	0.23	ND	0.13	0.043	
108-88-3	Toluene	1.4	0.73	0.25	0.38	0.19	0.066	
591-78-6	2-Hexanone	ND	0.73	0.23	ND	0.18	0.057	
124-48-1	Dibromochloromethane	ND	0.73	0.23	ND	0.086	0.027	
106-93-4	1,2-Dibromoethane	ND	0.73	0.23	ND	0.095	0.030	
123-86-4	n-Butyl Acetate	0.37	0.73	0.23	0.078	0.15	0.049	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-003

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00604

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.73	0.26	ND	0.16	0.056	
127-18-4	Tetrachloroethene	ND	0.73	0.20	ND	0.11	0.030	
108-90-7	Chlorobenzene	ND	0.73	0.23	ND	0.16	0.051	
100-41-4	Ethylbenzene	0.27	0.73	0.23	0.062	0.17	0.054	J
179601-23-1	m,p-Xylenes	0.45	1.5	0.44	0.10	0.34	0.10	J
75-25-2	Bromoform	ND	0.73	0.22	ND	0.071	0.021	
100-42-5	Styrene	ND	0.73	0.22	ND	0.17	0.051	
95-47-6	o-Xylene	ND	0.73	0.22	ND	0.17	0.050	
111-84-2	n-Nonane	0.24	0.73	0.22	0.045	0.14	0.042	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.73	0.22	ND	0.11	0.032	
98-82-8	Cumene	ND	0.73	0.22	ND	0.15	0.045	
80-56-8	alpha-Pinene	ND	0.73	0.20	ND	0.13	0.037	
103-65-1	n-Propylbenzene	ND	0.73	0.23	ND	0.15	0.048	
622-96-8	4-Ethyltoluene	ND	0.73	0.23	ND	0.15	0.048	
108-67-8	1,3,5-Trimethylbenzene	ND	0.73	0.23	ND	0.15	0.048	
95-63-6	1,2,4-Trimethylbenzene	ND	0.73	0.22	ND	0.15	0.045	
100-44-7	Benzyl Chloride	ND	0.73	0.16	ND	0.14	0.031	
541-73-1	1,3-Dichlorobenzene	ND	0.73	0.22	ND	0.12	0.036	
106-46-7	1,4-Dichlorobenzene	ND	0.73	0.20	ND	0.12	0.034	
95-50-1	1,2-Dichlorobenzene	ND	0.73	0.22	ND	0.12	0.036	
5989-27-5	d-Limonene	0.21	0.73	0.20	0.037	0.13	0.037	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.73	0.14	ND	0.076	0.015	
120-82-1	1,2,4-Trichlorobenzene	ND	0.73	0.23	ND	0.098	0.031	
91-20-3	Naphthalene	ND	0.73	0.26	ND	0.14	0.050	
87-68-3	Hexachlorobutadiene	ND	0.73	0.20	ND	0.068	0.019	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-003

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00604

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.18 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.46

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
9.97	Trimethylsilanol	5.1	
17.13	Hexamethylcyclotrisiloxane	16	
22.04	Unidentified Siloxane	7.4	
23.70	Unidentified Compound	5.5	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00688

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.66	0.71	0.20	0.38	0.41	0.12	J
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	0.71	0.24	0.41	0.14	0.049	
74-87-3	Chloromethane	0.37	0.71	0.21	0.18	0.34	0.10	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.71	0.27	ND	0.10	0.039	
75-01-4	Vinyl Chloride	ND	0.71	0.24	ND	0.28	0.094	
106-99-0	1,3-Butadiene	ND	0.71	0.31	ND	0.32	0.14	
74-83-9	Bromomethane	ND	0.71	0.27	ND	0.18	0.070	
75-00-3	Chloroethane	ND	0.71	0.24	ND	0.27	0.092	
64-17-5	Ethanol	6.6	7.1	1.1	3.5	3.8	0.60	J
75-05-8	Acetonitrile	0.43	0.71	0.26	0.26	0.42	0.15	J
107-02-8	Acrolein	0.43	2.8	0.24	0.19	1.2	0.11	J
67-64-1	Acetone	10	7.1	1.1	4.4	3.0	0.46	
75-69-4	Trichlorofluoromethane	1.6	0.71	0.24	0.29	0.13	0.043	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.7	7.1	0.60	0.71	2.9	0.24	J
107-13-1	Acrylonitrile	ND	0.71	0.24	ND	0.33	0.11	
75-35-4	1,1-Dichloroethene	ND	0.71	0.24	ND	0.18	0.061	
75-09-2	Methylene Chloride	0.69	0.71	0.24	0.20	0.20	0.070	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.71	0.23	ND	0.23	0.073	
76-13-1	Trichlorotrifluoroethane	0.47	0.71	0.24	0.061	0.093	0.032	J
75-15-0	Carbon Disulfide	ND	7.1	0.21	ND	2.3	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	0.71	0.27	ND	0.18	0.068	
75-34-3	1,1-Dichloroethane	ND	0.71	0.23	ND	0.18	0.056	
1634-04-4	Methyl tert-Butyl Ether	ND	0.71	0.24	ND	0.20	0.067	
108-05-4	Vinyl Acetate	ND	7.1	0.92	ND	2.0	0.26	
78-93-3	2-Butanone (MEK)	0.92	7.1	0.30	0.31	2.4	0.10	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00688

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.71	0.23	ND	0.18	0.057	
141-78-6	Ethyl Acetate	5.1	1.4	0.50	1.4	0.39	0.14	
110-54-3	n-Hexane	0.23	0.71	0.21	0.065	0.20	0.060	J
67-66-3	Chloroform	ND	0.71	0.24	ND	0.15	0.049	
109-99-9	Tetrahydrofuran (THF)	ND	0.71	0.28	ND	0.24	0.096	
107-06-2	1,2-Dichloroethane	ND	0.71	0.23	ND	0.18	0.056	
71-55-6	1,1,1-Trichloroethane	ND	0.71	0.24	ND	0.13	0.044	
71-43-2	Benzene	0.47	0.71	0.23	0.15	0.22	0.071	J
56-23-5	Carbon Tetrachloride	0.43	0.71	0.21	0.069	0.11	0.034	J
110-82-7	Cyclohexane	ND	1.4	0.41	ND	0.41	0.12	
78-87-5	1,2-Dichloropropane	ND	0.71	0.23	ND	0.15	0.049	
75-27-4	Bromodichloromethane	ND	0.71	0.21	ND	0.11	0.032	
79-01-6	Trichloroethene	ND	0.71	0.20	ND	0.13	0.037	
123-91-1	1,4-Dioxane	ND	0.71	0.23	ND	0.20	0.063	
80-62-6	Methyl Methacrylate	ND	1.4	0.44	ND	0.35	0.11	
142-82-5	n-Heptane	ND	0.71	0.24	ND	0.17	0.059	
10061-01-5	cis-1,3-Dichloropropene	ND	0.71	0.20	ND	0.16	0.044	
108-10-1	4-Methyl-2-pentanone	ND	0.71	0.23	ND	0.17	0.055	
10061-02-6	trans-1,3-Dichloropropene	ND	0.71	0.23	ND	0.16	0.050	
79-00-5	1,1,2-Trichloroethane	ND	0.71	0.23	ND	0.13	0.042	
108-88-3	Toluene	0.67	0.71	0.24	0.18	0.19	0.064	J
591-78-6	2-Hexanone	ND	0.71	0.23	ND	0.17	0.055	
124-48-1	Dibromochloromethane	ND	0.71	0.23	ND	0.083	0.027	
106-93-4	1,2-Dibromoethane	ND	0.71	0.23	ND	0.092	0.030	
123-86-4	n-Butyl Acetate	0.45	0.71	0.23	0.094	0.15	0.048	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00688

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.71	0.26	ND	0.15	0.055	
127-18-4	Tetrachloroethene	ND	0.71	0.20	ND	0.10	0.029	
108-90-7	Chlorobenzene	ND	0.71	0.23	ND	0.15	0.049	
100-41-4	Ethylbenzene	ND	0.71	0.23	ND	0.16	0.052	
179601-23-1	m,p-Xylenes	ND	1.4	0.43	ND	0.33	0.098	
75-25-2	Bromoform	ND	0.71	0.21	ND	0.069	0.021	
100-42-5	Styrene	ND	0.71	0.21	ND	0.17	0.050	
95-47-6	o-Xylene	ND	0.71	0.21	ND	0.16	0.049	
111-84-2	n-Nonane	ND	0.71	0.21	ND	0.14	0.041	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.71	0.21	ND	0.10	0.031	
98-82-8	Cumene	ND	0.71	0.21	ND	0.14	0.043	
80-56-8	alpha-Pinene	ND	0.71	0.20	ND	0.13	0.036	
103-65-1	n-Propylbenzene	ND	0.71	0.23	ND	0.14	0.046	
622-96-8	4-Ethyltoluene	ND	0.71	0.23	ND	0.14	0.046	
108-67-8	1,3,5-Trimethylbenzene	ND	0.71	0.23	ND	0.14	0.046	
95-63-6	1,2,4-Trimethylbenzene	ND	0.71	0.21	ND	0.14	0.043	
100-44-7	Benzyl Chloride	ND	0.71	0.16	ND	0.14	0.030	
541-73-1	1,3-Dichlorobenzene	ND	0.71	0.21	ND	0.12	0.035	
106-46-7	1,4-Dichlorobenzene	ND	0.71	0.20	ND	0.12	0.033	
95-50-1	1,2-Dichlorobenzene	ND	0.71	0.21	ND	0.12	0.035	
5989-27-5	d-Limonene	ND	0.71	0.20	ND	0.13	0.036	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.71	0.14	ND	0.073	0.015	
120-82-1	1,2,4-Trichlorobenzene	ND	0.71	0.23	ND	0.096	0.031	
91-20-3	Naphthalene	ND	0.71	0.26	ND	0.14	0.049	
87-68-3	Hexachlorobutadiene	ND	0.71	0.20	ND	0.067	0.019	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-004

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00688

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.54 Final Pressure (psig): 4.04

Canister Dilution Factor: 1.42

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
3.83	Unidentified Compound	4.1	
20.05	Hexamethylcyclotrisiloxane	2.8	
21.36	n-Nonanal	7.2	
22.43	n-Decanal	4.7	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00162

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.1	0.77	0.21	0.65	0.44	0.12	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.77	0.26	0.43	0.15	0.053	
74-87-3	Chloromethane	0.43	0.77	0.23	0.21	0.37	0.11	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.77	0.29	ND	0.11	0.042	
75-01-4	Vinyl Chloride	ND	0.77	0.26	ND	0.30	0.10	
106-99-0	1,3-Butadiene	ND	0.77	0.34	ND	0.35	0.15	
74-83-9	Bromomethane	ND	0.77	0.29	ND	0.20	0.075	
75-00-3	Chloroethane	ND	0.77	0.26	ND	0.29	0.099	
64-17-5	Ethanol	7.2	7.7	1.2	3.8	4.1	0.65	J
75-05-8	Acetonitrile	11	0.77	0.28	6.4	0.46	0.16	
107-02-8	Acrolein	0.31	3.1	0.26	0.14	1.3	0.11	J
67-64-1	Acetone	8.8	7.7	1.2	3.7	3.2	0.50	
75-69-4	Trichlorofluoromethane	1.6	0.77	0.26	0.29	0.14	0.046	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.6	7.7	0.64	0.66	3.1	0.26	J
107-13-1	Acrylonitrile	ND	0.77	0.26	ND	0.35	0.12	
75-35-4	1,1-Dichloroethene	ND	0.77	0.26	ND	0.19	0.066	
75-09-2	Methylene Chloride	0.93	0.77	0.26	0.27	0.22	0.075	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.77	0.24	ND	0.24	0.078	
76-13-1	Trichlorotrifluoroethane	0.57	0.77	0.26	0.074	0.10	0.034	J
75-15-0	Carbon Disulfide	ND	7.7	0.23	ND	2.5	0.074	
156-60-5	trans-1,2-Dichloroethene	ND	0.77	0.29	ND	0.19	0.073	
75-34-3	1,1-Dichloroethane	ND	0.77	0.24	ND	0.19	0.061	
1634-04-4	Methyl tert-Butyl Ether	ND	0.77	0.26	ND	0.21	0.072	
108-05-4	Vinyl Acetate	ND	7.7	0.99	ND	2.2	0.28	
78-93-3	2-Butanone (MEK)	0.80	7.7	0.32	0.27	2.6	0.11	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00162

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.77	0.24	ND	0.19	0.062	
141-78-6	Ethyl Acetate	9.9	1.5	0.54	2.8	0.42	0.15	
110-54-3	n-Hexane	ND	0.77	0.23	ND	0.22	0.065	
67-66-3	Chloroform	ND	0.77	0.26	ND	0.16	0.053	
109-99-9	Tetrahydrofuran (THF)	ND	0.77	0.31	ND	0.26	0.10	
107-06-2	1,2-Dichloroethane	ND	0.77	0.24	ND	0.19	0.061	
71-55-6	1,1,1-Trichloroethane	ND	0.77	0.26	ND	0.14	0.048	
71-43-2	Benzene	0.28	0.77	0.24	0.089	0.24	0.077	J
56-23-5	Carbon Tetrachloride	0.50	0.77	0.23	0.079	0.12	0.036	J
110-82-7	Cyclohexane	ND	1.5	0.44	ND	0.44	0.13	
78-87-5	1,2-Dichloropropane	ND	0.77	0.24	ND	0.17	0.053	
75-27-4	Bromodichloromethane	ND	0.77	0.23	ND	0.11	0.034	
79-01-6	Trichloroethene	ND	0.77	0.21	ND	0.14	0.040	
123-91-1	1,4-Dioxane	ND	0.77	0.24	ND	0.21	0.068	
80-62-6	Methyl Methacrylate	ND	1.5	0.47	ND	0.37	0.12	
142-82-5	n-Heptane	ND	0.77	0.26	ND	0.19	0.063	
10061-01-5	cis-1,3-Dichloropropene	ND	0.77	0.21	ND	0.17	0.047	
108-10-1	4-Methyl-2-pentanone	ND	0.77	0.24	ND	0.19	0.060	
10061-02-6	trans-1,3-Dichloropropene	ND	0.77	0.24	ND	0.17	0.054	
79-00-5	1,1,2-Trichloroethane	ND	0.77	0.24	ND	0.14	0.045	
108-88-3	Toluene	0.69	0.77	0.26	0.18	0.20	0.069	J
591-78-6	2-Hexanone	ND	0.77	0.24	ND	0.19	0.060	
124-48-1	Dibromochloromethane	ND	0.77	0.24	ND	0.090	0.029	
106-93-4	1,2-Dibromoethane	ND	0.77	0.24	ND	0.10	0.032	
123-86-4	n-Butyl Acetate	ND	0.77	0.24	ND	0.16	0.052	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00162

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.77	0.28	ND	0.16	0.059	
127-18-4	Tetrachloroethene	ND	0.77	0.21	ND	0.11	0.032	
108-90-7	Chlorobenzene	ND	0.77	0.24	ND	0.17	0.053	
100-41-4	Ethylbenzene	ND	0.77	0.24	ND	0.18	0.056	
179601-23-1	m,p-Xylenes	ND	1.5	0.46	ND	0.35	0.11	
75-25-2	Bromoform	ND	0.77	0.23	ND	0.074	0.022	
100-42-5	Styrene	ND	0.77	0.23	ND	0.18	0.054	
95-47-6	o-Xylene	ND	0.77	0.23	ND	0.18	0.053	
111-84-2	n-Nonane	ND	0.77	0.23	ND	0.15	0.044	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.77	0.23	ND	0.11	0.033	
98-82-8	Cumene	ND	0.77	0.23	ND	0.16	0.047	
80-56-8	alpha-Pinene	ND	0.77	0.21	ND	0.14	0.038	
103-65-1	n-Propylbenzene	ND	0.77	0.24	ND	0.16	0.050	
622-96-8	4-Ethyltoluene	ND	0.77	0.24	ND	0.16	0.050	
108-67-8	1,3,5-Trimethylbenzene	ND	0.77	0.24	ND	0.16	0.050	
95-63-6	1,2,4-Trimethylbenzene	ND	0.77	0.23	ND	0.16	0.047	
100-44-7	Benzyl Chloride	ND	0.77	0.17	ND	0.15	0.033	
541-73-1	1,3-Dichlorobenzene	ND	0.77	0.23	ND	0.13	0.038	
106-46-7	1,4-Dichlorobenzene	ND	0.77	0.21	ND	0.13	0.036	
95-50-1	1,2-Dichlorobenzene	ND	0.77	0.23	ND	0.13	0.038	
5989-27-5	d-Limonene	ND	0.77	0.21	ND	0.14	0.038	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.77	0.15	ND	0.079	0.016	
120-82-1	1,2,4-Trichlorobenzene	ND	0.77	0.24	ND	0.10	0.033	
91-20-3	Naphthalene	ND	0.77	0.28	ND	0.15	0.053	
87-68-3	Hexachlorobutadiene	ND	0.77	0.21	ND	0.072	0.020	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-005

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: T

Container ID: AS00162

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.47 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.53

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
9.98	Trimethylsilanol	3.1	
17.14	Hexamethylcyclotrisiloxane	3.7	
21.35	n-Nonanal	7.7	
22.04	Unidentified Siloxane	7.0	
22.43	n-Decanal	5.4	
23.69	Unidentified Siloxane	4.7	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00417

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	1.6	0.65	0.18	0.95	0.37	0.10	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.65	0.22	0.44	0.13	0.044	
74-87-3	Chloromethane	0.36	0.65	0.19	0.18	0.31	0.094	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.65	0.25	ND	0.092	0.035	
75-01-4	Vinyl Chloride	ND	0.65	0.22	ND	0.25	0.086	
106-99-0	1,3-Butadiene	ND	0.65	0.28	ND	0.29	0.13	
74-83-9	Bromomethane	ND	0.65	0.25	ND	0.17	0.063	
75-00-3	Chloroethane	ND	0.65	0.22	ND	0.24	0.083	
64-17-5	Ethanol	18	6.5	1.0	9.4	3.4	0.55	
75-05-8	Acetonitrile	1.4	0.65	0.23	0.85	0.38	0.14	
107-02-8	Acrolein	0.81	2.6	0.22	0.35	1.1	0.096	J
67-64-1	Acetone	17	6.5	0.99	7.2	2.7	0.42	
75-69-4	Trichlorofluoromethane	2.0	0.65	0.22	0.36	0.11	0.039	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.2	6.5	0.54	0.90	2.6	0.22	J
107-13-1	Acrylonitrile	ND	0.65	0.22	ND	0.30	0.10	
75-35-4	1,1-Dichloroethene	ND	0.65	0.22	ND	0.16	0.055	
75-09-2	Methylene Chloride	1.8	0.65	0.22	0.51	0.19	0.063	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.65	0.21	ND	0.21	0.066	
76-13-1	Trichlorotrifluoroethane	0.55	0.65	0.22	0.072	0.084	0.029	J
75-15-0	Carbon Disulfide	0.27	6.5	0.19	0.088	2.1	0.062	J
156-60-5	trans-1,2-Dichloroethene	ND	0.65	0.25	ND	0.16	0.062	
75-34-3	1,1-Dichloroethane	ND	0.65	0.21	ND	0.16	0.051	
1634-04-4	Methyl tert-Butyl Ether	ND	0.65	0.22	ND	0.18	0.061	
108-05-4	Vinyl Acetate	ND	6.5	0.84	ND	1.8	0.24	
78-93-3	2-Butanone (MEK)	3.3	6.5	0.27	1.1	2.2	0.092	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00417

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.65	0.21	ND	0.16	0.052	
141-78-6	Ethyl Acetate	9.3	1.3	0.45	2.6	0.36	0.13	
110-54-3	n-Hexane	1.6	0.65	0.19	0.44	0.18	0.055	
67-66-3	Chloroform	ND	0.65	0.22	ND	0.13	0.045	
109-99-9	Tetrahydrofuran (THF)	0.32	0.65	0.26	0.11	0.22	0.088	J
107-06-2	1,2-Dichloroethane	ND	0.65	0.21	ND	0.16	0.051	
71-55-6	1,1,1-Trichloroethane	ND	0.65	0.22	ND	0.12	0.040	
71-43-2	Benzene	0.71	0.65	0.21	0.22	0.20	0.065	
56-23-5	Carbon Tetrachloride	0.51	0.65	0.19	0.080	0.10	0.031	J
110-82-7	Cyclohexane	0.58	1.3	0.37	0.17	0.37	0.11	J
78-87-5	1,2-Dichloropropane	ND	0.65	0.21	ND	0.14	0.045	
75-27-4	Bromodichloromethane	ND	0.65	0.19	ND	0.096	0.029	
79-01-6	Trichloroethene	ND	0.65	0.18	ND	0.12	0.034	
123-91-1	1,4-Dioxane	ND	0.65	0.21	ND	0.18	0.057	
80-62-6	Methyl Methacrylate	ND	1.3	0.40	ND	0.32	0.098	
142-82-5	n-Heptane	0.51	0.65	0.22	0.12	0.16	0.054	J
10061-01-5	cis-1,3-Dichloropropene	ND	0.65	0.18	ND	0.14	0.040	
108-10-1	4-Methyl-2-pentanone	ND	0.65	0.21	ND	0.16	0.050	
10061-02-6	trans-1,3-Dichloropropene	ND	0.65	0.21	ND	0.14	0.045	
79-00-5	1,1,2-Trichloroethane	ND	0.65	0.21	ND	0.12	0.038	
108-88-3	Toluene	10	0.65	0.22	2.7	0.17	0.058	
591-78-6	2-Hexanone	ND	0.65	0.21	ND	0.16	0.050	
124-48-1	Dibromochloromethane	ND	0.65	0.21	ND	0.076	0.024	
106-93-4	1,2-Dibromoethane	ND	0.65	0.21	ND	0.084	0.027	
123-86-4	n-Butyl Acetate	0.61	0.65	0.21	0.13	0.14	0.043	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00417

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.29

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.65	0.23	ND	0.14	0.050	
127-18-4	Tetrachloroethene	ND	0.65	0.18	ND	0.095	0.027	
108-90-7	Chlorobenzene	ND	0.65	0.21	ND	0.14	0.045	
100-41-4	Ethylbenzene	0.48	0.65	0.21	0.11	0.15	0.048	J
179601-23-1	m,p-Xylenes	1.0	1.3	0.39	0.24	0.30	0.089	J
75-25-2	Bromoform	ND	0.65	0.19	ND	0.062	0.019	
100-42-5	Styrene	0.22	0.65	0.19	0.051	0.15	0.045	J
95-47-6	o-Xylene	0.36	0.65	0.19	0.082	0.15	0.045	J
111-84-2	n-Nonane	0.73	0.65	0.19	0.14	0.12	0.037	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.65	0.19	ND	0.094	0.028	
98-82-8	Cumene	ND	0.65	0.19	ND	0.13	0.039	
80-56-8	alpha-Pinene	0.57	0.65	0.18	0.10	0.12	0.032	J
103-65-1	n-Propylbenzene	ND	0.65	0.21	ND	0.13	0.042	
622-96-8	4-Ethyltoluene	ND	0.65	0.21	ND	0.13	0.042	
108-67-8	1,3,5-Trimethylbenzene	ND	0.65	0.21	ND	0.13	0.042	
95-63-6	1,2,4-Trimethylbenzene	0.32	0.65	0.19	0.066	0.13	0.039	J
100-44-7	Benzyl Chloride	ND	0.65	0.14	ND	0.12	0.027	
541-73-1	1,3-Dichlorobenzene	ND	0.65	0.19	ND	0.11	0.032	
106-46-7	1,4-Dichlorobenzene	ND	0.65	0.18	ND	0.11	0.030	
95-50-1	1,2-Dichlorobenzene	ND	0.65	0.19	ND	0.11	0.032	
5989-27-5	d-Limonene	0.54	0.65	0.18	0.098	0.12	0.032	J
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.65	0.13	ND	0.067	0.013	
120-82-1	1,2,4-Trichlorobenzene	ND	0.65	0.21	ND	0.087	0.028	
91-20-3	Naphthalene	ND	0.65	0.23	ND	0.12	0.044	
87-68-3	Hexachlorobutadiene	ND	0.65	0.18	ND	0.060	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-006

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: T

Container ID: AS00417

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.31 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.29

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.69	Isobutane	3.1	
7.71	n-Pentane	4.4	
9.40	1-Propanol	3.4	
9.97	Trimethylsilanol	7.5	
12.74	1-Butanol	4.0	
17.14	Hexamethylcyclotrisiloxane	3.2	
20.04	n-Octanal	4.8	
20.13	Unidentified Compound	2.7	
20.90	C13H28 Branched Alkane	3.1	
21.35	n-Nonanal	11	
22.04	Unidentified Siloxane	13	
22.43	n-Decanal	7.7	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D3-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00341

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.50 Final Pressure (psig): 3.55

Canister Dilution Factor: 2.23

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.66	1.1	0.31	0.38	0.65	0.18	J
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	1.1	0.38	0.43	0.23	0.077	
74-87-3	Chloromethane	0.46	1.1	0.33	0.22	0.54	0.16	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.1	0.42	ND	0.16	0.061	
75-01-4	Vinyl Chloride	ND	1.1	0.38	ND	0.44	0.15	
106-99-0	1,3-Butadiene	ND	1.1	0.49	ND	0.50	0.22	
74-83-9	Bromomethane	ND	1.1	0.42	ND	0.29	0.11	
75-00-3	Chloroethane	ND	1.1	0.38	ND	0.42	0.14	
64-17-5	Ethanol	4.6	11	1.8	2.4	5.9	0.95	J
75-05-8	Acetonitrile	ND	1.1	0.40	ND	0.66	0.24	
107-02-8	Acrolein	ND	4.5	0.38	ND	1.9	0.17	
67-64-1	Acetone	8.2	11	1.7	3.5	4.7	0.72	J
75-69-4	Trichlorofluoromethane	1.7	1.1	0.38	0.31	0.20	0.067	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	11	0.94	ND	4.5	0.38	
107-13-1	Acrylonitrile	ND	1.1	0.38	ND	0.51	0.17	
75-35-4	1,1-Dichloroethene	ND	1.1	0.38	ND	0.28	0.096	
75-09-2	Methylene Chloride	0.84	1.1	0.38	0.24	0.32	0.11	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.1	0.36	ND	0.36	0.11	
76-13-1	Trichlorotrifluoroethane	0.53	1.1	0.38	0.069	0.15	0.049	J
75-15-0	Carbon Disulfide	ND	11	0.33	ND	3.6	0.11	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.42	ND	0.28	0.11	
75-34-3	1,1-Dichloroethane	ND	1.1	0.36	ND	0.28	0.088	
1634-04-4	Methyl tert-Butyl Ether	ND	1.1	0.38	ND	0.31	0.11	
108-05-4	Vinyl Acetate	ND	11	1.4	ND	3.2	0.41	
78-93-3	2-Butanone (MEK)	0.55	11	0.47	0.19	3.8	0.16	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D3-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00341

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.50 Final Pressure (psig): 3.55

Canister Dilution Factor: 2.23

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	1.1	0.36	ND	0.28	0.090	
141-78-6	Ethyl Acetate	15	2.2	0.78	4.2	0.62	0.22	
110-54-3	n-Hexane	ND	1.1	0.33	ND	0.32	0.095	
67-66-3	Chloroform	ND	1.1	0.38	ND	0.23	0.078	
109-99-9	Tetrahydrofuran (THF)	ND	1.1	0.45	ND	0.38	0.15	
107-06-2	1,2-Dichloroethane	ND	1.1	0.36	ND	0.28	0.088	
71-55-6	1,1,1-Trichloroethane	ND	1.1	0.38	ND	0.20	0.070	
71-43-2	Benzene	ND	1.1	0.36	ND	0.35	0.11	
56-23-5	Carbon Tetrachloride	0.44	1.1	0.33	0.071	0.18	0.053	J
110-82-7	Cyclohexane	ND	2.2	0.65	ND	0.65	0.19	
78-87-5	1,2-Dichloropropane	ND	1.1	0.36	ND	0.24	0.077	
75-27-4	Bromodichloromethane	ND	1.1	0.33	ND	0.17	0.050	
79-01-6	Trichloroethene	ND	1.1	0.31	ND	0.21	0.058	
123-91-1	1,4-Dioxane	ND	1.1	0.36	ND	0.31	0.099	
80-62-6	Methyl Methacrylate	ND	2.2	0.69	ND	0.54	0.17	
142-82-5	n-Heptane	ND	1.1	0.38	ND	0.27	0.093	
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	0.31	ND	0.25	0.069	
108-10-1	4-Methyl-2-pentanone	ND	1.1	0.36	ND	0.27	0.087	
10061-02-6	trans-1,3-Dichloropropene	ND	1.1	0.36	ND	0.25	0.079	
79-00-5	1,1,2-Trichloroethane	ND	1.1	0.36	ND	0.20	0.065	
108-88-3	Toluene	0.87	1.1	0.38	0.23	0.30	0.10	J
591-78-6	2-Hexanone	ND	1.1	0.36	ND	0.27	0.087	
124-48-1	Dibromochloromethane	ND	1.1	0.36	ND	0.13	0.042	
106-93-4	1,2-Dibromoethane	ND	1.1	0.36	ND	0.15	0.046	
123-86-4	n-Butyl Acetate	0.73	1.1	0.36	0.15	0.23	0.075	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D3-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-007

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00341

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.50 Final Pressure (psig): 3.55

Canister Dilution Factor: 2.23

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	1.1	0.40	ND	0.24	0.086	
127-18-4	Tetrachloroethene	ND	1.1	0.31	ND	0.16	0.046	
108-90-7	Chlorobenzene	ND	1.1	0.36	ND	0.24	0.078	
100-41-4	Ethylbenzene	ND	1.1	0.36	ND	0.26	0.082	
179601-23-1	m,p-Xylenes	ND	2.2	0.67	ND	0.51	0.15	
75-25-2	Bromoform	ND	1.1	0.33	ND	0.11	0.032	
100-42-5	Styrene	ND	1.1	0.33	ND	0.26	0.079	
95-47-6	o-Xylene	ND	1.1	0.33	ND	0.26	0.077	
111-84-2	n-Nonane	ND	1.1	0.33	ND	0.21	0.064	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.1	0.33	ND	0.16	0.049	
98-82-8	Cumene	ND	1.1	0.33	ND	0.23	0.068	
80-56-8	alpha-Pinene	ND	1.1	0.31	ND	0.20	0.056	
103-65-1	n-Propylbenzene	ND	1.1	0.36	ND	0.23	0.073	
622-96-8	4-Ethyltoluene	ND	1.1	0.36	ND	0.23	0.073	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	0.36	ND	0.23	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	1.1	0.33	ND	0.23	0.068	
100-44-7	Benzyl Chloride	ND	1.1	0.25	ND	0.22	0.047	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.33	ND	0.19	0.056	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.31	ND	0.19	0.052	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.33	ND	0.19	0.056	
5989-27-5	d-Limonene	ND	1.1	0.31	ND	0.20	0.056	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.1	0.22	ND	0.12	0.023	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	0.36	ND	0.15	0.048	
91-20-3	Naphthalene	ND	1.1	0.40	ND	0.21	0.077	
87-68-3	Hexachlorobutadiene	ND	1.1	0.31	ND	0.10	0.029	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730D3-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-007

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00341

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.50

Final Pressure (psig): 3.55

Canister Dilution Factor: 2.23

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
17.14	Hexamethylcyclotrisiloxane	6.7	
21.35	n-Nonanal	11	
22.41	Unidentified Siloxane	4.7	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00019

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0035 Liter(s)

Initial Pressure (psig): -0.63 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	16,000	210	58	9,500	120	34	
75-71-8	Dichlorodifluoromethane (CFC 12)	110	210	71	23	42	14	J
74-87-3	Chloromethane	ND	210	63	ND	100	30	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	210	79	ND	30	11	
75-01-4	Vinyl Chloride	ND	210	71	ND	82	28	
106-99-0	1,3-Butadiene	210	210	92	93	94	41	J
74-83-9	Bromomethane	ND	210	79	ND	54	20	
75-00-3	Chloroethane	ND	210	71	ND	79	27	
64-17-5	Ethanol	ND	2,100	330	ND	1,100	180	
75-05-8	Acetonitrile	120	210	75	73	120	45	J
107-02-8	Acrolein	ND	830	71	ND	360	31	
67-64-1	Acetone	940	2,100	320	400	880	140	J
75-69-4	Trichlorofluoromethane	ND	210	71	ND	37	13	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	2,100	180	ND	850	71	
107-13-1	Acrylonitrile	ND	210	71	ND	96	33	
75-35-4	1,1-Dichloroethene	ND	210	71	ND	53	18	
75-09-2	Methylene Chloride	ND	210	71	ND	60	20	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	210	67	ND	67	21	
76-13-1	Trichlorotrifluoroethane	72	210	71	9.4	27	9.3	J
75-15-0	Carbon Disulfide	ND	2,100	63	ND	670	20	
156-60-5	trans-1,2-Dichloroethene	ND	210	79	ND	53	20	
75-34-3	1,1-Dichloroethane	ND	210	67	ND	52	16	
1634-04-4	Methyl tert-Butyl Ether	210	210	71	59	58	20	
108-05-4	Vinyl Acetate	ND	2,100	270	ND	590	77	
78-93-3	2-Butanone (MEK)	ND	2,100	88	ND	710	30	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00019

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0035 Liter(s)

Initial Pressure (psig): -0.63 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	210	67	ND	53	17	
141-78-6	Ethyl Acetate	ND	420	150	ND	120	41	
110-54-3	n-Hexane	1,600	210	63	440	59	18	
67-66-3	Chloroform	ND	210	71	ND	43	15	
109-99-9	Tetrahydrofuran (THF)	1,700	210	83	570	71	28	
107-06-2	1,2-Dichloroethane	ND	210	67	ND	52	16	
71-55-6	1,1,1-Trichloroethane	ND	210	71	ND	38	13	
71-43-2	Benzene	40,000	210	67	13,000	65	21	
56-23-5	Carbon Tetrachloride	ND	210	63	ND	33	10	
110-82-7	Cyclohexane	560	420	120	160	120	35	
78-87-5	1,2-Dichloropropane	ND	210	67	ND	45	14	
75-27-4	Bromodichloromethane	ND	210	63	ND	31	9.3	
79-01-6	Trichloroethene	ND	210	58	ND	39	11	
123-91-1	1,4-Dioxane	ND	210	67	ND	58	19	
80-62-6	Methyl Methacrylate	ND	420	130	ND	100	32	
142-82-5	n-Heptane	1,100	210	71	260	51	17	
10061-01-5	cis-1,3-Dichloropropene	ND	210	58	ND	46	13	
108-10-1	4-Methyl-2-pentanone	ND	210	67	ND	51	16	
10061-02-6	trans-1,3-Dichloropropene	ND	210	67	ND	46	15	
79-00-5	1,1,2-Trichloroethane	ND	210	67	ND	38	12	
108-88-3	Toluene	3,800	210	71	1,000	55	19	
591-78-6	2-Hexanone	ND	210	67	ND	51	16	
124-48-1	Dibromochloromethane	ND	210	67	ND	24	7.8	
106-93-4	1,2-Dibromoethane	ND	210	67	ND	27	8.7	
123-86-4	n-Butyl Acetate	ND	210	67	ND	44	14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00019

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0035 Liter(s)

Initial Pressure (psig): -0.63 Final Pressure (psig): 5.90

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	2,500	210	75	540	45	16	
127-18-4	Tetrachloroethene	ND	210	58	ND	31	8.6	
108-90-7	Chlorobenzene	1,100	210	67	240	45	14	
100-41-4	Ethylbenzene	2,400	210	67	560	48	15	
179601-23-1	m,p-Xylenes	5,100	420	130	1,200	96	29	
75-25-2	Bromoform	ND	210	63	ND	20	6.1	
100-42-5	Styrene	ND	210	63	ND	49	15	
95-47-6	o-Xylene	2,400	210	63	550	48	14	
111-84-2	n-Nonane	850	210	63	160	40	12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	210	63	ND	30	9.1	
98-82-8	Cumene	750	210	63	150	42	13	
80-56-8	alpha-Pinene	2,800	210	58	510	37	10	
103-65-1	n-Propylbenzene	140	210	67	28	42	14	J
622-96-8	4-Ethyltoluene	300	210	67	62	42	14	
108-67-8	1,3,5-Trimethylbenzene	810	210	67	160	42	14	
95-63-6	1,2,4-Trimethylbenzene	380	210	63	77	42	13	
100-44-7	Benzyl Chloride	ND	210	46	ND	40	8.9	
541-73-1	1,3-Dichlorobenzene	ND	210	63	ND	35	10	
106-46-7	1,4-Dichlorobenzene	2,100	210	58	360	35	9.7	
95-50-1	1,2-Dichlorobenzene	ND	210	63	ND	35	10	
5989-27-5	d-Limonene	580	210	58	100	37	10	
96-12-8	1,2-Dibromo-3-chloropropane	ND	210	41	ND	22	4.3	
120-82-1	1,2,4-Trichlorobenzene	ND	210	67	ND	28	9.0	
91-20-3	Naphthalene	ND	210	75	ND	40	14	
87-68-3	Hexachlorobutadiene	ND	210	58	ND	20	5.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730N-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-008

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00019

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0035 Liter(s)

Initial Pressure (psig): -0.63

Final Pressure (psig): 5.90

Canister Dilution Factor: 1.46

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.04	Propane	6,000	
5.04	Isobutene	24,000	
5.21	n-Butane	15,000	
5.40	C4H8 Alkene	14,000	
5.69	C4H8 Alkene	9,800	
7.70	C5H10 Compound	5,200	
8.39	C5H10 Compound	6,600	
9.49	Cyclopentene	6,400	
14.24	C7H12 Compound	15,000	
16.49	C8H16 Compound	6,500	
16.65	C8H16 Compound	6,600	
16.80	C8H14 Compound	5,400	
16.89	C8H16 Compound	6,200	
19.71	Camphene	7,000	
19.83	C12H26 Branched Alkane	4,800	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-009

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00075

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -0.70 Final Pressure (psig): 6.08

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	12,000	93	26	7,100	54	15	
75-71-8	Dichlorodifluoromethane (CFC 12)	92	93	31	19	19	6.4	J
74-87-3	Chloromethane	ND	93	28	ND	45	13	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	43	93	35	6.1	13	5.0	J
75-01-4	Vinyl Chloride	130	93	31	49	36	12	
106-99-0	1,3-Butadiene	150	93	41	69	42	18	
74-83-9	Bromomethane	ND	93	35	ND	24	9.1	
75-00-3	Chloroethane	ND	93	31	ND	35	12	
64-17-5	Ethanol	ND	930	150	ND	490	79	
75-05-8	Acetonitrile	190	93	33	110	55	20	
107-02-8	Acrolein	ND	370	31	ND	160	14	
67-64-1	Acetone	ND	930	140	ND	390	60	
75-69-4	Trichlorofluoromethane	ND	93	31	ND	16	5.6	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	930	78	ND	380	32	
107-13-1	Acrylonitrile	ND	93	31	ND	43	14	
75-35-4	1,1-Dichloroethene	ND	93	31	ND	23	7.9	
75-09-2	Methylene Chloride	ND	93	31	ND	27	9.1	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	93	30	ND	30	9.5	
76-13-1	Trichlorotrifluoroethane	43	93	31	5.6	12	4.1	J
75-15-0	Carbon Disulfide	ND	930	28	ND	300	8.9	
156-60-5	trans-1,2-Dichloroethene	ND	93	35	ND	23	8.9	
75-34-3	1,1-Dichloroethane	ND	93	30	ND	23	7.3	
1634-04-4	Methyl tert-Butyl Ether	110	93	31	31	26	8.7	
108-05-4	Vinyl Acetate	ND	930	120	ND	260	34	
78-93-3	2-Butanone (MEK)	ND	930	39	ND	310	13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.
Client Sample ID: 730NQ-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074
 ALS Sample ID: P1403074-009

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Wida Ang
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00075

Date Collected: 7/30/14
Date Received: 7/31/14
Date Analyzed: 8/7/14
Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -0.70 **Final Pressure (psig):** 6.08

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	53	93	30	13	23	7.5	J
141-78-6	Ethyl Acetate	ND	190	65	ND	51	18	
110-54-3	n-Hexane	930	93	28	260	26	7.9	
67-66-3	Chloroform	ND	93	31	ND	19	6.4	
109-99-9	Tetrahydrofuran (THF)	540	93	37	180	31	13	
107-06-2	1,2-Dichloroethane	ND	93	30	ND	23	7.3	
71-55-6	1,1,1-Trichloroethane	ND	93	31	ND	17	5.8	
71-43-2	Benzene	9,200	93	30	2,900	29	9.3	
56-23-5	Carbon Tetrachloride	ND	93	28	ND	15	4.4	
110-82-7	Cyclohexane	410	190	54	120	54	16	
78-87-5	1,2-Dichloropropane	ND	93	30	ND	20	6.4	
75-27-4	Bromodichloromethane	ND	93	28	ND	14	4.1	
79-01-6	Trichloroethene	ND	93	26	ND	17	4.8	
123-91-1	1,4-Dioxane	ND	93	30	ND	26	8.2	
80-62-6	Methyl Methacrylate	ND	190	57	ND	45	14	
142-82-5	n-Heptane	850	93	31	210	23	7.7	
10061-01-5	cis-1,3-Dichloropropene	ND	93	26	ND	20	5.7	
108-10-1	4-Methyl-2-pentanone	ND	93	30	ND	23	7.2	
10061-02-6	trans-1,3-Dichloropropene	ND	93	30	ND	20	6.5	
79-00-5	1,1,2-Trichloroethane	ND	93	30	ND	17	5.4	
108-88-3	Toluene	1,000	93	31	270	25	8.3	
591-78-6	2-Hexanone	ND	93	30	ND	23	7.2	
124-48-1	Dibromochloromethane	ND	93	30	ND	11	3.5	
106-93-4	1,2-Dibromoethane	ND	93	30	ND	12	3.9	
123-86-4	n-Butyl Acetate	ND	93	30	ND	19	6.2	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-009

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00075

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -0.70 Final Pressure (psig): 6.08

Canister Dilution Factor: 1.48

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	1,400	93	33	290	20	7.1	
127-18-4	Tetrachloroethene	ND	93	26	ND	14	3.8	
108-90-7	Chlorobenzene	2,700	93	30	600	20	6.4	
100-41-4	Ethylbenzene	1,700	93	30	380	21	6.8	
179601-23-1	m,p-Xylenes	4,000	190	56	920	43	13	
75-25-2	Bromoform	ND	93	28	ND	8.9	2.7	
100-42-5	Styrene	ND	93	28	ND	22	6.5	
95-47-6	o-Xylene	1,500	93	28	350	21	6.4	
111-84-2	n-Nonane	820	93	28	160	18	5.3	
79-34-5	1,1,2,2-Tetrachloroethane	ND	93	28	ND	13	4.0	
98-82-8	Cumene	730	93	28	150	19	5.6	
80-56-8	alpha-Pinene	570	93	26	100	17	4.6	
103-65-1	n-Propylbenzene	290	93	30	58	19	6.0	
622-96-8	4-Ethyltoluene	340	93	30	70	19	6.0	
108-67-8	1,3,5-Trimethylbenzene	970	93	30	200	19	6.0	
95-63-6	1,2,4-Trimethylbenzene	860	93	28	180	19	5.6	
100-44-7	Benzyl Chloride	ND	93	20	ND	18	3.9	
541-73-1	1,3-Dichlorobenzene	ND	93	28	ND	15	4.6	
106-46-7	1,4-Dichlorobenzene	180	93	26	30	15	4.3	
95-50-1	1,2-Dichlorobenzene	ND	93	28	ND	15	4.6	
5989-27-5	d-Limonene	ND	93	26	ND	17	4.6	
96-12-8	1,2-Dibromo-3-chloropropane	ND	93	18	ND	9.6	1.9	
120-82-1	1,2,4-Trichlorobenzene	ND	93	30	ND	12	4.0	
91-20-3	Naphthalene	ND	93	33	ND	18	6.4	
87-68-3	Hexachlorobutadiene	ND	93	26	ND	8.7	2.4	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730NQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-009

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00075

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.0080 Liter(s)

Initial Pressure (psig): -0.70

Final Pressure (psig): 6.08

Canister Dilution Factor: 1.48

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.05	Propane	4,000	
4.69	Isobutane	5,100	
5.05	Isobutene	15,000	
5.22	n-Butane	8,000	
5.41	C4H8 Alkene	7,600	
5.69	C4H8 Alkene	5,700	
8.39	C5H10 Compound	4,200	
9.50	Cyclopentene	3,700	
12.72	Methylcyclopentene Isomer	5,800	
14.19	C7H12 Compound	6,300	
14.24	C7H12 Compound	5,500	
15.58	C7H12 Compound	2,300	
19.67	3-Ethyltoluene	2,600	
20.61	C11H24 Branched Alkane	3,100	
20.91	C12H26 Branched Alkane	2,300	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00124

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.000080 Liter(s)

0.000040 Liter(s)

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.20

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	140,000	8,900	2,500	83,000	5,200	1,400	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	8,900	3,000	ND	1,800	610	
74-87-3	Chloromethane	20,000	8,900	2,700	9,900	4,300	1,300	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	8,900	3,400	ND	1,300	480	
75-01-4	Vinyl Chloride	ND	8,900	3,000	ND	3,500	1,200	
106-99-0	1,3-Butadiene	8,100	8,900	3,900	3,700	4,000	1,800	J
74-83-9	Bromomethane	ND	8,900	3,400	ND	2,300	870	
75-00-3	Chloroethane	6,500	8,900	3,000	2,500	3,400	1,100	J
64-17-5	Ethanol	510,000	89,000	14,000	270,000	47,000	7,500	
75-05-8	Acetonitrile	ND	8,900	3,200	ND	5,300	1,900	
107-02-8	Acrolein	ND	36,000	3,000	ND	15,000	1,300	
67-64-1	Acetone	2,600,000	89,000	14,000	1,100,000	37,000	5,800	
75-69-4	Trichlorofluoromethane	ND	8,900	3,000	ND	1,600	540	
67-63-0	2-Propanol (Isopropyl Alcohol)	1,600,000	89,000	7,500	660,000	36,000	3,000	
107-13-1	Acrylonitrile	ND	8,900	3,000	ND	4,100	1,400	
75-35-4	1,1-Dichloroethene	ND	8,900	3,000	ND	2,200	760	
75-09-2	Methylene Chloride	ND	8,900	3,000	ND	2,600	870	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	8,900	2,800	ND	2,800	910	
76-13-1	Trichlorotrifluoroethane	ND	8,900	3,000	ND	1,200	390	
75-15-0	Carbon Disulfide	ND	89,000	2,700	ND	29,000	860	
156-60-5	trans-1,2-Dichloroethene	ND	8,900	3,400	ND	2,200	850	
75-34-3	1,1-Dichloroethane	ND	8,900	2,800	ND	2,200	700	
1634-04-4	Methyl tert-Butyl Ether	ND	8,900	3,000	ND	2,500	840	
108-05-4	Vinyl Acetate	ND	89,000	12,000	ND	25,000	3,300	
78-93-3	2-Butanone (MEK)	2,300,000	180,000	7,500	790,000	60,000	2,500	D

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00124

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.000080 Liter(s)

0.000040 Liter(s)

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.20

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	8,900	2,800	ND	2,200	720	
141-78-6	Ethyl Acetate	250,000	18,000	6,200	69,000	4,900	1,700	
110-54-3	n-Hexane	11,000	8,900	2,700	3,100	2,500	760	
67-66-3	Chloroform	ND	8,900	3,000	ND	1,800	620	
109-99-9	Tetrahydrofuran (THF)	2,800,000	18,000	7,100	950,000	6,000	2,400	D
107-06-2	1,2-Dichloroethane	4,200	8,900	2,800	1,000	2,200	700	J
71-55-6	1,1,1-Trichloroethane	ND	8,900	3,000	ND	1,600	550	
71-43-2	Benzene	1,500,000	8,900	2,800	470,000	2,800	890	
56-23-5	Carbon Tetrachloride	ND	8,900	2,700	ND	1,400	420	
110-82-7	Cyclohexane	ND	18,000	5,100	ND	5,200	1,500	
78-87-5	1,2-Dichloropropane	ND	8,900	2,800	ND	1,900	610	
75-27-4	Bromodichloromethane	ND	8,900	2,700	ND	1,300	400	
79-01-6	Trichloroethene	ND	8,900	2,500	ND	1,700	460	
123-91-1	1,4-Dioxane	ND	8,900	2,800	ND	2,500	790	
80-62-6	Methyl Methacrylate	ND	18,000	5,500	ND	4,300	1,300	
142-82-5	n-Heptane	ND	8,900	3,000	ND	2,200	740	
10061-01-5	cis-1,3-Dichloropropene	ND	8,900	2,500	ND	2,000	550	
108-10-1	4-Methyl-2-pentanone	160,000	8,900	2,800	39,000	2,200	690	
10061-02-6	trans-1,3-Dichloropropene	ND	8,900	2,800	ND	2,000	630	
79-00-5	1,1,2-Trichloroethane	ND	8,900	2,800	ND	1,600	520	
108-88-3	Toluene	270,000	8,900	3,000	73,000	2,400	800	
591-78-6	2-Hexanone	48,000	8,900	2,800	12,000	2,200	690	
124-48-1	Dibromochloromethane	ND	8,900	2,800	ND	1,000	330	
106-93-4	1,2-Dibromoethane	ND	8,900	2,800	ND	1,200	370	
123-86-4	n-Butyl Acetate	200,000	8,900	2,800	42,000	1,900	600	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00124

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.000080 Liter(s)

0.000040 Liter(s)

Initial Pressure (psig): -0.64 Final Pressure (psig): 5.20

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	58,000	8,900	3,200	12,000	1,900	680	
127-18-4	Tetrachloroethene	2,900	8,900	2,500	420	1,300	370	J
108-90-7	Chlorobenzene	7,700	8,900	2,800	1,700	1,900	620	J
100-41-4	Ethylbenzene	200,000	8,900	2,800	46,000	2,000	650	
179601-23-1	m,p-Xylenes	390,000	18,000	5,300	90,000	4,100	1,200	
75-25-2	Bromoform	ND	8,900	2,700	ND	860	260	
100-42-5	Styrene	13,000	8,900	2,700	3,100	2,100	630	
95-47-6	o-Xylene	150,000	8,900	2,700	35,000	2,000	610	
111-84-2	n-Nonane	110,000	8,900	2,700	21,000	1,700	510	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8,900	2,700	ND	1,300	390	
98-82-8	Cumene	43,000	8,900	2,700	8,700	1,800	540	
80-56-8	alpha-Pinene	380,000	8,900	2,500	68,000	1,600	450	
103-65-1	n-Propylbenzene	24,000	8,900	2,800	4,900	1,800	580	
622-96-8	4-Ethyltoluene	31,000	8,900	2,800	6,300	1,800	580	
108-67-8	1,3,5-Trimethylbenzene	29,000	8,900	2,800	6,000	1,800	580	
95-63-6	1,2,4-Trimethylbenzene	75,000	8,900	2,700	15,000	1,800	540	
100-44-7	Benzyl Chloride	ND	8,900	2,000	ND	1,700	380	
541-73-1	1,3-Dichlorobenzene	ND	8,900	2,700	ND	1,500	440	
106-46-7	1,4-Dichlorobenzene	21,000	8,900	2,500	3,600	1,500	410	
95-50-1	1,2-Dichlorobenzene	ND	8,900	2,700	ND	1,500	440	
5989-27-5	d-Limonene	300,000	8,900	2,500	54,000	1,600	450	
96-12-8	1,2-Dibromo-3-chloropropane	ND	8,900	1,800	ND	920	180	
120-82-1	1,2,4-Trichlorobenzene	ND	8,900	2,800	ND	1,200	380	
91-20-3	Naphthalene	ND	8,900	3,200	ND	1,700	610	
87-68-3	Hexachlorobutadiene	ND	8,900	2,500	ND	830	230	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730SQ-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-010

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00124

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.000080 Liter(s)

0.000040 Liter(s)

Initial Pressure (psig): -0.64

Final Pressure (psig): 5.20

Canister Dilution Factor: 1.42

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
8.00	Dimethyl Sulfide	17,000,000	
8.31	Methyl Acetate	6,800,000	
10.78	2-Butanol	14,000,000	
10.94	2-Methylfuran	13,000,000	
11.70	Methyl Propionate	8,500,000	
13.00	2-Methyltetrahydrofuran	2,200,000	
13.23	2-Pentanone	3,100,000	
13.40	Methyl isobutyrate	2,900,000	
14.24	2-Ethylfuran	2,100,000	
14.36	Methyl butyrate	14,000,000	
14.97	Dimethyl disulfide	2,200,000	
15.78	3-Methyl-Methylbutyrate	2,100,000	
16.31	Ethyl butyrate	2,000,000	
20.27	n-Decane	2,300,000	
20.58	p-Isopropyltoluene	3,600,000	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730F-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-011

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00084

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.00014 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	170,000	4,900	1,400	96,000	2,800	800	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	4,900	1,700	ND	990	340	
74-87-3	Chloromethane	16,000	4,900	1,500	7,900	2,400	710	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	4,900	1,900	ND	700	270	
75-01-4	Vinyl Chloride	ND	4,900	1,700	ND	1,900	650	
106-99-0	1,3-Butadiene	6,900	4,900	2,200	3,100	2,200	970	
74-83-9	Bromomethane	ND	4,900	1,900	ND	1,300	480	
75-00-3	Chloroethane	4,900	4,900	1,700	1,900	1,900	630	
64-17-5	Ethanol	1,800,000	49,000	7,800	980,000	26,000	4,200	
75-05-8	Acetonitrile	ND	4,900	1,800	ND	2,900	1,000	
107-02-8	Acrolein	ND	20,000	1,700	ND	8,500	730	
67-64-1	Acetone	2,000,000	49,000	7,500	860,000	21,000	3,200	
75-69-4	Trichlorofluoromethane	ND	4,900	1,700	ND	870	300	
67-63-0	2-Propanol (Isopropyl Alcohol)	590,000	49,000	4,100	240,000	20,000	1,700	
107-13-1	Acrylonitrile	ND	4,900	1,700	ND	2,300	770	
75-35-4	1,1-Dichloroethene	ND	4,900	1,700	ND	1,200	420	
75-09-2	Methylene Chloride	ND	4,900	1,700	ND	1,400	480	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	4,900	1,600	ND	1,600	500	
76-13-1	Trichlorotrifluoroethane	ND	4,900	1,700	ND	640	220	
75-15-0	Carbon Disulfide	2,000	49,000	1,500	640	16,000	470	J
156-60-5	trans-1,2-Dichloroethene	ND	4,900	1,900	ND	1,200	470	
75-34-3	1,1-Dichloroethane	ND	4,900	1,600	ND	1,200	390	
1634-04-4	Methyl tert-Butyl Ether	1,800	4,900	1,700	490	1,400	460	J
108-05-4	Vinyl Acetate	7,600	49,000	6,400	2,100	14,000	1,800	J
78-93-3	2-Butanone (MEK)	1,400,000	140,000	5,800	460,000	46,000	2,000	D

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730F-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-011

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00084

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.00014 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	4,900	1,600	ND	1,200	400	
141-78-6	Ethyl Acetate	280,000	9,800	3,400	77,000	2,700	950	
110-54-3	n-Hexane	6,400	4,900	1,500	1,800	1,400	420	
67-66-3	Chloroform	ND	4,900	1,700	ND	1,000	340	
109-99-9	Tetrahydrofuran (THF)	920,000	4,900	2,000	310,000	1,700	660	
107-06-2	1,2-Dichloroethane	ND	4,900	1,600	ND	1,200	390	
71-55-6	1,1,1-Trichloroethane	ND	4,900	1,700	ND	900	310	
71-43-2	Benzene	880,000	4,900	1,600	280,000	1,500	490	
56-23-5	Carbon Tetrachloride	ND	4,900	1,500	ND	780	230	
110-82-7	Cyclohexane	ND	9,800	2,800	ND	2,800	820	
78-87-5	1,2-Dichloropropane	ND	4,900	1,600	ND	1,100	340	
75-27-4	Bromodichloromethane	ND	4,900	1,500	ND	730	220	
79-01-6	Trichloroethene	ND	4,900	1,400	ND	910	260	
123-91-1	1,4-Dioxane	27,000	4,900	1,600	7,500	1,400	430	
80-62-6	Methyl Methacrylate	ND	9,800	3,000	ND	2,400	740	
142-82-5	n-Heptane	ND	4,900	1,700	ND	1,200	410	
10061-01-5	cis-1,3-Dichloropropene	ND	4,900	1,400	ND	1,100	300	
108-10-1	4-Methyl-2-pentanone	72,000	4,900	1,600	18,000	1,200	380	
10061-02-6	trans-1,3-Dichloropropene	ND	4,900	1,600	ND	1,100	350	
79-00-5	1,1,2-Trichloroethane	ND	4,900	1,600	ND	900	290	
108-88-3	Toluene	200,000	4,900	1,700	52,000	1,300	440	
591-78-6	2-Hexanone	38,000	4,900	1,600	9,400	1,200	380	
124-48-1	Dibromochloromethane	ND	4,900	1,600	ND	570	180	
106-93-4	1,2-Dibromoethane	ND	4,900	1,600	ND	640	200	
123-86-4	n-Butyl Acetate	230,000	4,900	1,600	48,000	1,000	330	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730F-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-011

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00084

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.00014 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 5.31

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	36,000	4,900	1,800	7,700	1,000	380	
127-18-4	Tetrachloroethene	ND	4,900	1,400	ND	720	200	
108-90-7	Chlorobenzene	6,200	4,900	1,600	1,400	1,100	340	
100-41-4	Ethylbenzene	120,000	4,900	1,600	28,000	1,100	360	
179601-23-1	m,p-Xylenes	220,000	9,800	2,900	51,000	2,300	680	
75-25-2	Bromoform	ND	4,900	1,500	ND	470	140	
100-42-5	Styrene	8,600	4,900	1,500	2,000	1,100	340	
95-47-6	o-Xylene	88,000	4,900	1,500	20,000	1,100	340	
111-84-2	n-Nonane	60,000	4,900	1,500	11,000	930	280	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4,900	1,500	ND	710	210	
98-82-8	Cumene	29,000	4,900	1,500	6,000	1,000	300	
80-56-8	alpha-Pinene	100,000	4,900	1,400	18,000	880	250	
103-65-1	n-Propylbenzene	19,000	4,900	1,600	3,800	1,000	320	
622-96-8	4-Ethyltoluene	26,000	4,900	1,600	5,200	1,000	320	
108-67-8	1,3,5-Trimethylbenzene	29,000	4,900	1,600	5,900	1,000	320	
95-63-6	1,2,4-Trimethylbenzene	95,000	4,900	1,500	19,000	1,000	300	
100-44-7	Benzyl Chloride	ND	4,900	1,100	ND	950	210	
541-73-1	1,3-Dichlorobenzene	ND	4,900	1,500	ND	810	240	
106-46-7	1,4-Dichlorobenzene	68,000	4,900	1,400	11,000	810	230	
95-50-1	1,2-Dichlorobenzene	ND	4,900	1,500	ND	810	240	
5989-27-5	d-Limonene	200,000	4,900	1,400	36,000	880	250	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4,900	970	ND	510	100	
120-82-1	1,2,4-Trichlorobenzene	ND	4,900	1,600	ND	660	210	
91-20-3	Naphthalene	2,900	4,900	1,800	550	930	340	J
87-68-3	Hexachlorobutadiene	ND	4,900	1,400	ND	460	130	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730F-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-011

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00084

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.00014 Liter(s)

0.000050 Liter(s)

Initial Pressure (psig): -0.06

Final Pressure (psig): 5.31

Canister Dilution Factor: 1.37

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
8.00	Dimethyl Sulfide	20,000,000	
8.30	Methyl Acetate	10,000,000	
9.42	1-Propanol	3,200,000	
10.78	2-Butanol	4,700,000	
10.94	2-Methylfuran	7,200,000	
11.69	Methyl Propionate	8,000,000	
14.36	Methyl Butanoate	15,000,000	
14.97	Dimethyl disulfide	3,100,000	
15.78	Methyl 3-Methylbutanoate	2,400,000	
16.31	Ethyl Butanoate	2,200,000	
16.84	Methyl Pentanoate	2,300,000	
17.11	2-Methylcyclopentanone	3,200,000	
18.81	Methyl Hexanoate	4,200,000	
19.93	Butyl Butanoate	2,800,000	
20.58	p-Isopropyltoluene	5,500,000	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00338

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.20	0.50	0.14	0.12	0.29	0.081	J
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.17	ND	0.10	0.034	
74-87-3	Chloromethane	ND	0.50	0.15	ND	0.24	0.073	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.19	ND	0.072	0.027	
75-01-4	Vinyl Chloride	ND	0.50	0.17	ND	0.20	0.067	
106-99-0	1,3-Butadiene	ND	0.50	0.22	ND	0.23	0.099	
74-83-9	Bromomethane	ND	0.50	0.19	ND	0.13	0.049	
75-00-3	Chloroethane	ND	0.50	0.17	ND	0.19	0.064	
64-17-5	Ethanol	1.8	5.0	0.80	0.97	2.7	0.42	J
75-05-8	Acetonitrile	ND	0.50	0.18	ND	0.30	0.11	
107-02-8	Acrolein	ND	2.0	0.17	ND	0.87	0.074	
67-64-1	Acetone	1.7	5.0	0.77	0.73	2.1	0.32	J
75-69-4	Trichlorofluoromethane	ND	0.50	0.17	ND	0.089	0.030	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	0.42	ND	2.0	0.17	
107-13-1	Acrylonitrile	ND	0.50	0.17	ND	0.23	0.078	
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	ND	0.13	0.043	
75-09-2	Methylene Chloride	ND	0.50	0.17	ND	0.14	0.049	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	0.16	ND	0.16	0.051	
76-13-1	Trichlorotrifluoroethane	ND	0.50	0.17	ND	0.065	0.022	
75-15-0	Carbon Disulfide	ND	5.0	0.15	ND	1.6	0.048	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.19	ND	0.13	0.048	
75-34-3	1,1-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
108-05-4	Vinyl Acetate	ND	5.0	0.65	ND	1.4	0.18	
78-93-3	2-Butanone (MEK)	1.0	5.0	0.21	0.35	1.7	0.071	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00338

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.16	ND	0.13	0.040	
141-78-6	Ethyl Acetate	0.71	1.0	0.35	0.20	0.28	0.097	J
110-54-3	n-Hexane	ND	0.50	0.15	ND	0.14	0.043	
67-66-3	Chloroform	ND	0.50	0.17	ND	0.10	0.035	
109-99-9	Tetrahydrofuran (THF)	0.64	0.50	0.20	0.22	0.17	0.068	
107-06-2	1,2-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	ND	0.092	0.031	
71-43-2	Benzene	0.55	0.50	0.16	0.17	0.16	0.050	
56-23-5	Carbon Tetrachloride	ND	0.50	0.15	ND	0.080	0.024	
110-82-7	Cyclohexane	ND	1.0	0.29	ND	0.29	0.084	
78-87-5	1,2-Dichloropropane	ND	0.50	0.16	ND	0.11	0.035	
75-27-4	Bromodichloromethane	ND	0.50	0.15	ND	0.075	0.022	
79-01-6	Trichloroethene	ND	0.50	0.14	ND	0.093	0.026	
123-91-1	1,4-Dioxane	ND	0.50	0.16	ND	0.14	0.044	
80-62-6	Methyl Methacrylate	ND	1.0	0.31	ND	0.24	0.076	
142-82-5	n-Heptane	ND	0.50	0.17	ND	0.12	0.041	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	ND	0.11	0.031	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.16	ND	0.12	0.039	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	ND	0.11	0.035	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.16	ND	0.092	0.029	
108-88-3	Toluene	0.37	0.50	0.17	0.097	0.13	0.045	J
591-78-6	2-Hexanone	ND	0.50	0.16	ND	0.12	0.039	
124-48-1	Dibromochloromethane	ND	0.50	0.16	ND	0.059	0.019	
106-93-4	1,2-Dibromoethane	ND	0.50	0.16	ND	0.065	0.021	
123-86-4	n-Butyl Acetate	ND	0.50	0.16	ND	0.11	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00338

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	0.18	ND	0.11	0.039	
127-18-4	Tetrachloroethene	ND	0.50	0.14	ND	0.074	0.021	
108-90-7	Chlorobenzene	ND	0.50	0.16	ND	0.11	0.035	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
75-25-2	Bromoform	ND	0.50	0.15	ND	0.048	0.015	
100-42-5	Styrene	ND	0.50	0.15	ND	0.12	0.035	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
111-84-2	n-Nonane	ND	0.50	0.15	ND	0.095	0.029	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.15	ND	0.073	0.022	
98-82-8	Cumene	ND	0.50	0.15	ND	0.10	0.031	
80-56-8	alpha-Pinene	ND	0.50	0.14	ND	0.090	0.025	
103-65-1	n-Propylbenzene	ND	0.50	0.16	ND	0.10	0.033	
622-96-8	4-Ethyltoluene	ND	0.50	0.16	ND	0.10	0.033	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.16	ND	0.10	0.033	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.15	ND	0.10	0.031	
100-44-7	Benzyl Chloride	ND	0.50	0.11	ND	0.097	0.021	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.14	ND	0.083	0.023	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
5989-27-5	d-Limonene	ND	0.50	0.14	ND	0.090	0.025	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.099	ND	0.052	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.16	ND	0.067	0.022	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	
87-68-3	Hexachlorobutadiene	ND	0.50	0.14	ND	0.047	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-012

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00338

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
17.14	Hexamethylcyclotrisiloxane	2.2	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	0.14	ND	0.29	0.081	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.17	ND	0.10	0.034	
74-87-3	Chloromethane	ND	0.50	0.15	ND	0.24	0.073	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.19	ND	0.072	0.027	
75-01-4	Vinyl Chloride	ND	0.50	0.17	ND	0.20	0.067	
106-99-0	1,3-Butadiene	ND	0.50	0.22	ND	0.23	0.099	
74-83-9	Bromomethane	ND	0.50	0.19	ND	0.13	0.049	
75-00-3	Chloroethane	ND	0.50	0.17	ND	0.19	0.064	
64-17-5	Ethanol	ND	5.0	0.80	ND	2.7	0.42	
75-05-8	Acetonitrile	ND	0.50	0.18	ND	0.30	0.11	
107-02-8	Acrolein	ND	2.0	0.17	ND	0.87	0.074	
67-64-1	Acetone	ND	5.0	0.77	ND	2.1	0.32	
75-69-4	Trichlorofluoromethane	ND	0.50	0.17	ND	0.089	0.030	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	0.42	ND	2.0	0.17	
107-13-1	Acrylonitrile	ND	0.50	0.17	ND	0.23	0.078	
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	ND	0.13	0.043	
75-09-2	Methylene Chloride	ND	0.50	0.17	ND	0.14	0.049	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	0.16	ND	0.16	0.051	
76-13-1	Trichlorotrifluoroethane	ND	0.50	0.17	ND	0.065	0.022	
75-15-0	Carbon Disulfide	ND	5.0	0.15	ND	1.6	0.048	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.19	ND	0.13	0.048	
75-34-3	1,1-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
108-05-4	Vinyl Acetate	ND	5.0	0.65	ND	1.4	0.18	
78-93-3	2-Butanone (MEK)	ND	5.0	0.21	ND	1.7	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.16	ND	0.13	0.040	
141-78-6	Ethyl Acetate	ND	1.0	0.35	ND	0.28	0.097	
110-54-3	n-Hexane	ND	0.50	0.15	ND	0.14	0.043	
67-66-3	Chloroform	ND	0.50	0.17	ND	0.10	0.035	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	0.20	ND	0.17	0.068	
107-06-2	1,2-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	ND	0.092	0.031	
71-43-2	Benzene	ND	0.50	0.16	ND	0.16	0.050	
56-23-5	Carbon Tetrachloride	ND	0.50	0.15	ND	0.080	0.024	
110-82-7	Cyclohexane	ND	1.0	0.29	ND	0.29	0.084	
78-87-5	1,2-Dichloropropane	ND	0.50	0.16	ND	0.11	0.035	
75-27-4	Bromodichloromethane	ND	0.50	0.15	ND	0.075	0.022	
79-01-6	Trichloroethene	ND	0.50	0.14	ND	0.093	0.026	
123-91-1	1,4-Dioxane	ND	0.50	0.16	ND	0.14	0.044	
80-62-6	Methyl Methacrylate	ND	1.0	0.31	ND	0.24	0.076	
142-82-5	n-Heptane	ND	0.50	0.17	ND	0.12	0.041	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	ND	0.11	0.031	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.16	ND	0.12	0.039	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	ND	0.11	0.035	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.16	ND	0.092	0.029	
108-88-3	Toluene	ND	0.50	0.17	ND	0.13	0.045	
591-78-6	2-Hexanone	ND	0.50	0.16	ND	0.12	0.039	
124-48-1	Dibromochloromethane	ND	0.50	0.16	ND	0.059	0.019	
106-93-4	1,2-Dibromoethane	ND	0.50	0.16	ND	0.065	0.021	
123-86-4	n-Butyl Acetate	ND	0.50	0.16	ND	0.11	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	0.18	ND	0.11	0.039	
127-18-4	Tetrachloroethene	ND	0.50	0.14	ND	0.074	0.021	
108-90-7	Chlorobenzene	ND	0.50	0.16	ND	0.11	0.035	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
75-25-2	Bromoform	ND	0.50	0.15	ND	0.048	0.015	
100-42-5	Styrene	ND	0.50	0.15	ND	0.12	0.035	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
111-84-2	n-Nonane	ND	0.50	0.15	ND	0.095	0.029	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.15	ND	0.073	0.022	
98-82-8	Cumene	ND	0.50	0.15	ND	0.10	0.031	
80-56-8	alpha-Pinene	ND	0.50	0.14	ND	0.090	0.025	
103-65-1	n-Propylbenzene	ND	0.50	0.16	ND	0.10	0.033	
622-96-8	4-Ethyltoluene	ND	0.50	0.16	ND	0.10	0.033	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.16	ND	0.10	0.033	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.15	ND	0.10	0.031	
100-44-7	Benzyl Chloride	ND	0.50	0.11	ND	0.097	0.021	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.14	ND	0.083	0.023	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
5989-27-5	d-Limonene	ND	0.50	0.14	ND	0.090	0.025	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.099	ND	0.052	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.16	ND	0.067	0.022	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	
87-68-3	Hexachlorobutadiene	ND	0.50	0.14	ND	0.047	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-MB

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
No Compounds Detected			

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	0.14	ND	0.29	0.081	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.17	ND	0.10	0.034	
74-87-3	Chloromethane	ND	0.50	0.15	ND	0.24	0.073	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.19	ND	0.072	0.027	
75-01-4	Vinyl Chloride	ND	0.50	0.17	ND	0.20	0.067	
106-99-0	1,3-Butadiene	ND	0.50	0.22	ND	0.23	0.099	
74-83-9	Bromomethane	ND	0.50	0.19	ND	0.13	0.049	
75-00-3	Chloroethane	ND	0.50	0.17	ND	0.19	0.064	
64-17-5	Ethanol	ND	5.0	0.80	ND	2.7	0.42	
75-05-8	Acetonitrile	ND	0.50	0.18	ND	0.30	0.11	
107-02-8	Acrolein	ND	2.0	0.17	ND	0.87	0.074	
67-64-1	Acetone	ND	5.0	0.77	ND	2.1	0.32	
75-69-4	Trichlorofluoromethane	ND	0.50	0.17	ND	0.089	0.030	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	0.42	ND	2.0	0.17	
107-13-1	Acrylonitrile	ND	0.50	0.17	ND	0.23	0.078	
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	ND	0.13	0.043	
75-09-2	Methylene Chloride	ND	0.50	0.17	ND	0.14	0.049	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	0.16	ND	0.16	0.051	
76-13-1	Trichlorotrifluoroethane	ND	0.50	0.17	ND	0.065	0.022	
75-15-0	Carbon Disulfide	ND	5.0	0.15	ND	1.6	0.048	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.19	ND	0.13	0.048	
75-34-3	1,1-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
108-05-4	Vinyl Acetate	ND	5.0	0.65	ND	1.4	0.18	
78-93-3	2-Butanone (MEK)	ND	5.0	0.21	ND	1.7	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.16	ND	0.13	0.040	
141-78-6	Ethyl Acetate	ND	1.0	0.35	ND	0.28	0.097	
110-54-3	n-Hexane	ND	0.50	0.15	ND	0.14	0.043	
67-66-3	Chloroform	ND	0.50	0.17	ND	0.10	0.035	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	0.20	ND	0.17	0.068	
107-06-2	1,2-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	ND	0.092	0.031	
71-43-2	Benzene	ND	0.50	0.16	ND	0.16	0.050	
56-23-5	Carbon Tetrachloride	ND	0.50	0.15	ND	0.080	0.024	
110-82-7	Cyclohexane	ND	1.0	0.29	ND	0.29	0.084	
78-87-5	1,2-Dichloropropane	ND	0.50	0.16	ND	0.11	0.035	
75-27-4	Bromodichloromethane	ND	0.50	0.15	ND	0.075	0.022	
79-01-6	Trichloroethene	ND	0.50	0.14	ND	0.093	0.026	
123-91-1	1,4-Dioxane	ND	0.50	0.16	ND	0.14	0.044	
80-62-6	Methyl Methacrylate	ND	1.0	0.31	ND	0.24	0.076	
142-82-5	n-Heptane	ND	0.50	0.17	ND	0.12	0.041	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	ND	0.11	0.031	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.16	ND	0.12	0.039	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	ND	0.11	0.035	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.16	ND	0.092	0.029	
108-88-3	Toluene	ND	0.50	0.17	ND	0.13	0.045	
591-78-6	2-Hexanone	ND	0.50	0.16	ND	0.12	0.039	
124-48-1	Dibromochloromethane	ND	0.50	0.16	ND	0.059	0.019	
106-93-4	1,2-Dibromoethane	ND	0.50	0.16	ND	0.065	0.021	
123-86-4	n-Butyl Acetate	ND	0.50	0.16	ND	0.11	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	0.18	ND	0.11	0.039	
127-18-4	Tetrachloroethene	ND	0.50	0.14	ND	0.074	0.021	
108-90-7	Chlorobenzene	ND	0.50	0.16	ND	0.11	0.035	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
75-25-2	Bromoform	ND	0.50	0.15	ND	0.048	0.015	
100-42-5	Styrene	ND	0.50	0.15	ND	0.12	0.035	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
111-84-2	n-Nonane	ND	0.50	0.15	ND	0.095	0.029	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.15	ND	0.073	0.022	
98-82-8	Cumene	ND	0.50	0.15	ND	0.10	0.031	
80-56-8	alpha-Pinene	ND	0.50	0.14	ND	0.090	0.025	
103-65-1	n-Propylbenzene	ND	0.50	0.16	ND	0.10	0.033	
622-96-8	4-Ethyltoluene	ND	0.50	0.16	ND	0.10	0.033	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.16	ND	0.10	0.033	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.15	ND	0.10	0.031	
100-44-7	Benzyl Chloride	ND	0.50	0.11	ND	0.097	0.021	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.14	ND	0.083	0.023	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
5989-27-5	d-Limonene	ND	0.50	0.14	ND	0.090	0.025	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.099	ND	0.052	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.16	ND	0.067	0.022	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	
87-68-3	Hexachlorobutadiene	ND	0.50	0.14	ND	0.047	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-MB

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
No Compounds Detected			

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	ND	0.50	0.14	ND	0.29	0.081	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	0.50	0.17	ND	0.10	0.034	
74-87-3	Chloromethane	ND	0.50	0.15	ND	0.24	0.073	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.50	0.19	ND	0.072	0.027	
75-01-4	Vinyl Chloride	ND	0.50	0.17	ND	0.20	0.067	
106-99-0	1,3-Butadiene	ND	0.50	0.22	ND	0.23	0.099	
74-83-9	Bromomethane	ND	0.50	0.19	ND	0.13	0.049	
75-00-3	Chloroethane	ND	0.50	0.17	ND	0.19	0.064	
64-17-5	Ethanol	ND	5.0	0.80	ND	2.7	0.42	
75-05-8	Acetonitrile	ND	0.50	0.18	ND	0.30	0.11	
107-02-8	Acrolein	ND	2.0	0.17	ND	0.87	0.074	
67-64-1	Acetone	ND	5.0	0.77	ND	2.1	0.32	
75-69-4	Trichlorofluoromethane	ND	0.50	0.17	ND	0.089	0.030	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	5.0	0.42	ND	2.0	0.17	
107-13-1	Acrylonitrile	ND	0.50	0.17	ND	0.23	0.078	
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	ND	0.13	0.043	
75-09-2	Methylene Chloride	ND	0.50	0.17	ND	0.14	0.049	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.50	0.16	ND	0.16	0.051	
76-13-1	Trichlorotrifluoroethane	ND	0.50	0.17	ND	0.065	0.022	
75-15-0	Carbon Disulfide	ND	5.0	0.15	ND	1.6	0.048	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.19	ND	0.13	0.048	
75-34-3	1,1-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
1634-04-4	Methyl tert-Butyl Ether	ND	0.50	0.17	ND	0.14	0.047	
108-05-4	Vinyl Acetate	ND	5.0	0.65	ND	1.4	0.18	
78-93-3	2-Butanone (MEK)	ND	5.0	0.21	ND	1.7	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.16	ND	0.13	0.040	
141-78-6	Ethyl Acetate	ND	1.0	0.35	ND	0.28	0.097	
110-54-3	n-Hexane	ND	0.50	0.15	ND	0.14	0.043	
67-66-3	Chloroform	ND	0.50	0.17	ND	0.10	0.035	
109-99-9	Tetrahydrofuran (THF)	ND	0.50	0.20	ND	0.17	0.068	
107-06-2	1,2-Dichloroethane	ND	0.50	0.16	ND	0.12	0.040	
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.17	ND	0.092	0.031	
71-43-2	Benzene	ND	0.50	0.16	ND	0.16	0.050	
56-23-5	Carbon Tetrachloride	ND	0.50	0.15	ND	0.080	0.024	
110-82-7	Cyclohexane	ND	1.0	0.29	ND	0.29	0.084	
78-87-5	1,2-Dichloropropane	ND	0.50	0.16	ND	0.11	0.035	
75-27-4	Bromodichloromethane	ND	0.50	0.15	ND	0.075	0.022	
79-01-6	Trichloroethene	ND	0.50	0.14	ND	0.093	0.026	
123-91-1	1,4-Dioxane	ND	0.50	0.16	ND	0.14	0.044	
80-62-6	Methyl Methacrylate	ND	1.0	0.31	ND	0.24	0.076	
142-82-5	n-Heptane	ND	0.50	0.17	ND	0.12	0.041	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	ND	0.11	0.031	
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.16	ND	0.12	0.039	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	ND	0.11	0.035	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.16	ND	0.092	0.029	
108-88-3	Toluene	ND	0.50	0.17	ND	0.13	0.045	
591-78-6	2-Hexanone	ND	0.50	0.16	ND	0.12	0.039	
124-48-1	Dibromochloromethane	ND	0.50	0.16	ND	0.059	0.019	
106-93-4	1,2-Dibromoethane	ND	0.50	0.16	ND	0.065	0.021	
123-86-4	n-Butyl Acetate	ND	0.50	0.16	ND	0.11	0.034	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 3 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-MB

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m ³	MRL µg/m ³	MDL µg/m ³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	ND	0.50	0.18	ND	0.11	0.039	
127-18-4	Tetrachloroethene	ND	0.50	0.14	ND	0.074	0.021	
108-90-7	Chlorobenzene	ND	0.50	0.16	ND	0.11	0.035	
100-41-4	Ethylbenzene	ND	0.50	0.16	ND	0.12	0.037	
179601-23-1	m,p-Xylenes	ND	1.0	0.30	ND	0.23	0.069	
75-25-2	Bromoform	ND	0.50	0.15	ND	0.048	0.015	
100-42-5	Styrene	ND	0.50	0.15	ND	0.12	0.035	
95-47-6	o-Xylene	ND	0.50	0.15	ND	0.12	0.035	
111-84-2	n-Nonane	ND	0.50	0.15	ND	0.095	0.029	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.15	ND	0.073	0.022	
98-82-8	Cumene	ND	0.50	0.15	ND	0.10	0.031	
80-56-8	alpha-Pinene	ND	0.50	0.14	ND	0.090	0.025	
103-65-1	n-Propylbenzene	ND	0.50	0.16	ND	0.10	0.033	
622-96-8	4-Ethyltoluene	ND	0.50	0.16	ND	0.10	0.033	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.16	ND	0.10	0.033	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.15	ND	0.10	0.031	
100-44-7	Benzyl Chloride	ND	0.50	0.11	ND	0.097	0.021	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.14	ND	0.083	0.023	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.15	ND	0.083	0.025	
5989-27-5	d-Limonene	ND	0.50	0.14	ND	0.090	0.025	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.50	0.099	ND	0.052	0.010	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.16	ND	0.067	0.022	
91-20-3	Naphthalene	ND	0.50	0.18	ND	0.095	0.034	
87-68-3	Hexachlorobutadiene	ND	0.50	0.14	ND	0.047	0.013	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 4 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-MB

Tentatively Identified Compounds

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
No Compounds Detected			

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client: Stantec Consulting Services, Inc.
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Wida Ang
Sample Type: 1.0 L Silonite Summa Canister(s)
Test Notes:

Date(s) Collected: 7/30/14
Date(s) Received: 7/31/14
Date(s) Analyzed: 8/7 - 8/9/14

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene	Acceptance Limits	Data Qualifier
		Percent Recovered	Percent Recovered	Percent Recovered		
Method Blank	P140807-MB	96	100	104	70-130	
Method Blank	P140808-MB	96	100	109	70-130	
Method Blank	P140809-MB	98	99	110	70-130	
Lab Control Sample	P140807-LCS	94	99	104	70-130	
Lab Control Sample	P140808-LCS	98	99	108	70-130	
Lab Control Sample	P140809-LCS	97	98	110	70-130	
730U1-SUMMA	P1403074-001	96	101	108	70-130	
730U1-SUMMA	P1403074-001DUP	96	101	106	70-130	
730D1-SUMMA	P1403074-002	96	102	105	70-130	
730D2-SUMMA	P1403074-003	97	98	107	70-130	
730N-SUMMA	P1403074-004	99	98	107	70-130	
730NQ-SUMMA	P1403074-005	97	99	111	70-130	
730SQ-SUMMA	P1403074-006	96	100	109	70-130	
730D3-SUMMA	P1403074-007	99	99	109	70-130	
730N-GRAB	P1403074-008	98	96	102	70-130	
730NQ-GRAB	P1403074-009	96	95	103	70-130	
730SQ-GRAB	P1403074-010	96	94	106	70-130	
730F-GRAB	P1403074-011	97	95	105	70-130	
730-SUMMA-B	P1403074-012	94	100	106	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	208	165	79	58-139	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	160	78	63-115	
74-87-3	Chloromethane	198	174	88	58-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	210	176	84	65-115	
75-01-4	Vinyl Chloride	200	177	89	64-122	
106-99-0	1,3-Butadiene	244	235	96	57-141	
74-83-9	Bromomethane	200	176	88	68-122	
75-00-3	Chloroethane	200	183	92	66-120	
64-17-5	Ethanol	942	851	90	58-126	
75-05-8	Acetonitrile	224	172	77	64-136	
107-02-8	Acrolein	208	174	84	58-129	
67-64-1	Acetone	1,080	911	84	60-114	
75-69-4	Trichlorofluoromethane	204	176	86	62-107	
67-63-0	2-Propanol (Isopropyl Alcohol)	378	363	96	54-118	
107-13-1	Acrylonitrile	224	176	79	72-143	
75-35-4	1,1-Dichloroethene	218	188	86	69-119	
75-09-2	Methylene Chloride	214	179	84	64-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	200	93	59-131	
76-13-1	Trichlorotrifluoroethane	214	176	82	69-117	
75-15-0	Carbon Disulfide	208	167	80	65-115	
156-60-5	trans-1,2-Dichloroethene	210	188	90	70-126	
75-34-3	1,1-Dichloroethane	208	172	83	68-116	
1634-04-4	Methyl tert-Butyl Ether	212	181	85	69-120	
108-05-4	Vinyl Acetate	984	1000	102	58-160	
78-93-3	2-Butanone (MEK)	220	194	88	70-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	216	178	82	70-119	
141-78-6	Ethyl Acetate	428	402	94	72-129	
110-54-3	n-Hexane	210	173	82	63-115	
67-66-3	Chloroform	216	173	80	68-110	
109-99-9	Tetrahydrofuran (THF)	218	185	85	60-126	
107-06-2	1,2-Dichloroethane	210	168	80	69-118	
71-55-6	1,1,1-Trichloroethane	206	166	81	68-120	
71-43-2	Benzene	220	170	77	69-117	
56-23-5	Carbon Tetrachloride	220	180	82	65-134	
110-82-7	Cyclohexane	416	347	83	69-114	
78-87-5	1,2-Dichloropropane	206	170	83	70-116	
75-27-4	Bromodichloromethane	212	171	81	71-126	
79-01-6	Trichloroethene	206	171	83	71-119	
123-91-1	1,4-Dioxane	216	185	86	72-126	
80-62-6	Methyl Methacrylate	420	366	87	75-136	
142-82-5	n-Heptane	210	174	83	70-117	
10061-01-5	cis-1,3-Dichloropropene	198	183	92	75-132	
108-10-1	4-Methyl-2-pentanone	218	188	86	70-133	
10061-02-6	trans-1,3-Dichloropropene	222	197	89	78-136	
79-00-5	1,1,2-Trichloroethane	204	172	84	72-119	
108-88-3	Toluene	212	172	81	65-116	
591-78-6	2-Hexanone	240	186	78	62-132	
124-48-1	Dibromochloromethane	226	190	84	66-140	
106-93-4	1,2-Dibromoethane	210	189	90	69-130	
123-86-4	n-Butyl Acetate	238	217	91	63-136	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140807-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/7/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	210	175	83	66-118	
127-18-4	Tetrachloroethene	192	162	84	63-123	
108-90-7	Chlorobenzene	212	171	81	66-118	
100-41-4	Ethylbenzene	208	172	83	66-119	
179601-23-1	m,p-Xylenes	408	336	82	64-118	
75-25-2	Bromoform	212	206	97	64-140	
100-42-5	Styrene	212	189	89	68-132	
95-47-6	o-Xylene	202	168	83	65-120	
111-84-2	n-Nonane	206	169	82	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	196	175	89	63-128	
98-82-8	Cumene	202	168	83	65-121	
80-56-8	alpha-Pinene	196	164	84	66-123	
103-65-1	n-Propylbenzene	202	167	83	65-121	
622-96-8	4-Ethyltoluene	212	168	79	64-122	
108-67-8	1,3,5-Trimethylbenzene	214	166	78	64-125	
95-63-6	1,2,4-Trimethylbenzene	210	170	81	64-131	
100-44-7	Benzyl Chloride	214	210	98	67-146	
541-73-1	1,3-Dichlorobenzene	214	180	84	64-130	
106-46-7	1,4-Dichlorobenzene	214	165	77	61-124	
95-50-1	1,2-Dichlorobenzene	208	170	82	63-126	
5989-27-5	d-Limonene	212	187	88	62-133	
96-12-8	1,2-Dibromo-3-chloropropane	210	181	86	62-155	
120-82-1	1,2,4-Trichlorobenzene	212	164	77	59-146	
91-20-3	Naphthalene	190	176	93	56-143	
87-68-3	Hexachlorobutadiene	212	158	75	58-133	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	208	182	88	58-139	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	177	87	63-115	
74-87-3	Chloromethane	198	158	80	58-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	210	185	88	65-115	
75-01-4	Vinyl Chloride	200	184	92	64-122	
106-99-0	1,3-Butadiene	244	240	98	57-141	
74-83-9	Bromomethane	200	181	91	68-122	
75-00-3	Chloroethane	200	188	94	66-120	
64-17-5	Ethanol	942	873	93	58-126	
75-05-8	Acetonitrile	224	178	79	64-136	
107-02-8	Acrolein	208	180	87	58-129	
67-64-1	Acetone	1,080	943	87	60-114	
75-69-4	Trichlorofluoromethane	204	186	91	62-107	
67-63-0	2-Propanol (Isopropyl Alcohol)	378	356	94	54-118	
107-13-1	Acrylonitrile	224	185	83	72-143	
75-35-4	1,1-Dichloroethene	218	196	90	69-119	
75-09-2	Methylene Chloride	214	185	86	64-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	205	95	59-131	
76-13-1	Trichlorotrifluoroethane	214	182	85	69-117	
75-15-0	Carbon Disulfide	208	175	84	65-115	
156-60-5	trans-1,2-Dichloroethene	210	196	93	70-126	
75-34-3	1,1-Dichloroethane	208	180	87	68-116	
1634-04-4	Methyl tert-Butyl Ether	212	189	89	69-120	
108-05-4	Vinyl Acetate	984	1040	106	58-160	
78-93-3	2-Butanone (MEK)	220	203	92	70-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	216	186	86	70-119	
141-78-6	Ethyl Acetate	428	419	98	72-129	
110-54-3	n-Hexane	210	179	85	63-115	
67-66-3	Chloroform	216	182	84	68-110	
109-99-9	Tetrahydrofuran (THF)	218	191	88	60-126	
107-06-2	1,2-Dichloroethane	210	177	84	69-118	
71-55-6	1,1,1-Trichloroethane	206	172	83	68-120	
71-43-2	Benzene	220	172	78	69-117	
56-23-5	Carbon Tetrachloride	220	186	85	65-134	
110-82-7	Cyclohexane	416	353	85	69-114	
78-87-5	1,2-Dichloropropane	206	173	84	70-116	
75-27-4	Bromodichloromethane	212	178	84	71-126	
79-01-6	Trichloroethene	206	175	85	71-119	
123-91-1	1,4-Dioxane	216	188	87	72-126	
80-62-6	Methyl Methacrylate	420	372	89	75-136	
142-82-5	n-Heptane	210	177	84	70-117	
10061-01-5	cis-1,3-Dichloropropene	198	188	95	75-132	
108-10-1	4-Methyl-2-pentanone	218	191	88	70-133	
10061-02-6	trans-1,3-Dichloropropene	222	201	91	78-136	
79-00-5	1,1,2-Trichloroethane	204	176	86	72-119	
108-88-3	Toluene	212	173	82	65-116	
591-78-6	2-Hexanone	240	187	78	62-132	
124-48-1	Dibromochloromethane	226	196	87	66-140	
106-93-4	1,2-Dibromoethane	210	191	91	69-130	
123-86-4	n-Butyl Acetate	238	215	90	63-136	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140808-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/8/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	210	175	83	66-118	
127-18-4	Tetrachloroethene	192	163	85	63-123	
108-90-7	Chlorobenzene	212	173	82	66-118	
100-41-4	Ethylbenzene	208	173	83	66-119	
179601-23-1	m,p-Xylenes	408	338	83	64-118	
75-25-2	Bromoform	212	208	98	64-140	
100-42-5	Styrene	212	191	90	68-132	
95-47-6	o-Xylene	202	167	83	65-120	
111-84-2	n-Nonane	206	168	82	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	196	176	90	63-128	
98-82-8	Cumene	202	168	83	65-121	
80-56-8	alpha-Pinene	196	166	85	66-123	
103-65-1	n-Propylbenzene	202	168	83	65-121	
622-96-8	4-Ethyltoluene	212	171	81	64-122	
108-67-8	1,3,5-Trimethylbenzene	214	168	79	64-125	
95-63-6	1,2,4-Trimethylbenzene	210	172	82	64-131	
100-44-7	Benzyl Chloride	214	211	99	67-146	
541-73-1	1,3-Dichlorobenzene	214	181	85	64-130	
106-46-7	1,4-Dichlorobenzene	214	166	78	61-124	
95-50-1	1,2-Dichlorobenzene	208	173	83	63-126	
5989-27-5	d-Limonene	212	186	88	62-133	
96-12-8	1,2-Dibromo-3-chloropropane	210	181	86	62-155	
120-82-1	1,2,4-Trichlorobenzene	212	168	79	59-146	
91-20-3	Naphthalene	190	177	93	56-143	
87-68-3	Hexachlorobutadiene	212	160	75	58-133	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	208	161	77	58-139	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	160	78	63-115	
74-87-3	Chloromethane	198	169	85	58-122	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	210	176	84	65-115	
75-01-4	Vinyl Chloride	200	177	89	64-122	
106-99-0	1,3-Butadiene	244	232	95	57-141	
74-83-9	Bromomethane	200	173	87	68-122	
75-00-3	Chloroethane	200	180	90	66-120	
64-17-5	Ethanol	942	828	88	58-126	
75-05-8	Acetonitrile	224	168	75	64-136	
107-02-8	Acrolein	208	168	81	58-129	
67-64-1	Acetone	1,080	891	83	60-114	
75-69-4	Trichlorofluoromethane	204	176	86	62-107	
67-63-0	2-Propanol (Isopropyl Alcohol)	378	355	94	54-118	
107-13-1	Acrylonitrile	224	174	78	72-143	
75-35-4	1,1-Dichloroethene	218	185	85	69-119	
75-09-2	Methylene Chloride	214	174	81	64-113	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	216	194	90	59-131	
76-13-1	Trichlorotrifluoroethane	214	173	81	69-117	
75-15-0	Carbon Disulfide	208	165	79	65-115	
156-60-5	trans-1,2-Dichloroethene	210	185	88	70-126	
75-34-3	1,1-Dichloroethane	208	171	82	68-116	
1634-04-4	Methyl tert-Butyl Ether	212	178	84	69-120	
108-05-4	Vinyl Acetate	984	995	101	58-160	
78-93-3	2-Butanone (MEK)	220	192	87	70-127	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 2 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
156-59-2	cis-1,2-Dichloroethene	216	177	82	70-119	
141-78-6	Ethyl Acetate	428	397	93	72-129	
110-54-3	n-Hexane	210	171	81	63-115	
67-66-3	Chloroform	216	171	79	68-110	
109-99-9	Tetrahydrofuran (THF)	218	185	85	60-126	
107-06-2	1,2-Dichloroethane	210	168	80	69-118	
71-55-6	1,1,1-Trichloroethane	206	162	79	68-120	
71-43-2	Benzene	220	164	75	69-117	
56-23-5	Carbon Tetrachloride	220	177	80	65-134	
110-82-7	Cyclohexane	416	335	81	69-114	
78-87-5	1,2-Dichloropropane	206	164	80	70-116	
75-27-4	Bromodichloromethane	212	167	79	71-126	
79-01-6	Trichloroethene	206	167	81	71-119	
123-91-1	1,4-Dioxane	216	178	82	72-126	
80-62-6	Methyl Methacrylate	420	352	84	75-136	
142-82-5	n-Heptane	210	169	80	70-117	
10061-01-5	cis-1,3-Dichloropropene	198	178	90	75-132	
108-10-1	4-Methyl-2-pentanone	218	180	83	70-133	
10061-02-6	trans-1,3-Dichloropropene	222	191	86	78-136	
79-00-5	1,1,2-Trichloroethane	204	166	81	72-119	
108-88-3	Toluene	212	164	77	65-116	
591-78-6	2-Hexanone	240	177	74	62-132	
124-48-1	Dibromochloromethane	226	184	81	66-140	
106-93-4	1,2-Dibromoethane	210	181	86	69-130	
123-86-4	n-Butyl Acetate	238	206	87	63-136	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Page 3 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P140809-LCS

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 8/9/14

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS Acceptance Limits	Data Qualifier
111-65-9	n-Octane	210	169	80	66-118	
127-18-4	Tetrachloroethene	192	155	81	63-123	
108-90-7	Chlorobenzene	212	165	78	66-118	
100-41-4	Ethylbenzene	208	165	79	66-119	
179601-23-1	m,p-Xylenes	408	321	79	64-118	
75-25-2	Bromoform	212	198	93	64-140	
100-42-5	Styrene	212	182	86	68-132	
95-47-6	o-Xylene	202	160	79	65-120	
111-84-2	n-Nonane	206	162	79	64-117	
79-34-5	1,1,2,2-Tetrachloroethane	196	168	86	63-128	
98-82-8	Cumene	202	160	79	65-121	
80-56-8	alpha-Pinene	196	158	81	66-123	
103-65-1	n-Propylbenzene	202	160	79	65-121	
622-96-8	4-Ethyltoluene	212	163	77	64-122	
108-67-8	1,3,5-Trimethylbenzene	214	160	75	64-125	
95-63-6	1,2,4-Trimethylbenzene	210	163	78	64-131	
100-44-7	Benzyl Chloride	214	201	94	67-146	
541-73-1	1,3-Dichlorobenzene	214	173	81	64-130	
106-46-7	1,4-Dichlorobenzene	214	159	74	61-124	
95-50-1	1,2-Dichlorobenzene	208	165	79	63-126	
5989-27-5	d-Limonene	212	178	84	62-133	
96-12-8	1,2-Dibromo-3-chloropropane	210	173	82	62-155	
120-82-1	1,2,4-Trichlorobenzene	212	158	75	59-146	
91-20-3	Naphthalene	190	169	89	56-143	
87-68-3	Hexachlorobutadiene	212	153	72	58-133	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001DUP

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

Compound	Sample Result		Duplicate Sample Result		Average µg/m³	% RPD	RPD Limit	Data Qualifier
	µg/m³	ppbV	µg/m³	ppbV				
Propene	ND	ND	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	2.03	0.411	2.02	0.409	2.025	0.5	25	
Chloromethane	0.452	0.219	0.316	0.153	0.384	35	25	J, R1
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Ethanol	3.82	2.03	4.06	2.16	3.94	6	25	J
Acetonitrile	0.434	0.259	0.417	0.248	0.4255	4	25	J
Acrolein	0.270	0.118	0.272	0.119	0.271	0.7	25	J
Acetone	8.99	3.79	9.19	3.87	9.09	2	25	
Trichlorofluoromethane	1.25	0.222	1.22	0.218	1.235	2	25	
2-Propanol (Isopropyl Alcohol)	ND	ND	ND	ND	-	-	25	
Acrylonitrile	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
Methylene Chloride	1.54	0.445	1.55	0.446	1.545	0.6	25	
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	0.537	0.0702	0.509	0.0664	0.523	5	25	J
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	ND	ND	-	-	25	
2-Butanone (MEK)	0.560	0.190	0.568	0.193	0.564	1	25	J

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

R1 = Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 2 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001DUP

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

Compound	Sample Result		Duplicate Sample Result		Average µg/m³	% RPD	RPD Limit	Data Qualifier
	µg/m³	ppbV	µg/m³	ppbV				
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Ethyl Acetate	4.57	1.27	4.48	1.24	4.525	2	25	
n-Hexane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	0.452	0.0718	0.448	0.0713	0.45	0.9	25	J
Cyclohexane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
Methyl Methacrylate	ND	ND	ND	ND	-	-	25	
n-Heptane	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
Toluene	0.868	0.230	0.849	0.225	0.8585	2	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane	ND	ND	ND	ND	-	-	25	
n-Butyl Acetate	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 3 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 730U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1403074

ALS Sample ID: P1403074-001DUP

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13

Analyst: Wida Ang

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00322

Date Collected: 7/30/14

Date Received: 7/31/14

Date Analyzed: 8/8/14

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.26

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.59

Compound	Sample Result		Duplicate Sample Result		Average µg/m ³	% RPD	RPD Limit	Data Qualifier
	µg/m ³	ppbV	µg/m ³	ppbV				
n-Octane	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
n-Nonane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
alpha-Pinene	ND	ND	ND	ND	-	-	25	
n-Propylbenzene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
Benzyl Chloride	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
d-Limonene	ND	ND	ND	ND	-	-	25	
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
Naphthalene	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

Response Factor Report GC01

Method Path : J:\GC01\METHODS\
 Method File : 3C112513.M
 Title : EPA 3C GC/TCD Analysis for Fixed Gases
 Last Update : Tue Nov 26 15:07:44 2013
 Response Via : Initial Calibration

Calibration Files

1	=11251310.D	2	=11251311.D	3	=11251313.D
4	=11251315.D	5	=11251314.D	6	=11261307.D

	Compound	1	2	3	4	5	6	Avg	%RSD
1)	Hydrogen	1.274	1.280	1.333	1.312	1.595		1.359 E1	9.88
2)	Oxygen	1.523	1.638	1.715	1.675	1.681		1.649 E1	4.03
3)	Nitrogen	1.787	1.986	1.934	1.892	1.940	1.779	1.886 E1	4.53
4)	Carbon Monoxide	1.565	1.757	1.928	1.884	1.915		1.810 E1	8.45
5)	Methane	1.270	1.436	1.460	1.418	1.440		1.397 E1	5.09
6)	Carbon Dioxide	1.919	2.150	2.219	2.181	2.183		2.120 E1	5.22

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

Modified EPA Method 3C Daily QC Summary

Client : Stantec Consulting Services, Inc.
 Analyst : NL
 Method Name : EPA 3C, ASTM D 1946-90, VOA-EPA3C

Instrument : GC01
 Date Analyzed : 8/5/2014

RT Summaries and QC Check (minutes)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ICAL Mean RT	0.708	2.188	2.368	3.076	5.045	6.707		
RT Windows (+/- min)	0.072	0.133	0.146	0.034	0.130	0.145		
std s30-07171401	0.708	2.224	2.401	3.087	5.076	6.735	08051401.D	09:28
+/- 0.33min of ICAL Mean RT	Pass	Pass	Pass	Pass	Pass	Pass		
mb							08051402.D	09:43
lab air		2.167 Pass	2.305 Pass			6.731 Pass	08051403.D	10:05
lcs s30-06021406	0.706 Pass	2.217 Pass	2.394 Pass	3.081 Pass	5.071 Pass	6.730 Pass	08051405.D	11:04
3074-004		2.162 Pass	2.302 Pass			6.735 Pass	08051406.D	11:20
3074-004Dup		2.171 Pass	2.312 Pass			6.740 Pass	08051407.D	11:49
3074-005		2.166 Pass	2.308 Pass			6.734 Pass	08051408.D	12:06
3074-006		2.170 Pass	2.308 Pass			6.739 Pass	08051409.D	12:30
3074-008		2.205 Pass	2.355 Pass		5.033 Pass	6.693 Pass	08051410.D	12:47
3074-009		2.212 Pass	2.356 Pass		5.023 Pass	6.687 Pass	08051411.D	13:01
3074-010	0.698 Pass	2.220 Pass	2.390 Pass	3.099 Pass	5.068 Pass	6.677 Pass	08051412.D	13:31
3074-011	0.700 Pass	2.209 Pass	2.370 Pass	3.089 Pass	5.059 Pass	6.676 Pass	08051413.D	14:06
3074-012		2.225 Pass	2.397 Pass				08051414.D	14:31
3074-013		2.226 Pass	2.394 Pass				08051415.D	14:56
std s30-07171401	0.697 Pass	2.202 Pass	2.378 Pass	3.065 Pass	5.061 Pass	6.722 Pass	08051417.D	16:22

Continuing Calibration Standards Summary (ppm)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ACTUAL	39990.0	40030.0	50000.0	50010.0	39970.0	50040.0		
CCV Criteria (+/- %D)	15.0%	10.0%	10.0%	10.0%	10.0%	10.0%		
std s30-07171401	37558.1 Pass	39577.8 Pass	50917.0 Pass	49541.6 Pass	38755.9 Pass	48852.3 Pass	08051401.D	09:28
std s30-07171401	37365.8 Pass	39201.1 Pass	50599.0 Pass	49085.2 Pass	38365.6 Pass	48347.8 Pass	08051417.D	16:22

Lab Dup Summary (ppm, without DF correction and normalization)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
Duplicate Criteria % RPD	10%	9%	10%	9%	9%	9%		
3074-004		180335.6	642036.8			298.6	08051406.D	11:20
3074-004Dup		182515.3	649722.7			233.4	08051407.D	11:49
Duplicate % RPD		1.2% Pass	1.2% Pass			24.5% Fail		

LCS / LCS Dup Summary (ppm, without DF correction)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
LCS Actual Conc. (ppm)	40000.0	50000.0	50000.0	50000.0	40000.0	50000.0		
LCS Criteria (% Range)	84%-110%	88%-114%	88%-114%	88%-113%	87%-110%	84%-109%		
lcs s30-06021406	37326.8	51568.1	53086.0	50930.1	39935.5	50417.3	08051405.D	11:04
LCS % Recovery	93% Pass	103% Pass	106% Pass	102% Pass	100% Pass	101% Pass		

Lab Air QC Summary

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxid	Methane	Carbon Dioxide	Lab Air Criteria Total (90%-110%)
lab air		203983.8	734313.8			441.5	93.9% Pass
Lab Air Normalized (%)		21.73%	78.22%			0.05%	100.0%

Method Path : J:\GC13\METHODS\
 Method File : GC13060914.M
 Title : 20 Sulfurs
 Last Update : Tue Jun 10 08:59:05 2014
 Response Via : Initial Calibration

Calibration Files

1	=06091443.D	2	=06091444.D	3	=06091445.D
4	=06091446.D	5	=06091447.D	6	=06091448.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1) Z	Hydrogen_Sulfide	2.336	1.893	2.371	2.846	2.611	2.902	2.493	E4	15.07
2) W	Carbonyl_Sulfide	2.626	2.301	2.596	2.909	2.906	2.864	2.700	E4	8.91
3) T	Methyl_Mercaptan	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
4) T	Ethyl_Mercaptan	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
5) T	Dimethyl_Sulfide	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
6) T	Carbon_Disulfide	4.499	3.775	4.716	5.467	5.343	5.459	4.877	E4	13.87
7) T	2-Propyl_Merc...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
8) T	t-Butyl_Merca...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
9) T	Propyl_Mercaptan	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
10) T	Ethyl_Methyl_...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
11) T	Thiophene	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
12) T	i-Butyl_Merca...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
13) T	Diethyl_Sulfide	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
14)	n-Butyl_Merca...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
15)	Dimethyl_Disu...	4.499	3.775	4.716	5.467	5.343	5.459	4.877	E4	13.87
16) T	2-Methyl_Thio...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
17)	3-Methyl_Thio...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
18) T	Tetrahydrothi...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
19)	2,5-Dimethyl_...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
20) T	2-Ethyl_Thiop...	2.249	1.887	2.358	2.733	2.671	2.730	2.438	E4	13.87
21) T	Diethyl_Disul...	4.499	3.775	4.716	5.467	5.343	5.459	4.877	E4	13.87
22) T	Methyltrisulfide	6.748	5.662	7.075	8.200	8.014	8.189	7.315	E4	13.87

(#) = Out of Range

GC13060914.M Tue Jun 10 08:59:12 2014

Response Factor Report GC #22

Method Path : J:\GC22\METHODS\
 Method File : GC22060914.M
 Title : 20 Sulfurs Initial Calibration
 Last Update : Tue Jun 10 08:39:05 2014
 Response Via : Initial Calibration

Calibration Files

1 =06091401.d 2 =06091402.d 3 =06091403.d
 4 =06091404.d 5 =06091405.d 6 =06091406.d

	Compound	1	2	3	4	5	6	Avg	%RSD
1) Z	Hydrogen_Sulfide	2.724	1.858	2.695	2.696	2.262	2.639	2.479 E4	14.11
2) W	Carbonyl_Sulfide	2.645	2.540	3.022	2.923	2.721	2.810	2.777 E4	6.43
3) T	Methyl_Mercaptan	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
4) T	Ethyl_Mercaptan	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
5) T	Dimethyl_Sulfide	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
6) T	Carbon_Disulfide	5.073	4.032	5.489	5.433	4.794	5.491	5.052 E4	11.33
7) T	2-Propyl_Merc...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
8) T	t-Butyl_Merca...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
9) T	Propyl_Mercaptan	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
10) T	Ethyl_Methyl_...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
11) T	Thiophene	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
12) T	i-Butyl_Merca...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
13) T	Diethyl_Sulfide	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
14) T	n-Butyl_Merca...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
15) T	Dimethyl_Disu...	5.073	4.032	5.489	5.433	4.794	5.491	5.052 E4	11.33
16) T	2-Methylthiop...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
17) T	3-Methylthiop...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
18) T	Tetrahydrothi...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
19) T	2,5-Dimethylt...	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
20) T	2-Ethylthiophene	2.537	2.016	2.745	2.717	2.397	2.746	2.526 E4	11.33
21) T	Diethyl_Disul...	5.073	4.032	5.489	5.433	4.794	5.491	5.052 E4	11.33
22) T	Methyltrisulfide	7.610	6.048	8.234	8.150	7.191	8.237	7.578 E4	11.33

(#) = Out of Range

GC22060914.M Tue Jun 10 08:59:29 2014

REPORT SUMMARY

Method : 20 Sulfurs
 Client : Stantec Consulting Services, Inc.
 Analyst : MC

Service Request : P1403074
 Instrument : GC13
 Date Acquired : 8/5/14

Compounds		MDL	RL	MB QC	Dry Wall QC	Lab Dup		Continuing Calibration Standards Summary (ppbv)													
				MB		dup	%RSD	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Sample Information :		ppb	ppb	mb 1ml		0		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401		std 2000ppb s30- 07101401	
Inj. Vol. (ml)		1.0	1.0	1.00	1.0	1.0		0.20		0.20		0.20		0.20		0.20		0.20		0.20	
Dilution		1.0	1.0	1.00	1.0	1.0															
Pi:		1.0	1.0	1.0	1.0	1.0															
Pi:		1.0	1.0	1.0	1.0	1.0															
PI Pf DF:		1.0	1.0	1.0	1.0	1.0															
Hydrogen_Sulfide		1.700	5.000	ND	P			1551.53	22.1%	1845.606	7.3%	1643.225	17.5%								
Carbonyl_Sulfide		1.900	5.000	ND	P			1537.50	24.3%	1881.835	7.4%	1633.983	19.6%								
Methyl_Mercaptan		2.200	5.000	ND	P			1519.20	24.9%	1760.518	12.9%	1642.445	18.8%								
Ethyl_Mercaptan		2.200	5.000	ND	P																
Dimethyl_Sulfide		2.200	5.000	ND	P																
Carbon_Disulfide		1.100	2.500	ND	P																
2-Propyl_Mercaptan		2.200	5.000	ND	P			8:25 AM		9:50 AM		5:12 PM									
t-Butyl_Mercaptan		2.200	5.000	ND	P			08051401.D		08051411.D		08051416.D									
Propyl_Mercaptan		2.200	5.000	ND	P																
Ethyl_Methyl_Sulfide		2.200	5.000	ND	P																
Thiophene		2.200	5.000	ND	P																
i-Butyl_Mercaptan		2.200	5.000	ND	P																
Diethyl_Sulfide		2.200	5.000	ND	P																
n-Butyl_Mercaptan		2.200	5.000	ND	P																
Dimethyl_Disulfide		1.100	2.500	ND	P																
2-Methylthiophene		2.200	5.000	ND	P																
3-Methylthiophene		2.200	5.000	ND	P																
Tetrahydrothiophene		2.200	5.000	ND	P																
2,5-Dimethylthiophene		2.200	5.000	ND	P																
2-Ethylthiophene		2.200	5.000	ND	P																
Diethyl_Disulfide		1.100	2.500	ND	P																
Methyltrisulfide		1.100	2.500	ND	P																
Acquisition Time				9:00 AM																	
DataFile				08051405.D																	

LCS / LCS Dup Summary (ppbv)

	ppbv	%R	ppbv	%R	%RPD	Actual
Hydrogen_Sulfide	2056.49	100.5%				2045.54
Carbonyl_Sulfide	2036.77	101.0%				2017.48
Methyl_Mercaptan	2061.42	109.2%				1887.74
Acquisition Time	8:28 AM					
DataFile	08051402.D					

ALS Environmental

REPORT SUMMARY

Method : 20 Sulfurs Initial Calibration
 Client : Stantec Consulting Services, Inc.
 Analyst : MC

Service Request : P1403074
 Instrument : GC #22
 Date Acquired : 5 Aug 2014 5:26 pm

Compounds	MDL	RL	MB QC	Dry Wall QC	Lab Dup		Continuing Calibration Standards Summary (ppbv)													
					0	0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Sample Information :	ppb	ppb	mb 1ml				sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401		sid 2000ppb s30- 07101401	
Inj. Vol. (ml)	1.0	1.0	1.00	1.0	1.0	1.0	0.20		0.20		0.20		0.20		0.20		0.20		0.20	
Dilution	1.0	1.0	1.00	1.0	1.0	1.0														
Pi:	1.0	1.0	1.0	1.0	1.0	1.0														
Pi:	1.0	1.0	1.0	1.0	1.0	1.0														
PI Pf DF:	1.0	1.0	1.0	1.0	1.0	1.0														
Hydrogen_Sulfide	1.700	5.000	ND	P			2342.51	17.6%	1800.475	9.6%	1860.570	6.6%								
Carbonyl_Sulfide	1.900	5.000	ND	P			2353.25	15.8%	1800.226	11.4%	1778.001	12.5%								
Methyl_Mercaptan	2.200	5.000	ND	P			2220.96	9.8%	1699.134	16.0%	1701.974	15.8%								
Ethyl_Mercaptan	2.200	5.000	ND	P																
Dimethyl_Sulfide	2.200	5.000	ND	P																
Carbon_Disulfide	1.100	2.500	ND	P			5 Aug 2014 8:22 am	08051401.d	5 Aug 2014 9:20 am	08051406.d	5 Aug 2014 5:26 pm	08051413.d								
2-Propyl_Mercaptan	2.200	5.000	ND	P																
t-Butyl_Mercaptan	2.200	5.000	ND	P																
Propyl_Mercaptan	2.200	5.000	ND	P																
Ethyl_Methyl_Sulfide	2.200	5.000	ND	P																
Thiophene	2.200	5.000	ND	P																
i-Butyl_Mercaptan	2.200	5.000	ND	P																
Diethyl_Sulfide	2.200	5.000	ND	P																
n-Butyl_Mercaptan	2.200	5.000	ND	P																
Dimethyl_Disulfide	1.100	2.500	ND	P																
2-Methylthiophene	2.200	5.000	ND	P																
3-Methylthiophene	2.200	5.000	ND	P																
Tetrahydrothiophene	2.200	5.000	ND	P																
2,5-Dimethylthiophene	2.200	5.000	ND	P																
2-Ethylthiophene	2.200	5.000	ND	P																
Diethyl_Disulfide	1.100	2.500	ND	P																
Methyltrisulfide	1.100	2.500	ND	P																
Acqisition Time		5 Aug 2014 8:58 am																		
DataFile		08051405.d																		
LCS / LCS Dup Summary (ppbv)																				
							ppbv	%R			ppbv	% R			%RPD				Actual	
Hydrogen_Sulfide							2476.89	121.1%											2045.54	
Carbonyl_Sulfide							2491.13	123.5%											2017.48	
Methyl_Mercaptan							2453.61	130.0%											1887.74	
Acqisition Time							5 Aug 2014 8:26 am													
DataFile							08051402.d													

pk
8/6/14

ALS Environmental

REPORT SUMMARY

Method : 20 Sulfurs
Client : Stantec Consulting Services, Inc.
Analyst : MC

Service Request : P1403074
Instrument : GC13
Date Acquired : 8/6/14

Compounds		MDL	RL	MB QC	Dry Wall QC		Lab Dup		Continuing Calibration Standards Summary (ppbv)													
				MB			dup	%RSD	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Sample Information :		ppb	ppb	mb 1ml			0		std 2000ppb s330- 07101401		std 2000ppb s330- 07101401											
Inj. Vol. (ml)		1.0	1.0	1.00	1.0	1.0	1.0		0.20		0.20				0.20		0.20		0.20		0.20	
Dilution		1.0	1.0	1.00	1.0	1.0	1.0															
Pi:		1.0	1.0	1.0	1.0	1.0	1.0															
Pi:		1.0	1.0	1.0	1.0	1.0	1.0															
PIPF DF:		1.0	1.0	1.0	1.0	1.0	1.0															
Hydrogen_Sulfide		1,700	5,000	ND	P				2490.59	25.0%	1662.180	16.6%										
Carbonyl_Sulfide		1,900	5,000	ND	P				2455.03	20.8%	1640.609	19.3%										
Methyl_Mercaptan		2,200	5,000	ND	P				2392.18	18.3%	1568.507	22.4%										
Ethyl_Mercaptan		2,200	5,000	ND	P																	
Dimethyl_Sulfide		2,200	5,000	ND	P																	
Carbon_Disulfide		1,100	2,500	ND	P				7:22 AM		10:28 AM											
2-Propyl_Mercaptan		2,200	5,000	ND	P				08061401.D		08061413.D											
t-Butyl_Mercaptan		2,200	5,000	ND	P																	
Propyl_Mercaptan		2,200	5,000	ND	P																	
Ethyl_Methyl_Sulfide		2,200	5,000	ND	P																	
Thiophene		2,200	5,000	ND	P																	
i-Butyl_Mercaptan		2,200	5,000	ND	P																	
Diethyl_Sulfide		2,200	5,000	ND	P																	
n-Butyl_Mercaptan		2,200	5,000	ND	P																	
Dimethyl_Disulfide		2,200	5,000	ND	P																	
2-Methylthiophene		1,100	2,500	ND	P																	
2-Methylthiophene		2,200	5,000	ND	P																	
2-Methylthiophene		2,200	5,000	ND	P																	
Tetrahydrothiophene		2,200	5,000	ND	P																	
2,5-Dimethylthiophene		2,200	5,000	ND	P																	
2-Ethnythiophene		2,200	5,000	ND	P																	
Diethyl_Disulfide		1,100	2,500	ND	P																	
Methyltrisulfide		1,100	2,500	ND	P																	
Acqisition Time				7:58 AM																		
DataFile				08061405.D																		
LCS / LCS Dup Summary (ppbv)																						
									ppbv	%R					ppbv	% R			%RPD		Actual	
Hydrogen_Sulfide									2353.21	115.0%					2382.11	118.1%					2045.54	
Carbonyl_Sulfide																					2017.48	
Methyl_Mercaptan									2406.75	127.5%											1887.74	
Acqisition Time									7:26 AM													
DataFile									08061402.D													

LCS / LCS Dup Summary (ppbv)

	ppbv	%R	ppbv	%R	%RPD	Actual
Hydrogen_Sulfide	2353.21	115.0%				2045.54
Carbonyl_Sulfide	2382.11	118.1%				2017.48
Methyl_Mercaptan	2406.75	127.5%				1887.74
Acquisition Time	7:26 AM					
DataFile	08061402.D					

ALS Environmental

REPORT SUMMARY

Method : 20 Sulfurs Initial Calibration
 Client : Stantec Consulting Services, Inc.
 Analyst : MC

Service Request : P1403074
 Instrument : GC #22
 Date Acquired : 6 Aug 2014 9:45 am

Compounds	MDL	RL	MB QC		Dry Wall QC		Lab Dup			Continuing Calibration Standards Summary (ppbv)																
			MB				dup	%RSD	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff						
Sample Information :	ppb	ppb	mb 1ml				0	0			std 2000ppb s30- 07101401															
Inj. Vol. (ml)	1.0	1.0	1.00		1.0	1.0	1.0	1.0			0.20															
Dilution	1.0	1.0	1.00		1.0	1.0	1.0	1.0																		
PI:	1.0	1.0	1.0		1.0	1.0	1.0	1.0																		
PI:	1.0	1.0	1.0		1.0	1.0	1.0	1.0																		
PIPF DF:	1.0	1.0	1.0		1.0	1.0	1.0	1.0																		
Hydrogen_Sulfide	1.700	5.000	ND		P						1753.33	12.0%	2270.379	14.0%												
Carbonyl_Sulfide	1.900	5.000	ND		P						1725.86	15.1%	2243.994	10.4%												
Methyl_Mercaptan	2.200	5.000	ND		P						1574.65	22.1%	2089.096	3.3%												
Ethyl_Mercaptan	2.200	5.000	ND		P																					
Dimethyl_Sulfide	2.200	5.000	ND		P																					
Carbon_Disulfide	1.100	2.500	ND		P						6 Aug 2014 7:23 am	08061402. d	6 Aug 2014 9:45 am	08061413. d												
2-Propyl_Mercaptan	2.200	5.000	ND		P																					
t-Butyl_Mercaptan	2.200	5.000	ND		P																					
Propyl_Mercaptan	2.200	5.000	ND		P																					
Ethyl_Methyl_Sulfide	2.200	5.000	ND		P																					
Thiophene	2.200	5.000	ND		P																					
i-Butyl_Mercaptan	2.200	5.000	ND		P																					
Diethyl_Sulfide	2.200	5.000	ND		P																					
n-Butyl_Mercaptan	2.200	5.000	ND		P																					
Dimethyl_Disulfide	2.200	5.000	ND		P																					
2-Methylthiophene	1.100	2.500	ND		P																					
2-Methylthiophene	2.200	5.000	ND		P																					
3-Methylthiophene	2.200	5.000	ND		P																					
Tetrahydrothiophene	2.200	5.000	ND		P																					
2,5-Dimethylthiophene	2.200	5.000	ND		P																					
2-Ethylthiophene	2.200	5.000	ND		P																					
Diethyl_Disulfide	1.100	2.500	ND		P																					
Methyltrisulfide	1.100	2.500	ND		P																					
Acquisition Time			6 Aug 2014 7:59 am																							
DataFile			08061406. d																							
LCS / LCS Dup Summary (ppbv)																										
											</															

LCS / LCS Dup Summary (ppbv)

	ppbv	%R	ppbv	%R	%RPD	Actual
Hydrogen_Sulfide	1776.53	86.8%				2045.54
Carbonyl_Sulfide	1823.88	90.4%				2017.48
Methyl_Mercaptan	1764.95	93.5%				1887.74
Acquisition Time	6 Aug 2014 7:27 am					
DataFile	08061403 d					

8/6/14

Response Factor Report MS13

Method Path : I:\MS13\METHODS\
 Method File : R13072514.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Sat Jul 26 07:09:59 2014
 Response Via : Initial Calibration

Calibration Files

0.08=07251421.D 0.10=07251422.D 0.20=07251423.D 0.40=07251424.D 1.0 =07251425.D 5.0 =07251426.D
 25 =07251427.D 50 =07251428.D 100 =07251429.D

Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1) IR Bromochloromethane...											
2) T Propene	1.333	1.316	1.351	1.373	1.245	1.275	1.372	1.324	1.372	1.324	3.66
3) T Dichlorodifluo...	3.568	3.961	3.809	3.737	3.701	3.502	3.194	3.713	3.194	3.713	7.02
4) T Chloromethane	1.903	2.131	1.874	1.937	2.092	1.729	1.511	1.882	1.511	1.882	11.28
5) T 1,2-Dichloro-1...	1.532	2.243	1.823	1.946	1.924	1.864	1.688	1.835	1.533	1.835	12.32
6) T Vinyl Chloride	1.612	2.024	1.875	2.159	2.058	2.161	2.129	1.929	1.714	1.962	10.07
7) T 1,3-Butadiene	1.094	1.144	1.185	1.270	1.493	1.544	1.397	1.291	1.291	1.305	11.73
8) T Bromomethane	1.221	1.361	1.466	1.441	1.412	1.334	1.194	1.347	1.194	1.347	7.84
9) T Chloroethane	0.826	0.712	0.828	0.941	0.989	0.987	0.944	0.870	0.870	0.901	10.98
10) T Ethanol	0.758	0.762	0.916	0.943	0.932	0.908	0.937	0.890	0.835	0.876	8.34
11) T Acetonitrile	2.197	2.025	2.052	2.291	2.221	2.174	2.230	2.160	2.070	2.158	4.19
12) T Acrolein				0.561	0.734	0.688	0.754	0.728	0.678	0.691	10.09
13) T Acetone			0.868	0.924	0.928	0.931	0.889	0.822	0.751	0.874	7.64
14) T Trichlorofluor...	3.176	3.277	2.932	3.189	3.098	3.156	2.923	2.800	2.578	3.014	7.46
15) T 2-Propanol (Is...	2.787	2.560	3.150	3.428	3.224	3.223	3.598	3.294	2.740	3.112	11.04
16) T Acrylonitrile				1.504	1.579	1.675	1.692	1.630	1.550	1.605	4.57
17) T 1,1-Dichloroet...	1.454	1.127	1.146	1.299	1.316	1.372	1.345	1.283	1.203	1.283	8.37
18) T 2-Methyl-2-Pro...	3.320	3.377	3.446	3.727	3.557	3.518	3.970	3.683	3.137	3.526	6.99
19) T Methylene Chlo...			1.553	1.449	1.270	1.276	1.256	1.205	1.096	1.301	11.75
20) T 3-Chloro-1-pro...	1.437	1.252	1.363	1.606	1.644	1.776	1.867	1.798	1.698	1.604	13.17
21) T Trichlorotrifl...	1.371	1.562	1.367	1.604	1.417	1.422	1.391	1.330	1.243	1.412	7.87
22) T Carbon Disulfide	6.043	6.265	5.247	5.373	4.809	4.716	4.605	4.458	4.159	5.075	14.12
23) T trans-1,2-Dich...	1.635	1.633	1.678	1.940	1.874	1.980	2.006	1.940	1.821	1.834	8.17
24) T 1,1-Dichloroet...	2.487	2.460	2.358	2.532	2.496	2.502	2.454	2.355	2.204	2.427	4.29
25) T Methyl tert-Bu...	4.114	4.317	4.320	4.362	4.483	4.481	4.446	4.281	3.956	4.307	4.06
26) T Vinyl Acetate				0.194	0.221	0.250	0.304	0.294	0.277	0.257	16.77
27) T 2-Butanone (MEK)				0.734	0.785	0.867	0.864	0.836	0.780	0.811	6.56
28) T cis-1,2-Dichlo...	1.945	1.823	1.814	1.922	1.880	1.917	1.906	1.831	1.717	1.862	3.86
29) T Diisopropyl Ether	1.208	1.184	1.266	1.368	1.334	1.393	1.296	1.219	1.123	1.266	7.10
30) T Ethyl Acetate			0.304	0.344	0.422	0.446	0.430	0.416	0.391	0.393	13.07
31) T n-Hexane			2.131	2.167	2.024	2.021	1.807	1.757	1.686	1.942	9.79
32) T Chloroform	2.714	2.635	2.366	2.671	2.580	2.609	2.542	2.435	2.260	2.535	5.96
33) S 1,2-Dichloroet...	1.825	1.839	1.840	1.851	1.870	1.853	1.810	1.773	1.744	1.823	2.24
34) T Tetrahydrofura...			0.752	0.854	0.814	0.854	0.852	0.824	0.772	0.817	5.05
35) T Ethyl tert-But...	1.505	1.882	1.579	1.785	1.750	1.734	1.750	1.674	1.560	1.691	7.20
36) T 1,2-Dichloroet...	2.111	2.101	2.076	2.212	2.094	2.145	2.161	2.061	1.906	2.096	4.05
37) IR 1,4-Difluorobenzen...											
38) T 1,1,1-Trichlor...				0.533	0.530	0.494	0.539	0.547	0.516	0.484	4.27

Response Factor Report MS13

Method Path : I:\MS13\METHODS\

Method File : R13072514.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

39) T	Isopropyl Acetate	0.132	0.148	0.130	0.149	0.149	0.147	0.150	0.144	0.136	0.143	5.56
40) T	1-Butanol	1.355	1.200	1.098	1.099	1.015	0.222	0.274	0.268	0.258	0.240	13.55
41) T	Benzene	0.429	0.413	0.413	0.427	0.440	0.448	0.468	0.428	0.419	0.434	14.23
42) T	Carbon Tetrach...	0.430	0.428	0.395	0.424	0.401	0.407	0.397	0.374	0.349	0.401	4.23
43) T	Cyclohexane	0.913	0.874	0.741	0.825	0.809	0.827	0.848	0.814	0.770	0.825	6.59
44) T	tert-Amyl Meth...	0.295	0.245	0.230	0.267	0.252	0.245	0.251	0.242	0.231	0.251	6.23
45) T	1,2-Dichloropr...	0.405	0.463	0.382	0.424	0.401	0.429	0.438	0.421	0.394	0.417	7.98
46) T	Bromodichlorom...	0.347	0.357	0.316	0.338	0.333	0.330	0.322	0.307	0.285	0.326	5.95
47) T	Trichloroethene	0.184	0.184	0.213	0.223	0.224	0.224	0.244	0.232	0.217	0.220	6.65
48) T	1,4-Dioxane	1.088	1.175	1.008	1.094	1.055	1.062	1.061	1.011	0.955	1.056	8.47
49) T	2,2,4-Trimethy...	0.257	0.275	0.226	0.261	0.251	0.252	0.242	0.233	0.221	0.113	5.91
50) T	Methyl Methacr...	0.348	0.397	0.359	0.404	0.416	0.443	0.459	0.446	0.426	0.411	3.51
51) T	n-Heptane	0.203	0.223	0.230	0.203	0.223	0.230	0.252	0.243	0.230	0.230	7.11
52) T	cis-1,3-Dichlo...	0.366	0.379	0.433	0.366	0.379	0.433	0.462	0.446	0.426	0.419	9.33
53) T	4-Methyl-2-pen...	0.291	0.289	0.251	0.278	0.257	0.279	0.276	0.264	0.251	0.271	7.44
54) T	trans-1,3-Dich...											9.11
55) T	1,1,2-Trichlor...											5.68

56) IR	Chlorobenzene-d5	(...)	-----	-----	-----	-----	-----	-----	-----	-----	-----	
57) S	Toluene-d8 (SS2)	2.341	2.282	2.326	2.297	2.281	2.305	2.270	2.255	2.274	2.292	1.22
58) T	Toluene	3.466	3.077	2.812	2.993	2.937	3.016	2.897	2.753	2.637	2.954	8.01
59) T	2-Hexanone			1.180	1.381	1.426	1.557	1.742	1.667	1.600	1.508	12.74
60) T	Dibromochlorom...	0.911	0.766	0.845	0.890	0.923	0.990	1.020	0.971	0.926	0.916	8.43
61) T	1,2-Dibromoethane	0.706	0.685	0.738	0.789	0.814	0.856	0.884	0.838	0.799	0.790	8.60
62) T	n-Butyl Acetate			1.258	1.382	1.483	1.557	1.804	1.714	1.646	1.549	12.31
63) T	n-Octane	0.572	0.533	0.542	0.559	0.562	0.576	0.566	0.537	0.513	0.551	3.79
64) T	Tetrachloroethene	0.988	0.998	0.998	0.994	0.992	1.005	0.993	0.935	0.894	0.978	3.83
65) T	Chlorobenzene	2.278	2.156	1.986	2.015	1.976	2.048	2.020	1.908	1.808	2.022	6.69
66) T	Ethylbenzene	3.472	3.716	3.170	3.497	3.406	3.501	3.496	3.307	3.117	3.409	5.44
67) T	m- & p-Xylenes	3.024	2.886	2.761	2.933	2.800	2.929	2.901	2.726	2.572	2.837	4.80
68) T	Bromoform	0.613	0.688	0.632	0.723	0.718	0.805	0.859	0.827	0.792	0.740	11.70
69) T	Styrene	1.866	1.886	1.662	1.934	2.049	2.148	2.179	2.056	1.950	1.970	8.10
70) T	o-Xylene	2.999	2.966	2.767	2.869	2.904	2.998	2.974	2.798	2.619	2.877	4.48
71) T	n-Nonane	1.344	1.281	1.174	1.391	1.297	1.356	1.347	1.286	1.242	1.302	5.10
72) T	1,1,2,2-Tetrac...	1.195	1.000	0.981	1.201	1.165	1.239	1.289	1.229	1.173	1.164	9.02
73) S	Bromofluoroben...	0.860	0.850	0.857	0.859	0.874	0.868	0.851	0.859	0.865	0.860	0.92
74) T	Cumene	3.881	3.744	3.617	3.763	3.788	3.903	3.841	3.612	3.379	3.725	4.45
75) T	alpha-Pinene	1.885	1.781	1.646	1.900	1.808	1.852	1.883	1.788	1.686	1.803	4.96
76) T	n-Propylbenzene	4.601	4.562	4.071	4.400	4.416	4.579	4.545	4.260	3.971	4.378	5.29
77) T	3-Ethyltoluene	3.529	3.452	3.379	3.756	3.547	3.686	3.868	3.544	3.404	3.574	4.62
78) T	4-Ethyltoluene	3.629	3.473	3.397	3.389	3.572	3.605	3.455	3.357	3.024	3.434	5.30
79) T	1,3,5-Trimethy...	3.312	3.176	2.906	3.169	3.119	3.179	3.190	3.024	2.828	3.100	4.93
80) T	alpha-Methylst...	1.363	1.286	1.325	1.552	1.582	1.629	1.688	1.590	1.496	1.501	9.55
81) T	2-Ethyltoluene	3.628	3.620	3.291	3.697	3.466	3.616	3.612	3.386	3.156	3.497	5.27
82) T	1,2,4-Trimethy...	3.074	3.083	2.799	3.179	3.065	3.148	3.175	2.979	2.817	3.036	4.72
83) T	n-Decane	1.477	1.386	1.236	1.471	1.405	1.439	1.444	1.361	1.310	1.392	5.72
84) T	Benzyl Chloride			1.499	1.824	2.032	2.378	2.805	2.676	2.541	2.251	21.34
85) T	1,3-Dichlorobe...	1.790	1.614	1.666	1.743	1.719	1.792	1.797	1.677	1.567	1.707	4.84
86) T	1,4-Dichlorobe...	2.236	1.943	1.676	1.942	1.846	1.948	1.943	1.829	1.719	1.898	8.57

Response Factor Report MS13

Method Path : I:\MS13\METHODS\
Method File : R13072514.M

: EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)												
87) T	sec-Butylbenzene	4.218	3.749	3.728	4.105	4.044	4.038	4.053	3.777	3.522	3.915	5.81
88) T	4-Isopropyltol...	3.753	3.759	3.430	3.864	3.846	3.857	3.867	3.617	3.382	3.708	5.11
89) T	1,2,3-Trimethy...	3.332	3.075	3.053	3.283	3.245	3.376	3.385	3.181	2.997	3.214	4.52
90) T	1,2-Dichlorobe...	1.745	1.714	1.567	1.727	1.707	1.762	1.753	1.628	1.532	1.682	5.06
91) T	d-Limonene	0.822	0.894	0.963	1.055	1.087	1.062	1.113	1.060	1.046	1.011	9.65
92) T	1,2-Dibromo-3-...				0.537	0.531	0.619	0.713	0.687	0.655	0.624	12.21
93) T	n-Undecane	1.453	1.458	1.258	1.477	1.480	1.435	1.555	1.469	1.414	1.444	5.55
94) T	1,2,4-Trichlor...	1.426	1.372	1.074	1.296	1.289	1.308	1.437	1.358	1.290	1.317	8.15
95) T	Naphthalene			3.161	3.235	3.823	3.974	4.585	4.264	3.946	3.855	13.35
96) T	n-Dodecane				1.228	1.359	1.141	1.522	1.457	1.430	1.356	10.72
97) T	Hexachlorobuta...	1.091	0.955	0.818	0.866	0.868	0.861	0.914	0.860	0.817	0.895	9.56
98) T	Cyclohexanone	0.755	0.801	0.784	0.793	0.867	0.837	1.051	1.001	0.955	0.871	12.13
99) T	tert-Butylbenzene	3.119	3.023	2.854	3.047	3.036	3.072	3.056	2.862	2.691	2.973	4.70
100) T	n-Butylbenzene	2.919	2.970	2.630	2.904	2.978	3.120	3.258	3.051	2.865	2.966	5.90

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\07\08071401.D
 Acq On : 7 Aug 2014 14:10
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 07 15:46:35 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR Bromochloromethane (IS1)	1.000	1.000	0.0	107	-0.02
2	T Propene	1.324	1.142	13.7	98	-0.02
3	T Dichlorodifluoromethane (CF	3.713	3.138	15.5	91	-0.01
4	T Chloromethane	1.882	1.690	10.2	86	-0.01
5	T 1,2-Dichloro-1,1,2,2-tetra	1.835	1.623	11.6	93	-0.01
6	T Vinyl Chloride	1.962	1.840	6.2	92	-0.02
7	T 1,3-Butadiene	1.305	1.333	-2.1	92	-0.02
8	T Bromomethane	1.347	1.233	8.5	93	-0.02
9	T Chloroethane	0.901	0.858	4.8	93	-0.02
10	T Ethanol	0.876	0.828	5.5	94	-0.08
11	T Acetonitrile	2.158	1.947	9.8	93	-0.05
12	T Acrolein	0.691	0.649	6.1	92	-0.03
13	T Acetone	0.874	0.782	10.5	94	-0.05
14	T Trichlorofluoromethane	3.014	2.495	17.2	91	-0.02
15	T 2-Propanol (Isopropanol)	3.112	3.019	3.0	90	-0.05
16	T Acrylonitrile	1.605	1.471	8.3	93	-0.03
17	T 1,1-Dichloroethene	1.283	1.181	8.0	94	-0.02
18	T 2-Methyl-2-Propanol (tert-B	3.526	3.343	5.2	90	-0.05
19	T Methylene Chloride	1.301	1.121	13.8	95	-0.02
20	T 3-Chloro-1-propene (Allyl C	1.604	1.582	1.4	91	-0.02
21	T Trichlorotrifluoroethane	1.412	1.227	13.1	94	-0.01
22	T Carbon Disulfide	5.075	4.055	20.1	94	-0.02
23	T trans-1,2-Dichloroethene	1.834	1.745	4.9	93	-0.01
24	T 1,1-Dichloroethane	2.427	2.148	11.5	93	-0.01
25	T Methyl tert-Butyl Ether	4.307	3.904	9.4	94	-0.01
26	T Vinyl Acetate	0.257	0.284	-10.5	100	-0.03
27	T 2-Butanone (MEK)	0.811	0.771	4.9	95	-0.02
28	T cis-1,2-Dichloroethene	1.862	1.650	11.4	92	-0.01
29	T Diisopropyl Ether	1.266	1.159	8.5	96	-0.02
30	T Ethyl Acetate	0.393	0.393	0.0	98	-0.02
31	T n-Hexane	1.942	1.664	14.3	98	-0.01
32	T Chloroform	2.535	2.199	13.3	92	-0.02
33	S 1,2-Dichloroethane-d4 (SS1)	1.823	1.754	3.8	103	-0.02
34	T Tetrahydrofuran (THF)	0.817	0.752	8.0	94	0.00
35	T Ethyl tert-Butyl Ether	1.691	1.544	8.7	94	-0.01
36	T 1,2-Dichloroethane	2.096	1.821	13.1	90	-0.01
37	IR 1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	110	0.00
38	T 1,1,1-Trichloroethane	0.525	0.453	13.7	92	-0.01
39	T Isopropyl Acetate	0.143	0.132	7.7	96	-0.01
40	T 1-Butanol	0.240	0.237	1.3	95	-0.04
41	T Benzene	1.059	0.858	19.0	96	0.00
42	T Carbon Tetrachloride	0.434	0.388	10.6	91	0.00
43	T Cyclohexane	0.401	0.346	13.7	96	0.00
44	T tert-Amyl Methyl Ether	0.825	0.730	11.5	95	0.00
45	T 1,2-Dichloropropane	0.251	0.216	13.9	95	-0.01
46	T Bromodichloromethane	0.417	0.366	12.2	92	0.00
47	T Trichloroethene	0.326	0.278	14.7	95	0.00
48	T 1,4-Dioxane	0.220	0.210	4.5	95	-0.01
49	T 2,2,4-Trimethylpentane (Iso	1.056	0.918	13.1	95	0.00
50	T Methyl Methacrylate	0.113	0.104	8.0	96	-0.01
51	T n-Heptane	0.246	0.213	13.4	97	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\07\08071401.D
 Acq On : 7 Aug 2014 14:10
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 07 15:46:35 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	cis-1,3-Dichloropropene	0.411	0.395	3.9	95	0.00
53 T	4-Methyl-2-pentanone	0.230	0.218	5.2	95	-0.01
54 T	trans-1,3-Dichloropropene	0.419	0.393	6.2	93	0.00
55 T	1,1,2-Trichloroethane	0.271	0.238	12.2	95	-0.01
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	111	0.00
57 S	Toluene-d8 (SS2)	2.292	2.263	1.3	111	-0.01
58 T	Toluene	2.954	2.497	15.5	96	0.00
59 T	2-Hexanone	1.508	1.439	4.6	92	-0.01
60 T	Dibromochloromethane	0.916	0.856	6.6	94	0.00
61 T	1,2-Dibromoethane	0.790	0.755	4.4	95	0.00
62 T	n-Butyl Acetate	1.549	1.505	2.8	93	-0.01
63 T	n-Octane	0.551	0.485	12.0	95	0.00
64 T	Tetrachloroethene	0.978	0.855	12.6	96	0.00
65 T	Chlorobenzene	2.022	1.731	14.4	96	0.00
66 T	Ethylbenzene	3.409	2.977	12.7	95	0.00
67 T	m- & p-Xylenes	2.837	2.444	13.9	94	-0.01
68 T	Bromoform	0.740	0.734	0.8	95	-0.01
69 T	Styrene	1.970	1.848	6.2	95	0.00
70 T	o-Xylene	2.877	2.520	12.4	94	-0.01
71 T	n-Nonane	1.302	1.130	13.2	94	0.00
72 T	1,1,2,2-Tetrachloroethane	1.164	1.113	4.4	96	-0.01
73 S	Bromofluorobenzene (SS3)	0.860	0.916	-6.5	120	0.00
74 T	Cumene	3.725	3.264	12.4	95	0.00
75 T	alpha-Pinene	1.803	1.583	12.2	94	0.00
76 T	n-Propylbenzene	4.378	3.828	12.6	94	0.00
77 T	3-Ethyltoluene	3.574	3.270	8.5	94	0.00
78 T	4-Ethyltoluene	3.434	2.914	15.1	94	0.00
79 T	1,3,5-Trimethylbenzene	3.100	2.699	12.9	94	0.00
80 T	alpha-Methylstyrene	1.501	1.369	8.8	90	0.00
81 T	2-Ethyltoluene	3.497	3.045	12.9	94	0.00
82 T	1,2,4-Trimethylbenzene	3.036	2.679	11.8	94	-0.01
83 T	n-Decane	1.392	1.223	12.1	94	0.00
84 T	Benzyl Chloride	2.251	2.360	-4.8	94	-0.01
85 T	1,3-Dichlorobenzene	1.707	1.542	9.7	96	0.00
86 T	1,4-Dichlorobenzene	1.898	1.660	12.5	95	-0.01
87 T	sec-Butylbenzene	3.915	3.443	12.1	95	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.708	3.268	11.9	94	0.00
89 T	1,2,3-Trimethylbenzene	3.214	2.848	11.4	94	-0.01
90 T	1,2-Dichlorobenzene	1.682	1.501	10.8	95	0.00
91 T	d-Limonene	1.011	0.917	9.3	92	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.624	0.613	1.8	96	0.00
93 T	n-Undecane	1.444	1.312	9.1	94	0.00
94 T	1,2,4-Trichlorobenzene	1.317	1.216	7.7	94	0.00
95 T	Naphthalene	3.855	3.867	-0.3	94	0.00
96 T	n-Dodecane	1.356	1.259	7.2	92	0.00
97 T	Hexachlorobutadiene	0.895	0.760	15.1	93	0.00
98 T	Cyclohexanone	0.871	0.849	2.5	90	-0.01
99 T	tert-Butylbenzene	2.973	2.572	13.5	94	-0.01
100 T	n-Butylbenzene	2.966	2.719	8.3	93	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\07\08071401.D Vial: 15
 Acq On : 7 Aug 2014 14:10 Operator: WA
 Sample : 25ng TO-15 CCV Std Inst : MS13
 Misc : S29-07171401/S29-07151402 (8/13)

Quant Time: Aug 07 15:46:35 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev Area	% Dev(min)

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

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081401.D
 Acq On : 8 Aug 2014 3:45
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 08 06:54:12 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	107	-0.02
2 T	Propene	1.324	1.192	10.0	102	-0.02
3 T	Dichlorodifluoromethane (CF	3.713	3.114	16.1	90	-0.02
4 T	Chloromethane	1.882	1.619	14.0	83	-0.02
5 T	1,2-Dichloro-1,1,2,2-tetra	1.835	1.640	10.6	94	-0.03
6 T	Vinyl Chloride	1.962	1.829	6.8	92	-0.03
7 T	1,3-Butadiene	1.305	1.332	-2.1	92	-0.03
8 T	Bromomethane	1.347	1.242	7.8	94	-0.03
9 T	Chloroethane	0.901	0.858	4.8	93	-0.03
10 T	Ethanol	0.876	0.812	7.3	93	-0.09
11 T	Acetonitrile	2.158	1.929	10.6	93	-0.06
12 T	Acrolein	0.691	0.635	8.1	90	-0.04
13 T	Acetone	0.874	0.777	11.1	93	-0.05
14 T	Trichlorofluoromethane	3.014	2.465	18.2	90	-0.02
15 T	2-Propanol (Isopropanol)	3.112	2.860	8.1	85	-0.07
16 T	Acrylonitrile	1.605	1.454	9.4	92	-0.04
17 T	1,1-Dichloroethene	1.283	1.160	9.6	92	-0.02
18 T	2-Methyl-2-Propanol (tert-B	3.526	3.138	11.0	85	-0.07
19 T	Methylene Chloride	1.301	1.105	15.1	94	-0.03
20 T	3-Chloro-1-propene (Allyl C	1.604	1.591	0.8	91	-0.03
21 T	Trichlorotrifluoroethane	1.412	1.230	12.9	95	-0.02
22 T	Carbon Disulfide	5.075	4.048	20.2	94	-0.02
23 T	trans-1,2-Dichloroethene	1.834	1.726	5.9	92	-0.02
24 T	1,1-Dichloroethane	2.427	2.119	12.7	92	-0.02
25 T	Methyl tert-Butyl Ether	4.307	3.853	10.5	93	-0.02
26 T	Vinyl Acetate	0.257	0.275	-7.0	97	-0.04
27 T	2-Butanone (MEK)	0.811	0.760	6.3	94	-0.03
28 T	cis-1,2-Dichloroethene	1.862	1.632	12.4	92	-0.01
29 T	Diisopropyl Ether	1.266	1.132	10.6	93	-0.02
30 T	Ethyl Acetate	0.393	0.382	2.8	95	-0.02
31 T	n-Hexane	1.942	1.624	16.4	96	-0.01
32 T	Chloroform	2.535	2.160	14.8	91	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.823	1.713	6.0	101	-0.02
34 T	Tetrahydrofuran (THF)	0.817	0.781	4.4	98	-0.01
35 T	Ethyl tert-Butyl Ether	1.691	1.522	10.0	93	-0.01
36 T	1,2-Dichloroethane	2.096	1.766	15.7	87	-0.01
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	0.00
38 T	1,1,1-Trichloroethane	0.525	0.451	14.1	89	-0.01
39 T	Isopropyl Acetate	0.143	0.131	8.4	94	-0.01
40 T	1-Butanol	0.240	0.236	1.7	93	-0.04
41 T	Benzene	1.059	0.863	18.5	95	-0.01
42 T	Carbon Tetrachloride	0.434	0.386	11.1	89	-0.01
43 T	Cyclohexane	0.401	0.349	13.0	95	-0.01
44 T	tert-Amyl Methyl Ether	0.825	0.734	11.0	93	0.00
45 T	1,2-Dichloropropane	0.251	0.217	13.5	93	-0.01
46 T	Bromodichloromethane	0.417	0.365	12.5	90	-0.01
47 T	Trichloroethene	0.326	0.278	14.7	93	0.00
48 T	1,4-Dioxane	0.220	0.210	4.5	93	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.056	0.924	12.5	94	0.00
50 T	Methyl Methacrylate	0.113	0.104	8.0	94	-0.01
51 T	n-Heptane	0.246	0.210	14.6	94	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081401.D
 Acq On : 8 Aug 2014 3:45
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 08 06:54:12 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	cis-1,3-Dichloropropene	0.411	0.394	4.1	93	0.00
53 T	4-Methyl-2-pentanone	0.230	0.216	6.1	92	-0.01
54 T	trans-1,3-Dichloropropene	0.419	0.391	6.7	91	0.00
55 T	1,1,2-Trichloroethane	0.271	0.239	11.8	94	-0.01
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	111	0.00
57 S	Toluene-d8 (SS2)	2.292	2.251	1.8	110	-0.01
58 T	Toluene	2.954	2.456	16.9	94	-0.01
59 T	2-Hexanone	1.508	1.404	6.9	90	-0.01
60 T	Dibromochloromethane	0.916	0.841	8.2	92	0.00
61 T	1,2-Dibromoethane	0.790	0.737	6.7	93	0.00
62 T	n-Butyl Acetate	1.549	1.453	6.2	90	-0.01
63 T	n-Octane	0.551	0.477	13.4	94	0.00
64 T	Tetrachloroethene	0.978	0.840	14.1	94	0.00
65 T	Chlorobenzene	2.022	1.710	15.4	94	0.00
66 T	Ethylbenzene	3.409	2.915	14.5	93	0.00
67 T	m- & p-Xylenes	2.837	2.407	15.2	92	-0.01
68 T	Bromoform	0.740	0.719	2.8	93	-0.01
69 T	Styrene	1.970	1.814	7.9	93	0.00
70 T	o-Xylene	2.877	2.494	13.3	93	-0.01
71 T	n-Nonane	1.302	1.124	13.7	93	0.00
72 T	1,1,2,2-Tetrachloroethane	1.164	1.095	5.9	95	0.00
73 S	Bromofluorobenzene (SS3)	0.860	0.927	-7.8	121	0.00
74 T	Cumene	3.725	3.219	13.6	93	0.00
75 T	alpha-Pinene	1.803	1.564	13.3	92	0.00
76 T	n-Propylbenzene	4.378	3.795	13.3	93	0.00
77 T	3-Ethyltoluene	3.574	3.245	9.2	93	0.00
78 T	4-Ethyltoluene	3.434	2.885	16.0	93	0.00
79 T	1,3,5-Trimethylbenzene	3.100	2.681	13.5	94	0.00
80 T	alpha-Methylstyrene	1.501	1.358	9.5	90	0.00
81 T	2-Ethyltoluene	3.497	3.021	13.6	93	0.00
82 T	1,2,4-Trimethylbenzene	3.036	2.636	13.2	92	-0.01
83 T	n-Decane	1.392	1.201	13.7	93	0.00
84 T	Benzyl Chloride	2.251	2.308	-2.5	92	-0.01
85 T	1,3-Dichlorobenzene	1.707	1.533	10.2	95	0.00
86 T	1,4-Dichlorobenzene	1.898	1.641	13.5	94	-0.01
87 T	sec-Butylbenzene	3.915	3.389	13.4	93	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.708	3.252	12.3	94	0.00
89 T	1,2,3-Trimethylbenzene	3.214	2.815	12.4	93	-0.01
90 T	1,2-Dichlorobenzene	1.682	1.494	11.2	95	0.00
91 T	d-Limonene	1.011	0.904	10.6	90	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.624	0.609	2.4	95	0.00
93 T	n-Undecane	1.444	1.305	9.6	93	0.00
94 T	1,2,4-Trichlorobenzene	1.317	1.213	7.9	94	0.00
95 T	Naphthalene	3.855	3.825	0.8	93	0.00
96 T	n-Dodecane	1.356	1.249	7.9	91	0.00
97 T	Hexachlorobutadiene	0.895	0.753	15.9	92	0.00
98 T	Cyclohexanone	0.871	0.832	4.5	88	-0.01
99 T	tert-Butylbenzene	2.973	2.569	13.6	94	-0.01
100 T	n-Butylbenzene	2.966	2.695	9.1	92	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081401.D Vial: 15
 Acq On : 8 Aug 2014 3:45 Operator: WA
 Sample : 25ng TO-15 CCV Std Inst : MS13
 Misc : S29-07171401/S29-07151402 (8/13)

Quant Time: Aug 08 06:54:12 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev Area%	Dev(min)
(#) = Out of Range	SPCC's out = 0	CCC's out = 0		

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081431.D
 Acq On : 8 Aug 2014 23:06
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 09 08:35:55 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 IR	Bromochloromethane (IS1)	1.000	1.000	0.0	101	-0.02
2 T	Propene	1.324	1.159	12.5	94	-0.01
3 T	Dichlorodifluoromethane (CF	3.713	3.052	17.8	83	-0.01
4 T	Chloromethane	1.882	1.544	18.0	75	-0.01
5 T	1,2-Dichloro-1,1,2,2-tetra	1.835	1.624	11.5	88	-0.02
6 T	Vinyl Chloride	1.962	1.819	7.3	86	-0.02
7 T	1,3-Butadiene	1.305	1.297	0.6	85	-0.02
8 T	Bromomethane	1.347	1.243	7.7	89	-0.03
9 T	Chloroethane	0.901	0.864	4.1	89	-0.02
10 T	Ethanol	0.876	0.802	8.4	87	-0.09
11 T	Acetonitrile	2.158	1.876	13.1	85	-0.05
12 T	Acrolein	0.691	0.632	8.5	85	-0.03
13 T	Acetone	0.874	0.763	12.7	87	-0.05
14 T	Trichlorofluoromethane	3.014	2.439	19.1	84	-0.02
15 T	2-Propanol (Isopropanol)	3.112	2.870	7.8	81	-0.06
16 T	Acrylonitrile	1.605	1.432	10.8	86	-0.04
17 T	1,1-Dichloroethene	1.283	1.161	9.5	87	-0.02
18 T	2-Methyl-2-Propanol (tert-B	3.526	3.044	13.7	78	-0.06
19 T	Methylene Chloride	1.301	1.082	16.8	87	-0.03
20 T	3-Chloro-1-propene (Allyl C	1.604	1.535	4.3	83	-0.02
21 T	Trichlorotrifluoroethane	1.412	1.208	14.4	88	-0.01
22 T	Carbon Disulfide	5.075	3.964	21.9	87	-0.02
23 T	trans-1,2-Dichloroethene	1.834	1.698	7.4	86	-0.01
24 T	1,1-Dichloroethane	2.427	2.079	14.3	86	-0.02
25 T	Methyl tert-Butyl Ether	4.307	3.797	11.8	86	-0.01
26 T	Vinyl Acetate	0.257	0.274	-6.6	91	-0.03
27 T	2-Butanone (MEK)	0.811	0.751	7.4	88	-0.03
28 T	cis-1,2-Dichloroethene	1.862	1.601	14.0	85	-0.01
29 T	Diisopropyl Ether	1.266	1.133	10.5	89	-0.02
30 T	Ethyl Acetate	0.393	0.380	3.3	90	-0.02
31 T	n-Hexane	1.942	1.620	16.6	91	-0.01
32 T	Chloroform	2.535	2.126	16.1	85	-0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.823	1.715	5.9	96	-0.02
34 T	Tetrahydrofuran (THF)	0.817	0.739	9.5	88	-0.01
35 T	Ethyl tert-Butyl Ether	1.691	1.515	10.4	88	-0.01
36 T	1,2-Dichloroethane	2.096	1.754	16.3	82	-0.01
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	103	0.00
38 T	1,1,1-Trichloroethane	0.525	0.444	15.4	84	-0.01
39 T	Isopropyl Acetate	0.143	0.130	9.1	89	-0.01
40 T	1-Butanol	0.240	0.228	5.0	85	-0.04
41 T	Benzene	1.059	0.853	19.5	89	-0.01
42 T	Carbon Tetrachloride	0.434	0.381	12.2	84	-0.01
43 T	Cyclohexane	0.401	0.344	14.2	89	0.00
44 T	tert-Amyl Methyl Ether	0.825	0.721	12.6	87	0.00
45 T	1,2-Dichloropropane	0.251	0.214	14.7	88	-0.01
46 T	Bromodichloromethane	0.417	0.361	13.4	85	-0.01
47 T	Trichloroethene	0.326	0.276	15.3	88	0.00
48 T	1,4-Dioxane	0.220	0.208	5.5	87	-0.01
49 T	2,2,4-Trimethylpentane (Iso	1.056	0.908	14.0	88	0.00
50 T	Methyl Methacrylate	0.113	0.102	9.7	89	-0.01
51 T	n-Heptane	0.246	0.212	13.8	90	-0.01

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081431.D
 Acq On : 8 Aug 2014 23:06
 Sample : 25ng TO-15 CCV Std
 Misc : S29-07171401/S29-07151402 (8/13)

Vial: 15
 Operator: WA
 Inst : MS13

Quant Time: Aug 09 08:35:55 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	cis-1,3-Dichloropropene	0.411	0.390	5.1	87	0.00
53 T	4-Methyl-2-pentanone	0.230	0.214	7.0	87	-0.01
54 T	trans-1,3-Dichloropropene	0.419	0.386	7.9	86	0.00
55 T	1,1,2-Trichloroethane	0.271	0.237	12.5	88	-0.01
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	107	0.00
57 S	Toluene-d8 (SS2)	2.292	2.249	1.9	106	0.00
58 T	Toluene	2.954	2.412	18.3	89	0.00
59 T	2-Hexanone	1.508	1.376	8.8	84	-0.01
60 T	Dibromochloromethane	0.916	0.820	10.5	86	0.00
61 T	1,2-Dibromoethane	0.790	0.718	9.1	87	0.00
62 T	n-Butyl Acetate	1.549	1.415	8.7	84	-0.01
63 T	n-Octane	0.551	0.466	15.4	88	0.00
64 T	Tetrachloroethene	0.978	0.831	15.0	89	0.00
65 T	Chlorobenzene	2.022	1.674	17.2	88	0.00
66 T	Ethylbenzene	3.409	2.856	16.2	87	0.00
67 T	m- & p-Xylenes	2.837	2.370	16.5	87	-0.01
68 T	Bromoform	0.740	0.703	5.0	87	-0.01
69 T	Styrene	1.970	1.797	8.8	88	-0.01
70 T	o-Xylene	2.877	2.432	15.5	87	-0.01
71 T	n-Nonane	1.302	1.095	15.9	87	0.00
72 T	1,1,2,2-Tetrachloroethane	1.164	1.077	7.5	89	-0.01
73 S	Bromofluorobenzene (SS3)	0.860	0.955	-11.0	120	0.00
74 T	Cumene	3.725	3.149	15.5	87	0.00
75 T	alpha-Pinene	1.803	1.524	15.5	86	0.00
76 T	n-Propylbenzene	4.378	3.731	14.8	88	0.00
77 T	3-Ethyltoluene	3.574	2.968	17.0	82	0.00
78 T	4-Ethyltoluene	3.434	3.043	11.4	94	0.00
79 T	1,3,5-Trimethylbenzene	3.100	2.622	15.4	88	0.00
80 T	alpha-Methylstyrene	1.501	1.326	11.7	84	0.00
81 T	2-Ethyltoluene	3.497	2.956	15.5	87	0.00
82 T	1,2,4-Trimethylbenzene	3.036	2.601	14.3	87	-0.01
83 T	n-Decane	1.392	1.180	15.2	87	0.00
84 T	Benzyl Chloride	2.251	2.270	-0.8	86	-0.01
85 T	1,3-Dichlorobenzene	1.707	1.508	11.7	89	0.00
86 T	1,4-Dichlorobenzene	1.898	1.617	14.8	89	-0.01
87 T	sec-Butylbenzene	3.915	3.335	14.8	88	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.708	3.197	13.8	88	0.00
89 T	1,2,3-Trimethylbenzene	3.214	2.766	13.9	87	-0.01
90 T	1,2-Dichlorobenzene	1.682	1.456	13.4	88	0.00
91 T	d-Limonene	1.011	0.878	13.2	84	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.624	0.594	4.8	89	0.00
93 T	n-Undecane	1.444	1.275	11.7	87	0.00
94 T	1,2,4-Trichlorobenzene	1.317	1.186	9.9	88	0.00
95 T	Naphthalene	3.855	3.762	2.4	87	0.00
96 T	n-Dodecane	1.356	1.228	9.4	86	0.00
97 T	Hexachlorobutadiene	0.895	0.747	16.5	87	0.00
98 T	Cyclohexanone	0.871	0.806	7.5	82	-0.01
99 T	tert-Butylbenzene	2.973	2.508	15.6	88	-0.01
100 T	n-Butylbenzene	2.966	2.648	10.7	87	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2014_08\08\08081431.D Vial: 15
 Acq On : 8 Aug 2014 23:06 Operator: WA
 Sample : 25ng TO-15 CCV Std Inst : MS13
 Misc : S29-07171401/S29-07151402 (8/13)

Quant Time: Aug 09 08:35:55 2014
 Quant Method : I:\MS13\METHODS\R13072514.M
 Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 QLast Update : Sat Jul 26 07:09:59 2014
 Response via : Initial Calibration
 DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev Area	% Dev(min)

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