



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

LABORATORY REPORT

February 16, 2015

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 January 30, 2015. For your reference, these analyses have been assigned our service request number P1500365.

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 Sue Anderson at 2:19 pm, Feb 16, 2015

For Samantha Henningsen
Project Manager



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

Service Request No: P1500365

CASE NARRATIVE

The samples were received intact under chain of custody on January 30, 2015 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.

Fixed Gases Analysis

The 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

The samples were also 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.



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Project: Bridgeton / 182608020

Service Request No: P1500365

CASE NARRATIVE

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.

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.



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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	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	838341
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 4-4
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

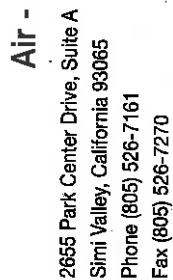
Service Request: P1500365

Date Received: 1/30/2015
Time Received: 10:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	3C Modified - Fxd Gases Can	ASTM D5504-08 - Sulfur Can	TO-15 Modified - VOC Cans
128Ns-GRAB	P1500365-001	Air	1/28/2015	16:24	1SS00036	0.46	6.67	X	X	X
128NQs-GRAB	P1500365-002	Air	1/28/2015	14:10	1SS00069	0.47	5.22	X	X	X
128SQs-GRAB	P1500365-003	Air	1/28/2015	17:22	1SS00175	0.53	5.13	X	X	X
128Fs-GRAB	P1500365-004	Air	1/28/2015	13:18	1SS00181	1.30	5.16	X	X	X
128GRAB	P1500365-005	Air	1/28/2015	17:30	1SS00168	-0.04	5.34		X	X
129GRAB2D	P1500365-006	Air	1/29/2015	11:00	1SS00088	-0.18	5.68		X	X
129GRAB3U	P1500365-007	Air	1/29/2015	11:20	1SS00024	-0.11	5.12		X	X
127U1-SUMMA	P1500365-008	Air	1/27/2015	17:45	AS00301	-5.12	3.26	X	X	X
127D1-SUMMA	P1500365-009	Air	1/27/2015	18:27	AS00506	-2.21	3.56	X	X	X
127D2-SUMMA	P1500365-010	Air	1/27/2015	18:32	AS00224	-1.67	3.29		X	X
127F-SUMMA	P1500365-011	Air	1/27/2015	18:23	AS00866	-6.01	3.61	X	X	X
127SQ-SUMMA	P1500365-012	Air	1/27/2015	18:10	AS00544	-1.89	3.46	X	X	X
127-SUMMA-B	P1500365-013	Air	1/27/2015	16:00	AS00796	-14.27	3.69	X	X	X
127DUP10-SUMMA	P1500365-014	Air	1/27/2015	00:00	AS00161	-2.97	3.49	X	X	X
128U1-SUMMA	P1500365-015	Air	1/28/2015	15:12	AS00763	0.19	3.41	X	X	X
128D1-SUMMA	P1500365-016	Air	1/28/2015	14:55	AS00696	-0.88	3.55	X	X	X
128N-SUMMA	P1500365-017	Air	1/28/2015	15:05	AS00598	0.55	3.44	X	X	X
128NQ-SUMMA	P1500365-018	Air	1/28/2015	15:17	AS00798	-0.32	3.52	X	X	X
128DUP11-SUMMA	P1500365-019	Air	1/28/2015	00:00	AS00728	-1.06	3.47	X	X	X

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Sample Volume Correction for Helium Pressurization
for SCAN Analysis

<u>Sample ID</u>	<u>Pi</u>	<u>Pf</u>	<u>Sample Volume (L)</u>	<u>Adjusted Volume (L)</u>
P1500365-002	0.47	5.22	0.364	0.400
P1500365-005	-0.04	5.34	0.361	0.400
P1500365-006	-0.18	5.68	0.360	0.400
P1500365-007	-0.11	5.12	0.362	0.400
P1500365-008	-5.12	3.26	0.853	1.00
P1500365-009	-2.21	3.56	0.891	1.00
P1500365-010	-1.67	3.29	0.902	1.00
P1500365-011	-6.01	3.61	0.838	1.00
P1500365-012	-1.89	3.46	0.897	1.00
P1500365-013	-14.27	3.69	0.720	1.00
P1500365-014	-2.97	3.49	0.881	1.00
P1500365-015	0.19	3.41	0.926	1.00
P1500365-016	-0.88	3.55	0.910	1.00
P1500365-017	0.55	3.44	0.931	1.00
P1500365-018	-0.32	3.52	0.918	1.00
P1500365-019	-1.06	3.47	0.908	1.00
P1500365-002DIL	0.47	5.22	0.036	0.0400
P1500365-008DIL	-5.12	3.26	0.085	0.100



Air - Chain of Custody Record & Analytical Service Request

Company Name & Address (Reporting Information)						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. P1500365	
STANTEC CONSULTING SERVICES 1500 LAKE SHORE COLUMBUS OH						Bridgeton				ALS Contact: Sam Henningsen	
Project Manager: Deb Gray @ STANTEC.COM						Project Number: 182608020				Analysis Method:	
Phone: 614 643 4362						P.O. # / Billing Information: Bridgeton Landfill					
Fax: Chris Lalonde											
Email Address for Result Reporting: Deb.Gray@stantec.com						Sampler (Print & Sign): NH/CIL [Signature]					
Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - FC #)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Comments e.g. Actual Preservative or specific instructions			
Client Sample ID											
128NS-GRAB	1/28/2015	16:24	15500036	NA	-14.3	NM	1L	X	TBIS + TICS	X EPA 3CM	
128NQs-GRAB		14:10	15500069			NM		X	ASTM D5504	X	
128SQs-GRAB		17:22	15500175			NM					
128FS-GRAB		13:18	15500181			NM					
128GRAB		17:30	15500168			NM					
129GRAB2D	1/29/2015	11:00	15500088			NM					
129GRAB3D		11:20	15500024			NM					
[Large handwritten signature across multiple rows]											
Report Tier Levels - please select											
Tier I - Results (Default in not specified) _____ X											
Tier II (Results + QC Summaries) _____											
Tier III (Results + QC & Calibration Summaries) _____											
Tier IV (Date Validation Package) 10% Surcharge _____											
Relinquished by (Signature) _____ Date: 1/29/15											
Relinquished by (Signature) _____ Date: _____											
Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT											
EDD required YES/No Type: Units: 5g/m ³											
Received by: (Signature) _____ Date: _____ Time: 1700											
Received by: (Signature) _____ Date: 1/30/15 Time: 1000											
Cooler / Blank Temperature _____ °C											



Air - Chain of Custody Record & Analytical Service Request

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Page 2 of 2

Company Name & Address (Reporting Information)				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. <u>1500365</u>	
STANTEC 1500 Late Shore Columbus, OH 43060				Project Name <u>Bridgeton</u>				ALS Contact: <u>Sam Henningsen</u>	
Project Manager <u>Deb Garry</u>				Project Number <u>182608020</u>				Analysis Method	
Phone <u>614 643 4362</u>				P.O. # / Billing Information <u>Bridgeton Landfill</u> <u>AMY Hargrove</u>				Comments e.g. Actual Preservative or specific instructions	
Fax <u>614 643 4362</u>				Sampler (Print & Sign) <u>NH/CIL</u>				Toils + Tils	
Email Address for Result Reporting <u>chris.blonde@stantec.com</u> <u>Deb.Garry@stantec.com</u>				Flow Controller ID (Bar code # - FC #)				ASTM D 5504	
Client Sample ID				Canister ID (Bar code # - AC, SC, etc.)				EPA 304	
Laboratory ID Number				Canister Start Pressure "Hg				X	
Date Collected				Canister End Pressure "Hg/psig				X	
Time Collected				Sample Volume				X	
177U1 - Summa				17:45				X	
177D1 - Summa				18:27				X	
177D2 - Summa				18:32				X	
177F - Summa				18:23				X	
177S - Summa				18:10				X	
177 - Summa - B				16:00				X	
177Dup10 - Summa				NA				X	
178U1 - Summa				15:12				X	
178D1 - Summa				14:55				X	
178N - Summa				15:05				X	
178NQ - Summa				15:17				X	
178Dup11 - Summa				NA				X	
Report Tier Levels - please select				Chain of Custody Seal: (Circle)				Project Requirements (MRLs, QAPP)	
Tier I - Results (Default in not specified)				INTACT				INTACT	
Tier II - Results + QC Summaries				BROKEN				BROKEN	
Tier III - Results + QC & Calibration Summaries				ABSENT				ABSENT	
Tier IV - (Date Validation Package) 10% Surcharge				Units: <u>ug/m3</u>				Units: <u>ug/m3</u>	
Relinquished by: (Signature) <u>Mark Garry</u>				Received by: (Signature) <u>Deb Garry</u>				Date: <u>1/29/15</u>	
Relinquished by: (Signature) <u>Mark Garry</u>				Received by: (Signature) <u>Deb Garry</u>				Date: <u>1/29/15</u>	
Time: <u>1700</u>				Time: <u>1000</u>				Cooler / Blank Temperature <u>1000</u> °C	

ALS Environmental
Sample Acceptance Check Form

Client: Stantec Consulting Services, Inc.

Work order: P1500365

Project: Bridgeton / 182608020

Sample(s) received on: 1/30/2015

Date opened: 1/30/2015

by: ADAVID

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
P1500365-001.01	1.0 L Source Silonite Canister					
P1500365-002.01	1.0 L Source Silonite Canister					
P1500365-003.01	1.0 L Source Silonite Canister					
P1500365-004.01	1.0 L Source Silonite Canister					
P1500365-005.01	1.0 L Source Silonite Canister					
P1500365-006.01	1.0 L Source Silonite Canister					
P1500365-007.01	1.0 L Source Silonite Canister					
P1500365-008.01	6.0 L Silonite Can					

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

ALS Environmental Sample Acceptance Check Form

Client: Stantec Consulting Services, Inc.

Work order: P1500365

Project: Bridgeton / 182608020

Sample(s) received on: 1/30/2015 Date opened: 1/30/2015 by: ADAVID

Date opened: 1/30/2015 by: ADAVID

by: ADAVID

[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: 128Ns-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-001

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:
Container ID: 1SS00036

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.46 **Final Pressure (psig):** 6.67

Canister Dilution Factor: 1.41

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	3.26	0.14	
7727-37-9	Nitrogen	46.5	0.14	
630-08-0	Carbon Monoxide	ND	0.14	
74-82-8	Methane	21.5	0.14	
124-38-9	Carbon Dioxide	28.7	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: 128NQs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-002

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:
Container ID: 1SS00069

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.47 **Final Pressure (psig):** 5.22

Canister Dilution Factor: 1.31

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	7.63	0.13	
7727-37-9	Nitrogen	59.0	0.13	
630-08-0	Carbon Monoxide	ND	0.13	
74-82-8	Methane	18.9	0.13	
124-38-9	Carbon Dioxide	14.4	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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128SQs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-003

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:
Container ID: 1SS00175

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.53 **Final Pressure (psig):** 5.13

Canister Dilution Factor: 1.30

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	0.873	0.13	
7782-44-7	Oxygen +			
7440-37-1	Argon	18.6	0.13	
7727-37-9	Nitrogen	67.4	0.13	
630-08-0	Carbon Monoxide	ND	0.13	
74-82-8	Methane	5.02	0.13	
124-38-9	Carbon Dioxide	8.13	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: 128Fs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-004

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:
Container ID: 1SS00181

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 1.30 **Final Pressure (psig):** 5.16

Canister Dilution Factor: 1.24

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	9.81	0.12	
7782-44-7	Oxygen +			
7440-37-1	Argon	9.46	0.12	
7727-37-9	Nitrogen	35.1	0.12	
630-08-0	Carbon Monoxide	ND	0.12	
74-82-8	Methane	8.87	0.12	
124-38-9	Carbon Dioxide	36.6	0.12	

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: 127U1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-008

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00301

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -5.12 **Final Pressure (psig):** 3.26

Canister Dilution Factor: 1.87

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.19	
7782-44-7	Oxygen +			
7440-37-1	Argon	22.3	0.19	
7727-37-9	Nitrogen	77.6	0.19	
630-08-0	Carbon Monoxide	ND	0.19	
74-82-8	Methane	ND	0.19	
124-38-9	Carbon Dioxide	ND	0.19	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127D1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-009

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00506

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.21 **Final Pressure (psig):** 3.56

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	22.3	0.15	
7727-37-9	Nitrogen	77.7	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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127F-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-011

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00866

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -6.01 **Final Pressure (psig):** 3.61

Canister Dilution Factor: 2.11

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.21	
7782-44-7	Oxygen +			
7440-37-1	Argon	22.3	0.21	
7727-37-9	Nitrogen	77.7	0.21	
630-08-0	Carbon Monoxide	ND	0.21	
74-82-8	Methane	ND	0.21	
124-38-9	Carbon Dioxide	ND	0.21	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127SQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-012

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00544

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.89 **Final Pressure (psig):** 3.46

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	22.2	0.14	
7727-37-9	Nitrogen	77.7	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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127-SUMMA-B
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-013

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00796

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
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	79.6	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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127DUP10-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-014

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00161

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -2.97 **Final Pressure (psig):** 3.49

Canister Dilution Factor: 1.55

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.16	
7782-44-7	Oxygen +			
7440-37-1	Argon	22.3	0.16	
7727-37-9	Nitrogen	77.7	0.16	
630-08-0	Carbon Monoxide	ND	0.16	
74-82-8	Methane	ND	0.16	
124-38-9	Carbon Dioxide	ND	0.16	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128U1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-015

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00763

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.19 **Final Pressure (psig):** 3.41

Canister Dilution Factor: 1.22

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.12	
7782-44-7	Oxygen +			
7440-37-1	Argon	22.2	0.12	
7727-37-9	Nitrogen	77.8	0.12	
630-08-0	Carbon Monoxide	ND	0.12	
74-82-8	Methane	ND	0.12	
124-38-9	Carbon Dioxide	ND	0.12	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128D1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-016

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00696

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.88 **Final Pressure (psig):** 3.55

Canister Dilution Factor: 1.32

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	22.2	0.13	
7727-37-9	Nitrogen	77.7	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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128N-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-017

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00598

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.55 **Final Pressure (psig):** 3.44

Canister Dilution Factor: 1.19

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.12	
7782-44-7	Oxygen +			
7440-37-1	Argon	22.1	0.12	
7727-37-9	Nitrogen	77.8	0.12	
630-08-0	Carbon Monoxide	ND	0.12	
74-82-8	Methane	ND	0.12	
124-38-9	Carbon Dioxide	ND	0.12	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128NQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-018

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00798

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -0.32 **Final Pressure (psig):** 3.52

Canister Dilution Factor: 1.27

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	22.2	0.13	
7727-37-9	Nitrogen	77.8	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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128DUP11-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-019

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Nalini Lall
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00728

Date Collected: #####
Date Received: #####
Date Analyzed: 2/4/2015
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.06 **Final Pressure (psig):** 3.47

Canister Dilution Factor: 1.33

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	22.2	0.13	
7727-37-9	Nitrogen	77.8	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.

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

ALS Project ID: P1500365
 ALS Sample ID: P150204-MB

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: NA
Date Received: NA
Date Analyzed: 2/04/15
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: P1500365

ALS Sample ID: P150204-LCS

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: NA

Date Received: NA

Date Analyzed: 2/04/15

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	41,200	103	83-114	
7782-44-7	Oxygen +					
7440-37-1	Argon	50,000	54,300	109	84-121	
7727-37-9	Nitrogen	50,000	53,400	107	88-122	
630-08-0	Carbon Monoxide	50,000	54,000	108	87-118	
74-82-8	Methane	40,000	42,300	106	85-116	
124-38-9	Carbon Dioxide	50,000	52,300	105	84-117	

Method Path : I:\GC01\METHODS\
Method File : 3C112914.M
Title : EPA 3C, ASTM D 1946-90, VOA-EPA3C
Last Update : Mon Dec 01 13:41:04 2014
Response Via : Initial Calibration

Calibration Files

1	=11291412.D	2	=11291410.D	3	=11291413.D
4	=11291414.D	5	=11291415.D	6	=11291421.D

	Compound	1	2	3	4	5	6	Avg		%RSD
1)	Hydrogen	1.258	1.246	1.311	1.308	1.519		1.328	E1	8.32
2)	Oxygen	1.420	1.594	1.603	1.604	1.561	1.649	1.572	E1	5.07
3)	Nitrogen	2.029	1.951	1.833	1.829	1.803		1.829	E1	9.36
4)	Carbon Monoxide	1.712	1.637	1.814	1.800	1.763		1.745	E1	4.14
5)	Methane	1.370	1.329	1.353	1.359	1.332		1.348	E1	1.17
6)	Carbon Dioxide	2.104	2.103	2.082	2.080	2.018		2.102	E1	3.20

(#) = 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 : 2/4/2015

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 s30-12161401	0.698	2.196	2.372	3.058	5.049	6.710	02041501.D	08:01
+/- 0.33min of ICAL Mean RT	Pass	Pass	Pass	Pass	Pass	Pass		
mb							02041502.D	08:23
lab air		2.144 Pass	2.281 Pass			6.719 Pass	02041503.D	08:42
0365-001	0.698 Pass	2.169 Pass	2.302 Pass		5.020 Pass	6.675 Pass	02041504.D	08:58
0365-002		2.172 Pass	2.303 Pass		5.034 Pass	6.701 Pass	02041505.D	09:31
0365-003	0.699 Pass	2.146 Pass	2.285 Pass		5.045 Pass	6.705 Pass	02041506.D	09:48
0365-004	0.694 Pass	2.180 Pass	2.336 Pass	3.074 Pass	5.045 Pass	6.677 Pass	02041507.D	10:09
0365-008		2.159 Pass	2.307 Pass			6.725 Pass	02041508.D	10:32
0365-009		2.156 Pass	2.297 Pass			6.713 Pass	02041509.D	10:53
0365-011		2.178 Pass	2.327 Pass			6.727 Pass	02041513.D	12:26
lcs s30-11101403	0.697 Pass	2.195 Pass	2.372 Pass	3.059 Pass	5.051 Pass	6.713 Pass	02041515.D	13:57
lcsd s30-11101403	0.696 Pass	2.193 Pass	2.369 Pass	3.056 Pass	5.048 Pass	6.711 Pass	02041516.D	14:15
std s30-12161401	0.700 Pass	2.199 Pass	2.374 Pass	3.060 Pass	5.051 Pass	6.713 Pass	02041517.D	14:37
0365-012		2.152 Pass	2.293 Pass			6.722 Pass	02041518.D	14:56
0365-013		2.200 Pass	2.383 Pass				02041519.D	15:20
0365-014		2.158 Pass	2.300 Pass			6.727 Pass	02041520.D	15:52
0365-015		2.138 Pass	2.275 Pass			6.719 Pass	02041521.D	16:10
0365-016		2.147 Pass	2.286 Pass			6.721 Pass	02041522.D	16:29
0365-017		2.142 Pass	2.279 Pass			6.730 Pass	02041523.D	16:51
0365-018		2.142 Pass	2.281 Pass			6.729 Pass	02041524.D	17:16
0365-019		2.132 Pass	2.271 Pass			6.713 Pass	02041525.D	17:33
std s30-12161401	0.695 Pass	2.189 Pass	2.365 Pass	3.052 Pass	5.047 Pass	6.710 Pass	02041526.D	17:49

Continuing Calibration Standards Summary (ppm)

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time
ACTUAL	39980.0	40030.0	50000.0	49990.0	40020.0	50040.0		
CCV Criteria (+/- %D)	15.0%	10.0%	10.0%	10.0%	10.0%	10.0%		
std s30-12161401	38818.4 2.9%	40622.1 1.5%	49891.9 0.2%	51035.8 2.1%	39906.8 0.3%	49067.2 1.9%	02041501.D	08:01
std s30-12161401	37713.4 5.7%	41224.4 3.0%	54216.9 8.4%	49444.5 1.1%	38421.2 4.0%	47775.1 4.5%	02041517.D	14:37
std s30-12161401	38969.6 2.5%	41044.7 2.5%	51428.4 2.9%	50944.5 1.9%	39662.0 0.9%	48906.0 2.3%	02041526.D	17:49
	####	####	####	####	####	####		

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

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	File ID	Time

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)	83%-114%	84%-121%	88%-122%	87%-118%	85%-116%	84%-117%		
lcs s30-11101403	41220.6	54257.3	53416.9	53952.0	42250.2	52262.2	02041515.D	13:57
LCS % Recovery	103% Pass	109% Pass	107% Pass	108% Pass	106% Pass	105% Pass		
lcsd s30-11101403	40780.9	53917.7	53433.6	53464.2	41950.4	51840.8	02041516.D	14:15
LCS % Recovery	102% Pass	108% Pass	107% Pass	107% Pass	105% Pass	104% Pass		
Duplicate % RPD	1.1%	0.6%	0.0%	0.9%	0.7%	0.8%		
Duplicate Criteria % RPD	16% Pass	16% Pass	21% Pass	16% Pass	16% Pass	16% Pass		

Lab Air QC Summary

Sample ID	Hydrogen	Oxygen	Nitrogen	Carbon Monoxide	Methane	Carbon Dioxide	Lab Air Criteria Total (90%-110%)
lab air		213825.6	753124.5			507.7	96.7% Pass
Lab Air Normalized (%)		22.10%	77.84%			0.05%	100.0%

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128Ns-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-001

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00036

Date Collected: 1/28/15
Time Collected: 16:24
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 12:02
Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): 0.46 **Final Pressure (psig):** 6.67

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	20	5.9	ND	14	4.2	
463-58-1	Carbonyl Sulfide	ND	35	NA	ND	14	NA	
74-93-1	Methyl Mercaptan	ND	28	8.9	ND	14	4.5	
75-08-1	Ethyl Mercaptan	ND	36	11	ND	14	4.5	
75-18-3	Dimethyl Sulfide	28,000	36	11	11,000	14	4.5	
75-15-0	Carbon Disulfide	ND	22	NA	ND	7.1	NA	
75-33-2	Isopropyl Mercaptan	ND	44	14	ND	14	4.5	
75-66-1	tert-Butyl Mercaptan	ND	52	17	ND	14	4.5	
107-03-9	n-Propyl Mercaptan	ND	44	14	ND	14	4.5	
624-89-5	Ethyl Methyl Sulfide	120	44	14	40	14	4.5	
110-02-1	Thiophene	630	49	16	180	14	4.5	
513-44-0	Isobutyl Mercaptan	ND	52	17	ND	14	4.5	
352-93-2	Diethyl Sulfide	ND	52	17	ND	14	4.5	
109-79-5	n-Butyl Mercaptan	ND	52	17	ND	14	4.5	
624-92-0	Dimethyl Disulfide	2,400	27	8.7	620	7.1	2.3	
616-44-4	3-Methylthiophene	ND	57	18	ND	14	4.5	
110-01-0	Tetrahydrothiophene	ND	51	16	ND	14	4.5	
638-02-8	2,5-Dimethylthiophene	ND	65	21	ND	14	4.5	
872-55-9	2-Ethylthiophene	ND	65	21	ND	14	4.5	
110-81-6	Diethyl Disulfide	ND	35	11	ND	7.1	2.3	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128NQs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-002

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00069

Date Collected: 1/28/15
Time Collected: 14:10
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 13:57
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): 0.47 **Final Pressure (psig):** 5.22

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.1	2.7	ND	6.6	2.0	
463-58-1	Carbonyl Sulfide	ND	16	NA	ND	6.6	NA	
74-93-1	Methyl Mercaptan	ND	13	4.1	ND	6.6	2.1	
75-08-1	Ethyl Mercaptan	ND	17	5.3	ND	6.6	2.1	
75-18-3	Dimethyl Sulfide	ND	17	5.3	ND	6.6	2.1	
75-15-0	Carbon Disulfide	ND	10	NA	ND	3.3	NA	
75-33-2	Isopropyl Mercaptan	ND	20	6.5	ND	6.6	2.1	
75-66-1	tert-Butyl Mercaptan	ND	24	7.7	ND	6.6	2.1	
107-03-9	n-Propyl Mercaptan	ND	20	6.5	ND	6.6	2.1	
624-89-5	Ethyl Methyl Sulfide	ND	20	6.5	ND	6.6	2.1	
110-02-1	Thiophene	ND	23	7.2	ND	6.6	2.1	
513-44-0	Isobutyl Mercaptan	ND	24	7.7	ND	6.6	2.1	
352-93-2	Diethyl Sulfide	ND	24	7.7	ND	6.6	2.1	
109-79-5	n-Butyl Mercaptan	ND	24	7.7	ND	6.6	2.1	
624-92-0	Dimethyl Disulfide	ND	13	4.0	ND	3.3	1.0	
616-44-4	3-Methylthiophene	ND	26	8.4	ND	6.6	2.1	
110-01-0	Tetrahydrothiophene	ND	24	7.6	ND	6.6	2.1	
638-02-8	2,5-Dimethylthiophene	ND	30	9.6	ND	6.6	2.1	
872-55-9	2-Ethylthiophene	ND	30	9.6	ND	6.6	2.1	
110-81-6	Diethyl Disulfide	ND	16	5.2	ND	3.3	1.0	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128SQs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-003

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00175

Date Collected: 1/28/15
Time Collected: 17:22
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 14:18
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): 0.53 **Final Pressure (psig):** 5.13

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	91	27	ND	65	20	
463-58-1	Carbonyl Sulfide	ND	160	NA	ND	65	NA	
74-93-1	Methyl Mercaptan	730	130	41	370	65	21	
75-08-1	Ethyl Mercaptan	ND	170	53	ND	65	21	
75-18-3	Dimethyl Sulfide	51,000	170	53	20,000	65	21	
75-15-0	Carbon Disulfide	ND	100	NA	ND	33	NA	
75-33-2	Isopropyl Mercaptan	ND	200	65	ND	65	21	
75-66-1	tert-Butyl Mercaptan	ND	240	77	ND	65	21	
107-03-9	n-Propyl Mercaptan	ND	200	65	ND	65	21	
624-89-5	Ethyl Methyl Sulfide	730	200	65	230	65	21	
110-02-1	Thiophene	1,600	220	72	470	65	21	
513-44-0	Isobutyl Mercaptan	ND	240	77	ND	65	21	
352-93-2	Diethyl Sulfide	ND	240	77	ND	65	21	
109-79-5	n-Butyl Mercaptan	300	240	77	82	65	21	
624-92-0	Dimethyl Disulfide	9,800	130	40	2,600	33	10	
616-44-4	3-Methylthiophene	ND	260	83	ND	65	21	
110-01-0	Tetrahydrothiophene	240	230	75	67	65	21	
638-02-8	2,5-Dimethylthiophene	ND	300	95	ND	65	21	
872-55-9	2-Ethylthiophene	ND	300	95	ND	65	21	
110-81-6	Diethyl Disulfide	ND	160	52	ND	33	10	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128Fs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-004

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00181

Date Collected: 1/28/15
Time Collected: 13:18
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 11:31
Volume(s) Analyzed: 0.010 ml(s)

Initial Pressure (psig): 1.30 **Final Pressure (psig):** 5.16

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	34,000	860	260	24,000	620	190	
463-58-1	Carbonyl Sulfide	ND	1,500	NA	ND	620	NA	
74-93-1	Methyl Mercaptan	260,000	1,200	390	130,000	620	200	
75-08-1	Ethyl Mercaptan	1,900	1,600	500	730	620	200	
75-18-3	Dimethyl Sulfide	990,000	1,600	500	390,000	620	200	
75-15-0	Carbon Disulfide	ND	960	NA	ND	310	NA	
75-33-2	Isopropyl Mercaptan	ND	1,900	620	ND	620	200	
75-66-1	tert-Butyl Mercaptan	ND	2,300	730	ND	620	200	
107-03-9	n-Propyl Mercaptan	ND	1,900	620	ND	620	200	
624-89-5	Ethyl Methyl Sulfide	7,300	1,900	620	2,300	620	200	
110-02-1	Thiophene	18,000	2,100	680	5,200	620	200	
513-44-0	Isobutyl Mercaptan	ND	2,300	730	ND	620	200	
352-93-2	Diethyl Sulfide	ND	2,300	730	ND	620	200	
109-79-5	n-Butyl Mercaptan	3,100	2,300	730	830	620	200	
624-92-0	Dimethyl Disulfide	79,000	1,200	380	21,000	310	99	
616-44-4	3-Methylthiophene	ND	2,500	800	ND	620	200	
110-01-0	Tetrahydrothiophene	3,300	2,200	720	900	620	200	
638-02-8	2,5-Dimethylthiophene	ND	2,800	910	ND	620	200	
872-55-9	2-Ethylthiophene	ND	2,800	910	ND	620	200	
110-81-6	Diethyl Disulfide	ND	1,500	500	ND	310	99	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-005

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00168

Date Collected: 1/28/15
Time Collected: 17:30
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 14:41
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.04 **Final Pressure (psig):** 5.34

Canister Dilution Factor: 1.37

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.5	2.9	ND	6.9	2.1	
463-58-1	Carbonyl Sulfide	ND	17	NA	ND	6.9	NA	
74-93-1	Methyl Mercaptan	ND	13	4.3	ND	6.9	2.2	
75-08-1	Ethyl Mercaptan	ND	17	5.6	ND	6.9	2.2	
75-18-3	Dimethyl Sulfide	ND	17	5.6	ND	6.9	2.2	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.4	NA	
75-33-2	Isopropyl Mercaptan	ND	21	6.8	ND	6.9	2.2	
75-66-1	tert-Butyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
107-03-9	n-Propyl Mercaptan	ND	21	6.8	ND	6.9	2.2	
624-89-5	Ethyl Methyl Sulfide	ND	21	6.8	ND	6.9	2.2	
110-02-1	Thiophene	ND	24	7.5	ND	6.9	2.2	
513-44-0	Isobutyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
352-93-2	Diethyl Sulfide	ND	25	8.1	ND	6.9	2.2	
109-79-5	n-Butyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
624-92-0	Dimethyl Disulfide	ND	13	4.2	ND	3.4	1.1	
616-44-4	3-Methylthiophene	ND	27	8.8	ND	6.9	2.2	
110-01-0	Tetrahydrothiophene	ND	25	7.9	ND	6.9	2.2	
638-02-8	2,5-Dimethylthiophene	ND	31	10	ND	6.9	2.2	
872-55-9	2-Ethylthiophene	ND	31	10	ND	6.9	2.2	
110-81-6	Diethyl Disulfide	ND	17	5.5	ND	3.4	1.1	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 129GRAB2D
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-006

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00088

Date Collected: 1/29/15
Time Collected: 11:00
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 15:18
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.18 **Final Pressure (psig):** 5.68

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.8	2.9	ND	7.0	2.1	
463-58-1	Carbonyl Sulfide	ND	17	NA	ND	7.0	NA	
74-93-1	Methyl Mercaptan	ND	14	4.4	ND	7.0	2.2	
75-08-1	Ethyl Mercaptan	ND	18	5.7	ND	7.0	2.2	
75-18-3	Dimethyl Sulfide	ND	18	5.7	ND	7.0	2.2	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.5	NA	
75-33-2	Isopropyl Mercaptan	ND	22	7.0	ND	7.0	2.2	
75-66-1	tert-Butyl Mercaptan	ND	26	8.3	ND	7.0	2.2	
107-03-9	n-Propyl Mercaptan	ND	22	7.0	ND	7.0	2.2	
624-89-5	Ethyl Methyl Sulfide	ND	22	7.0	ND	7.0	2.2	
110-02-1	Thiophene	ND	24	7.7	ND	7.0	2.2	
513-44-0	Isobutyl Mercaptan	ND	26	8.3	ND	7.0	2.2	
352-93-2	Diethyl Sulfide	ND	26	8.3	ND	7.0	2.2	
109-79-5	n-Butyl Mercaptan	ND	26	8.3	ND	7.0	2.2	
624-92-0	Dimethyl Disulfide	ND	13	4.3	ND	3.5	1.1	
616-44-4	3-Methylthiophene	ND	28	9.0	ND	7.0	2.2	
110-01-0	Tetrahydrothiophene	ND	25	8.1	ND	7.0	2.2	
638-02-8	2,5-Dimethylthiophene	ND	32	10	ND	7.0	2.2	
872-55-9	2-Ethylthiophene	ND	32	10	ND	7.0	2.2	
110-81-6	Diethyl Disulfide	ND	17	5.6	ND	3.5	1.1	

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.

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RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 129GRAB3U
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-007

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00024

Date Collected: 1/29/15
Time Collected: 11:20
Date Received: 1/30/15
Date Analyzed: 2/2/15
Time Analyzed: 15:02
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.11 **Final Pressure (psig):** 5.12

Canister Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.5	2.8	ND	6.8	2.0	
463-58-1	Carbonyl Sulfide	ND	17	NA	ND	6.8	NA	
74-93-1	Methyl Mercaptan	ND	13	4.3	ND	6.8	2.2	
75-08-1	Ethyl Mercaptan	ND	17	5.5	ND	6.8	2.2	
75-18-3	Dimethyl Sulfide	ND	17	5.5	ND	6.8	2.2	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.4	NA	
75-33-2	Isopropyl Mercaptan	ND	21	6.8	ND	6.8	2.2	
75-66-1	tert-Butyl Mercaptan	ND	25	8.0	ND	6.8	2.2	
107-03-9	n-Propyl Mercaptan	ND	21	6.8	ND	6.8	2.2	
624-89-5	Ethyl Methyl Sulfide	ND	21	6.8	ND	6.8	2.2	
110-02-1	Thiophene	ND	23	7.5	ND	6.8	2.2	
513-44-0	Isobutyl Mercaptan	ND	25	8.0	ND	6.8	2.2	
352-93-2	Diethyl Sulfide	ND	25	8.0	ND	6.8	2.2	
109-79-5	n-Butyl Mercaptan	ND	25	8.0	ND	6.8	2.2	
624-92-0	Dimethyl Disulfide	ND	13	4.2	ND	3.4	1.1	
616-44-4	3-Methylthiophene	ND	27	8.7	ND	6.8	2.2	
110-01-0	Tetrahydrothiophene	ND	25	7.8	ND	6.8	2.2	
638-02-8	2,5-Dimethylthiophene	ND	31	10	ND	6.8	2.2	
872-55-9	2-Ethylthiophene	ND	31	10	ND	6.8	2.2	
110-81-6	Diethyl Disulfide	ND	17	5.4	ND	3.4	1.1	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127U1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-008

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: AS00301

Date Collected: 1/27/15
Time Collected: 17:45
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 08:56
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -5.12 **Final Pressure (psig):** 3.26

Canister Dilution Factor: 1.87

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	13	3.9	ND	9.4	2.8	
463-58-1	Carbonyl Sulfide	ND	23	NA	ND	9.4	NA	
74-93-1	Methyl Mercaptan	ND	18	5.9	ND	9.4	3.0	
75-08-1	Ethyl Mercaptan	ND	24	7.6	ND	9.4	3.0	
75-18-3	Dimethyl Sulfide	ND	24	7.6	ND	9.4	3.0	
75-15-0	Carbon Disulfide	ND	15	NA	ND	4.7	NA	
75-33-2	Isopropyl Mercaptan	ND	29	9.3	ND	9.4	3.0	
75-66-1	tert-Butyl Mercaptan	ND	34	11	ND	9.4	3.0	
107-03-9	n-Propyl Mercaptan	ND	29	9.3	ND	9.4	3.0	
624-89-5	Ethyl Methyl Sulfide	ND	29	9.3	ND	9.4	3.0	
110-02-1	Thiophene	ND	32	10	ND	9.4	3.0	
513-44-0	Isobutyl Mercaptan	ND	34	11	ND	9.4	3.0	
352-93-2	Diethyl Sulfide	ND	34	11	ND	9.4	3.0	
109-79-5	n-Butyl Mercaptan	ND	34	11	ND	9.4	3.0	
624-92-0	Dimethyl Disulfide	ND	18	5.8	ND	4.7	1.5	
616-44-4	3-Methylthiophene	ND	38	12	ND	9.4	3.0	
110-01-0	Tetrahydrothiophene	ND	34	11	ND	9.4	3.0	
638-02-8	2,5-Dimethylthiophene	ND	43	14	ND	9.4	3.0	
872-55-9	2-Ethylthiophene	ND	43	14	ND	9.4	3.0	
110-81-6	Diethyl Disulfide	ND	23	7.5	ND	4.7	1.5	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127D1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-009

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: AS00506

Date Collected: 1/27/15
Time Collected: 18:27
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 08:40
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.21 **Final Pressure (psig):** 3.56

Canister Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	10	3.1	ND	7.3	2.2	
463-58-1	Carbonyl Sulfide	ND	18	NA	ND	7.3	NA	
74-93-1	Methyl Mercaptan	ND	14	4.6	ND	7.3	2.3	
75-08-1	Ethyl Mercaptan	ND	19	5.9	ND	7.3	2.3	
75-18-3	Dimethyl Sulfide	ND	19	5.9	ND	7.3	2.3	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.7	NA	
75-33-2	Isopropyl Mercaptan	ND	23	7.3	ND	7.3	2.3	
75-66-1	tert-Butyl Mercaptan	ND	27	8.6	ND	7.3	2.3	
107-03-9	n-Propyl Mercaptan	ND	23	7.3	ND	7.3	2.3	
624-89-5	Ethyl Methyl Sulfide	ND	23	7.3	ND	7.3	2.3	
110-02-1	Thiophene	ND	25	8.0	ND	7.3	2.3	
513-44-0	Isobutyl Mercaptan	ND	27	8.6	ND	7.3	2.3	
352-93-2	Diethyl Sulfide	ND	27	8.6	ND	7.3	2.3	
109-79-5	n-Butyl Mercaptan	ND	27	8.6	ND	7.3	2.3	
624-92-0	Dimethyl Disulfide	ND	14	4.5	ND	3.7	1.2	
616-44-4	3-Methylthiophene	ND	29	9.4	ND	7.3	2.3	
110-01-0	Tetrahydrothiophene	ND	26	8.4	ND	7.3	2.3	
638-02-8	2,5-Dimethylthiophene	ND	33	11	ND	7.3	2.3	
872-55-9	2-Ethylthiophene	ND	33	11	ND	7.3	2.3	
110-81-6	Diethyl Disulfide	ND	18	5.8	ND	3.7	1.2	

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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127D2-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-010

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: AS00224

Date Collected: 1/27/15
Time Collected: 18:32
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 09:12
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -1.67 **Final Pressure (psig):** 3.29

Canister Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.6	2.9	ND	6.9	2.1	
463-58-1	Carbonyl Sulfide	ND	17	NA	ND	6.9	NA	
74-93-1	Methyl Mercaptan	ND	14	4.3	ND	6.9	2.2	
75-08-1	Ethyl Mercaptan	ND	18	5.6	ND	6.9	2.2	
75-18-3	Dimethyl Sulfide	ND	18	5.6	ND	6.9	2.2	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.5	NA	
75-33-2	Isopropyl Mercaptan	ND	21	6.9	ND	6.9	2.2	
75-66-1	tert-Butyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
107-03-9	n-Propyl Mercaptan	ND	21	6.9	ND	6.9	2.2	
624-89-5	Ethyl Methyl Sulfide	ND	21	6.9	ND	6.9	2.2	
110-02-1	Thiophene	ND	24	7.6	ND	6.9	2.2	
513-44-0	Isobutyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
352-93-2	Diethyl Sulfide	ND	25	8.1	ND	6.9	2.2	
109-79-5	n-Butyl Mercaptan	ND	25	8.1	ND	6.9	2.2	
624-92-0	Dimethyl Disulfide	ND	13	4.3	ND	3.5	1.1	
616-44-4	3-Methylthiophene	ND	28	8.9	ND	6.9	2.2	
110-01-0	Tetrahydrothiophene	ND	25	8.0	ND	6.9	2.2	
638-02-8	2,5-Dimethylthiophene	ND	32	10	ND	6.9	2.2	
872-55-9	2-Ethylthiophene	ND	32	10	ND	6.9	2.2	
110-81-6	Diethyl Disulfide	ND	17	5.5	ND	3.5	1.1	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127F-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-011

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: AS00866

Date Collected: 1/27/15
Time Collected: 18:23
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 09:30
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -6.01 **Final Pressure (psig):** 3.61

Canister Dilution Factor: 2.11

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	15	4.4	ND	11	3.2	
463-58-1	Carbonyl Sulfide	ND	26	NA	ND	11	NA	
74-93-1	Methyl Mercaptan	ND	21	6.6	ND	11	3.4	
75-08-1	Ethyl Mercaptan	ND	27	8.6	ND	11	3.4	
75-18-3	Dimethyl Sulfide	ND	27	8.6	ND	11	3.4	
75-15-0	Carbon Disulfide	ND	16	NA	ND	5.3	NA	
75-33-2	Isopropyl Mercaptan	ND	33	11	ND	11	3.4	
75-66-1	tert-Butyl Mercaptan	ND	39	12	ND	11	3.4	
107-03-9	n-Propyl Mercaptan	ND	33	11	ND	11	3.4	
624-89-5	Ethyl Methyl Sulfide	ND	33	11	ND	11	3.4	
110-02-1	Thiophene	ND	36	12	ND	11	3.4	
513-44-0	Isobutyl Mercaptan	ND	39	12	ND	11	3.4	
352-93-2	Diethyl Sulfide	ND	39	12	ND	11	3.4	
109-79-5	n-Butyl Mercaptan	ND	39	12	ND	11	3.4	
624-92-0	Dimethyl Disulfide	ND	20	6.5	ND	5.3	1.7	
616-44-4	3-Methylthiophene	ND	42	14	ND	11	3.4	
110-01-0	Tetrahydrothiophene	ND	38	12	ND	11	3.4	
638-02-8	2,5-Dimethylthiophene	ND	48	15	ND	11	3.4	
872-55-9	2-Ethylthiophene	ND	48	15	ND	11	3.4	
110-81-6	Diethyl Disulfide	ND	26	8.4	ND	5.3	1.7	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127SQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-012

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: AS00544

Date Collected: 1/27/15
Time Collected: 18:10
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 10:04
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -1.89 **Final Pressure (psig):** 3.46

Canister Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.9	3.0	ND	7.1	2.1	
463-58-1	Carbonyl Sulfide	ND	17	NA	ND	7.1	NA	
74-93-1	Methyl Mercaptan	ND	14	4.5	ND	7.1	2.3	
75-08-1	Ethyl Mercaptan	ND	18	5.8	ND	7.1	2.3	
75-18-3	Dimethyl Sulfide	ND	18	5.8	ND	7.1	2.3	
75-15-0	Carbon Disulfide	ND	11	NA	ND	3.6	NA	
75-33-2	Isopropyl Mercaptan	ND	22	7.1	ND	7.1	2.3	
75-66-1	tert-Butyl Mercaptan	ND	26	8.4	ND	7.1	2.3	
107-03-9	n-Propyl Mercaptan	ND	22	7.1	ND	7.1	2.3	
624-89-5	Ethyl Methyl Sulfide	ND	22	7.1	ND	7.1	2.3	
110-02-1	Thiophene	ND	24	7.8	ND	7.1	2.3	
513-44-0	Isobutyl Mercaptan	ND	26	8.4	ND	7.1	2.3	
352-93-2	Diethyl Sulfide	ND	26	8.4	ND	7.1	2.3	
109-79-5	n-Butyl Mercaptan	ND	26	8.4	ND	7.1	2.3	
624-92-0	Dimethyl Disulfide	ND	14	4.4	ND	3.6	1.1	
616-44-4	3-Methylthiophene	ND	28	9.1	ND	7.1	2.3	
110-01-0	Tetrahydrothiophene	ND	26	8.2	ND	7.1	2.3	
638-02-8	2,5-Dimethylthiophene	ND	33	10	ND	7.1	2.3	
872-55-9	2-Ethylthiophene	ND	33	10	ND	7.1	2.3	
110-81-6	Diethyl Disulfide	ND	18	5.7	ND	3.6	1.1	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127-SUMMA-B
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-013

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: AS00796

Date Collected: 1/27/15
Time Collected: 16:00
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 09:45
Volume(s) Analyzed: 1.0 ml(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
7783-06-4	Hydrogen Sulfide	ND	7.0	2.1	ND	5.0	1.5	
463-58-1	Carbonyl Sulfide	ND	12	NA	ND	5.0	NA	
74-93-1	Methyl Mercaptan	ND	9.8	3.1	ND	5.0	1.6	
75-08-1	Ethyl Mercaptan	ND	13	4.1	ND	5.0	1.6	
75-18-3	Dimethyl Sulfide	ND	13	4.1	ND	5.0	1.6	
75-15-0	Carbon Disulfide	ND	7.8	NA	ND	2.5	NA	
75-33-2	Isopropyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
75-66-1	tert-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
107-03-9	n-Propyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
624-89-5	Ethyl Methyl Sulfide	ND	16	5.0	ND	5.0	1.6	
110-02-1	Thiophene	ND	17	5.5	ND	5.0	1.6	
513-44-0	Isobutyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
352-93-2	Diethyl Sulfide	ND	18	5.9	ND	5.0	1.6	
109-79-5	n-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
624-92-0	Dimethyl Disulfide	ND	9.6	3.1	ND	2.5	0.80	
616-44-4	3-Methylthiophene	ND	20	6.4	ND	5.0	1.6	
110-01-0	Tetrahydrothiophene	ND	18	5.8	ND	5.0	1.6	
638-02-8	2,5-Dimethylthiophene	ND	23	7.3	ND	5.0	1.6	
872-55-9	2-Ethylthiophene	ND	23	7.3	ND	5.0	1.6	
110-81-6	Diethyl Disulfide	ND	12	4.0	ND	2.5	0.80	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127DUP10-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-014

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: AS00161

Date Collected: 1/27/15
Time Collected:
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 11:00
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -2.97 **Final Pressure (psig):** 3.49

Canister Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	11	3.2	ND	7.8	2.3	
463-58-1	Carbonyl Sulfide	ND	19	NA	ND	7.8	NA	
74-93-1	Methyl Mercaptan	ND	15	4.9	ND	7.8	2.5	
75-08-1	Ethyl Mercaptan	ND	20	6.3	ND	7.8	2.5	
75-18-3	Dimethyl Sulfide	ND	20	6.3	ND	7.8	2.5	
75-15-0	Carbon Disulfide	ND	12	NA	ND	3.9	NA	
75-33-2	Isopropyl Mercaptan	ND	24	7.7	ND	7.8	2.5	
75-66-1	tert-Butyl Mercaptan	ND	29	9.1	ND	7.8	2.5	
107-03-9	n-Propyl Mercaptan	ND	24	7.7	ND	7.8	2.5	
624-89-5	Ethyl Methyl Sulfide	ND	24	7.7	ND	7.8	2.5	
110-02-1	Thiophene	ND	27	8.5	ND	7.8	2.5	
513-44-0	Isobutyl Mercaptan	ND	29	9.1	ND	7.8	2.5	
352-93-2	Diethyl Sulfide	ND	29	9.1	ND	7.8	2.5	
109-79-5	n-Butyl Mercaptan	ND	29	9.1	ND	7.8	2.5	
624-92-0	Dimethyl Disulfide	ND	15	4.8	ND	3.9	1.2	
616-44-4	3-Methylthiophene	ND	31	10	ND	7.8	2.5	
110-01-0	Tetrahydrothiophene	ND	28	8.9	ND	7.8	2.5	
638-02-8	2,5-Dimethylthiophene	ND	36	11	ND	7.8	2.5	
872-55-9	2-Ethylthiophene	ND	36	11	ND	7.8	2.5	
110-81-6	Diethyl Disulfide	ND	19	6.2	ND	3.9	1.2	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128U1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-015

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: AS00763

Date Collected: 1/28/15
Time Collected: 15:12
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 11:20
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): 0.19 **Final Pressure (psig):** 3.41

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	8.5	2.5	ND	6.1	1.8	
463-58-1	Carbonyl Sulfide	ND	15	NA	ND	6.1	NA	
74-93-1	Methyl Mercaptan	ND	12	3.8	ND	6.1	2.0	
75-08-1	Ethyl Mercaptan	ND	15	5.0	ND	6.1	2.0	
75-18-3	Dimethyl Sulfide	ND	15	5.0	ND	6.1	2.0	
75-15-0	Carbon Disulfide	ND	9.5	NA	ND	3.1	NA	
75-33-2	Isopropyl Mercaptan	ND	19	6.1	ND	6.1	2.0	
75-66-1	tert-Butyl Mercaptan	ND	22	7.2	ND	6.1	2.0	
107-03-9	n-Propyl Mercaptan	ND	19	6.1	ND	6.1	2.0	
624-89-5	Ethyl Methyl Sulfide	ND	19	6.1	ND	6.1	2.0	
110-02-1	Thiophene	ND	21	6.7	ND	6.1	2.0	
513-44-0	Isobutyl Mercaptan	ND	22	7.2	ND	6.1	2.0	
352-93-2	Diethyl Sulfide	ND	22	7.2	ND	6.1	2.0	
109-79-5	n-Butyl Mercaptan	ND	22	7.2	ND	6.1	2.0	
624-92-0	Dimethyl Disulfide	ND	12	3.8	ND	3.1	0.98	
616-44-4	3-Methylthiophene	ND	24	7.8	ND	6.1	2.0	
110-01-0	Tetrahydrothiophene	ND	22	7.0	ND	6.1	2.0	
638-02-8	2,5-Dimethylthiophene	ND	28	9.0	ND	6.1	2.0	
872-55-9	2-Ethylthiophene	ND	28	9.0	ND	6.1	2.0	
110-81-6	Diethyl Disulfide	ND	15	4.9	ND	3.1	0.98	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128D1-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-016

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: AS00696

Date Collected: 1/28/15
Time Collected: 14:55
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 11:53
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.88 **Final Pressure (psig):** 3.55

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.2	2.8	ND	6.6	2.0	
463-58-1	Carbonyl Sulfide	ND	16	NA	ND	6.6	NA	
74-93-1	Methyl Mercaptan	ND	13	4.2	ND	6.6	2.1	
75-08-1	Ethyl Mercaptan	ND	17	5.4	ND	6.6	2.1	
75-18-3	Dimethyl Sulfide	ND	17	5.4	ND	6.6	2.1	
75-15-0	Carbon Disulfide	ND	10	NA	ND	3.3	NA	
75-33-2	Isopropyl Mercaptan	ND	21	6.6	ND	6.6	2.1	
75-66-1	tert-Butyl Mercaptan	ND	24	7.8	ND	6.6	2.1	
107-03-9	n-Propyl Mercaptan	ND	21	6.6	ND	6.6	2.1	
624-89-5	Ethyl Methyl Sulfide	ND	21	6.6	ND	6.6	2.1	
110-02-1	Thiophene	ND	23	7.3	ND	6.6	2.1	
513-44-0	Isobutyl Mercaptan	ND	24	7.8	ND	6.6	2.1	
352-93-2	Diethyl Sulfide	ND	24	7.8	ND	6.6	2.1	
109-79-5	n-Butyl Mercaptan	ND	24	7.8	ND	6.6	2.1	
624-92-0	Dimethyl Disulfide	ND	13	4.1	ND	3.3	1.1	
616-44-4	3-Methylthiophene	ND	26	8.5	ND	6.6	2.1	
110-01-0	Tetrahydrothiophene	ND	24	7.6	ND	6.6	2.1	
638-02-8	2,5-Dimethylthiophene	ND	30	9.7	ND	6.6	2.1	
872-55-9	2-Ethylthiophene	ND	30	9.7	ND	6.6	2.1	
110-81-6	Diethyl Disulfide	ND	16	5.3	ND	3.3	1.1	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128N-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-017

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: AS00598

Date Collected: 1/28/15
Time Collected: 15:05
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 11:37
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): 0.55 **Final Pressure (psig):** 3.44

Canister Dilution Factor: 1.19

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	8.3	2.5	ND	6.0	1.8	
463-58-1	Carbonyl Sulfide	ND	15	NA	ND	6.0	NA	
74-93-1	Methyl Mercaptan	ND	12	3.7	ND	6.0	1.9	
75-08-1	Ethyl Mercaptan	ND	15	4.8	ND	6.0	1.9	
75-18-3	Dimethyl Sulfide	ND	15	4.8	ND	6.0	1.9	
75-15-0	Carbon Disulfide	ND	9.3	NA	ND	3.0	NA	
75-33-2	Isopropyl Mercaptan	ND	19	5.9	ND	6.0	1.9	
75-66-1	tert-Butyl Mercaptan	ND	22	7.0	ND	6.0	1.9	
107-03-9	n-Propyl Mercaptan	ND	19	5.9	ND	6.0	1.9	
624-89-5	Ethyl Methyl Sulfide	ND	19	5.9	ND	6.0	1.9	
110-02-1	Thiophene	ND	20	6.5	ND	6.0	1.9	
513-44-0	Isobutyl Mercaptan	ND	22	7.0	ND	6.0	1.9	
352-93-2	Diethyl Sulfide	ND	22	7.0	ND	6.0	1.9	
109-79-5	n-Butyl Mercaptan	ND	22	7.0	ND	6.0	1.9	
624-92-0	Dimethyl Disulfide	ND	11	3.7	ND	3.0	0.95	
616-44-4	3-Methylthiophene	ND	24	7.6	ND	6.0	1.9	
110-01-0	Tetrahydrothiophene	ND	21	6.9	ND	6.0	1.9	
638-02-8	2,5-Dimethylthiophene	ND	27	8.7	ND	6.0	1.9	
872-55-9	2-Ethylthiophene	ND	27	8.7	ND	6.0	1.9	
110-81-6	Diethyl Disulfide	ND	15	4.8	ND	3.0	0.95	

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.

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128NQ-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-018

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: AS00798

Date Collected: 1/28/15
Time Collected: 15:17
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 13:45
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -0.32 **Final Pressure (psig):** 3.52

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	8.8	2.7	ND	6.4	1.9	
463-58-1	Carbonyl Sulfide	ND	16	NA	ND	6.4	NA	
74-93-1	Methyl Mercaptan	ND	12	4.0	ND	6.4	2.0	
75-08-1	Ethyl Mercaptan	ND	16	5.2	ND	6.4	2.0	
75-18-3	Dimethyl Sulfide	ND	16	5.2	ND	6.4	2.0	
75-15-0	Carbon Disulfide	ND	9.9	NA	ND	3.2	NA	
75-33-2	Isopropyl Mercaptan	ND	20	6.3	ND	6.4	2.0	
75-66-1	tert-Butyl Mercaptan	ND	23	7.5	ND	6.4	2.0	
107-03-9	n-Propyl Mercaptan	ND	20	6.3	ND	6.4	2.0	
624-89-5	Ethyl Methyl Sulfide	ND	20	6.3	ND	6.4	2.0	
110-02-1	Thiophene	ND	22	7.0	ND	6.4	2.0	
513-44-0	Isobutyl Mercaptan	ND	23	7.5	ND	6.4	2.0	
352-93-2	Diethyl Sulfide	ND	23	7.5	ND	6.4	2.0	
109-79-5	n-Butyl Mercaptan	ND	23	7.5	ND	6.4	2.0	
624-92-0	Dimethyl Disulfide	ND	12	3.9	ND	3.2	1.0	
616-44-4	3-Methylthiophene	ND	25	8.2	ND	6.4	2.0	
110-01-0	Tetrahydrothiophene	ND	23	7.3	ND	6.4	2.0	
638-02-8	2,5-Dimethylthiophene	ND	29	9.3	ND	6.4	2.0	
872-55-9	2-Ethylthiophene	ND	29	9.3	ND	6.4	2.0	
110-81-6	Diethyl Disulfide	ND	16	5.1	ND	3.2	1.0	

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 1 of 1

Client: Stantec Consulting Services, Inc.
Client Sample ID: 128DUP11-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-019

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: AS00728

Date Collected: 1/28/15
Time Collected:
Date Received: 1/30/15
Date Analyzed: 2/3/15
Time Analyzed: 13:20
Volume(s) Analyzed: 1.0 ml(s)

Initial Pressure (psig): -1.06 **Final Pressure (psig):** 3.47

Canister Dilution Factor: 1.33

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	9.3	2.8	ND	6.7	2.0	
463-58-1	Carbonyl Sulfide	ND	16	NA	ND	6.7	NA	
74-93-1	Methyl Mercaptan	ND	13	4.2	ND	6.7	2.1	
75-08-1	Ethyl Mercaptan	ND	17	5.4	ND	6.7	2.1	
75-18-3	Dimethyl Sulfide	ND	17	5.4	ND	6.7	2.1	
75-15-0	Carbon Disulfide	ND	10	NA	ND	3.3	NA	
75-33-2	Isopropyl Mercaptan	ND	21	6.6	ND	6.7	2.1	
75-66-1	tert-Butyl Mercaptan	ND	25	7.8	ND	6.7	2.1	
107-03-9	n-Propyl Mercaptan	ND	21	6.6	ND	6.7	2.1	
624-89-5	Ethyl Methyl Sulfide	ND	21	6.6	ND	6.7	2.1	
110-02-1	Thiophene	ND	23	7.3	ND	6.7	2.1	
513-44-0	Isobutyl Mercaptan	ND	25	7.8	ND	6.7	2.1	
352-93-2	Diethyl Sulfide	ND	25	7.8	ND	6.7	2.1	
109-79-5	n-Butyl Mercaptan	ND	25	7.8	ND	6.7	2.1	
624-92-0	Dimethyl Disulfide	ND	13	4.1	ND	3.3	1.1	
616-44-4	3-Methylthiophene	ND	27	8.5	ND	6.7	2.1	
110-01-0	Tetrahydrothiophene	ND	24	7.7	ND	6.7	2.1	
638-02-8	2,5-Dimethylthiophene	ND	31	9.8	ND	6.7	2.1	
872-55-9	2-Ethylthiophene	ND	31	9.8	ND	6.7	2.1	
110-81-6	Diethyl Disulfide	ND	17	5.3	ND	3.3	1.1	

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 1 of 1

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

ALS Project ID: P1500365
 ALS Sample ID: P150202-MB

Test Code: ASTM D 5504-12
Instrument ID: Agilent 7890A/GC22/SCD
Analyst: Mike Conejo
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 2/02/15
Time Analyzed: 07:11
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	2.1	ND	5.0	1.5	
463-58-1	Carbonyl Sulfide	ND	12	NA	ND	5.0	NA	
74-93-1	Methyl Mercaptan	ND	9.8	3.1	ND	5.0	1.6	
75-08-1	Ethyl Mercaptan	ND	13	4.1	ND	5.0	1.6	
75-18-3	Dimethyl Sulfide	ND	13	4.1	ND	5.0	1.6	
75-15-0	Carbon Disulfide	ND	7.8	NA	ND	2.5	NA	
75-33-2	Isopropyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
75-66-1	tert-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
107-03-9	n-Propyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
624-89-5	Ethyl Methyl Sulfide	ND	16	5.0	ND	5.0	1.6	
110-02-1	Thiophene	ND	17	5.5	ND	5.0	1.6	
513-44-0	Isobutyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
352-93-2	Diethyl Sulfide	ND	18	5.9	ND	5.0	1.6	
109-79-5	n-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
624-92-0	Dimethyl Disulfide	ND	9.6	3.1	ND	2.5	0.80	
616-44-4	3-Methylthiophene	ND	20	6.4	ND	5.0	1.6	
110-01-0	Tetrahydrothiophene	ND	18	5.8	ND	5.0	1.6	
638-02-8	2,5-Dimethylthiophene	ND	23	7.3	ND	5.0	1.6	
872-55-9	2-Ethylthiophene	ND	23	7.3	ND	5.0	1.6	
110-81-6	Diethyl Disulfide	ND	12	4.0	ND	2.5	0.80	

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 1 of 1

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

ALS Project ID: P1500365
 ALS Sample ID: P150203-MB

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:

Date Collected: NA
Time Collected: NA
Date Received: NA
Date Analyzed: 2/03/15
Time Analyzed: 08:00
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	2.1	ND	5.0	1.5	
463-58-1	Carbonyl Sulfide	ND	12	NA	ND	5.0	NA	
74-93-1	Methyl Mercaptan	ND	9.8	3.1	ND	5.0	1.6	
75-08-1	Ethyl Mercaptan	ND	13	4.1	ND	5.0	1.6	
75-18-3	Dimethyl Sulfide	ND	13	4.1	ND	5.0	1.6	
75-15-0	Carbon Disulfide	ND	7.8	NA	ND	2.5	NA	
75-33-2	Isopropyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
75-66-1	tert-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
107-03-9	n-Propyl Mercaptan	ND	16	5.0	ND	5.0	1.6	
624-89-5	Ethyl Methyl Sulfide	ND	16	5.0	ND	5.0	1.6	
110-02-1	Thiophene	ND	17	5.5	ND	5.0	1.6	
513-44-0	Isobutyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
352-93-2	Diethyl Sulfide	ND	18	5.9	ND	5.0	1.6	
109-79-5	n-Butyl Mercaptan	ND	18	5.9	ND	5.0	1.6	
624-92-0	Dimethyl Disulfide	ND	9.6	3.1	ND	2.5	0.80	
616-44-4	3-Methylthiophene	ND	20	6.4	ND	5.0	1.6	
110-01-0	Tetrahydrothiophene	ND	18	5.8	ND	5.0	1.6	
638-02-8	2,5-Dimethylthiophene	ND	23	7.3	ND	5.0	1.6	
872-55-9	2-Ethylthiophene	ND	23	7.3	ND	5.0	1.6	
110-81-6	Diethyl Disulfide	ND	12	4.0	ND	2.5	0.80	

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

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: P1500365

ALS Sample ID: P150202-LCS

Test Code: ASTM D 5504-12

Instrument ID: Agilent 7890A/GC22/SCD

Analyst: Mike Conejo

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/02/15

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	1,990	1,690	85	66-131	
463-58-1	Carbonyl Sulfide	2,030	1,620	80	64-131	
74-93-1	Methyl Mercaptan	2,020	1,620	80	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: P1500365

ALS Sample ID: P150203-LCS

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:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/03/15

Volume(s) Analyzed: NA ml(s)

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
7783-06-4	Hydrogen Sulfide	1,990	1,730	87	66-131	
463-58-1	Carbonyl Sulfide	2,030	1,630	80	64-131	
74-93-1	Methyl Mercaptan	2,020	1,650	82	68-160	

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

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_Merca...	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

ALS Environmental

REPORT SUMMARY

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

Service Request : P1500365
 Instrument : GC #22
 Date Acquired : 2 Feb 2015 3:45 pm

Compounds	MDL	RL	MB QC	Dry Wall QC	Lab Dup		Continuing Calibration Standards Summary (ppbv)													
					dup	%RSD	ppbv	% Diff	sid	ppbv	% Diff	sid	ppbv	% Diff	sid	ppbv	% Diff	sid	ppbv	% Diff
Sample Information :	ppb	ppb	mb 1ml		0	0	2000ppb s30- 12221402		2000ppb s30- 12221402		2000ppb s30- 12221402		2000ppb s30- 12221402		2000ppb s30- 12221402		2000ppb s30- 12221402		2000ppb s30- 12221402	
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														
PIPT DF:	1.0	1.0	1.0	1.0	1.0	1.0														
Hydrogen_Sulfide	1700	5000	ND	P			1543.87	23.6%	1954.295	3.3%	2027.262	0.4%	1577.330	21.9%						
Carbonyl_Sulfide	1900	5000	ND	P			1562.05	21.9%	1899.822	5.0%	2107.156	5.4%	1523.909	23.8%						
Methyl_Mercaptan	2200	5000	ND	P			1573.52	21.3%	1960.349	2.0%	2045.065	2.3%	1510.677	24.5%						
Ethyl_Mercaptan	2200	5000	ND	P																
Dimethyl_Sulfide	2200	5000	ND	P																
Carbon_Disulfide	1100	2500	ND	P			2 Feb 2015 6:36 am		2 Feb 2015 3:45 pm		2 Feb 2015 7:32 am		2 Feb 2015 12:38 pm							
2-Propyl_Mercaptan	2200	5000	ND	P			02021502.d		02021532.d		02021507.d		02021524.d							
t-Butyl_Mercaptan	2200	5000	ND	P																
Propyl_Mercaptan	2200	5000	ND	P																
Ethyl_Methyl_Sulfide	2200	5000	ND	P																
Thiophene	2200	5000	ND	P																
i-Butyl_Mercaptan	2200	5000	ND	P																
Diethyl_Sulfide	2200	5000	ND	P																
n-Butyl_Mercaptan	2200	5000	ND	P																
Dimethyl_Disulfide	2200	5000	ND	P																
2-Methylthiophene	1100	2500	ND	P																
3-Methylthiophene	2200	5000	ND	P																
Tetrahydrothiophene	2200	5000	ND	P																
2,5-Dimethylthiophene	2200	5000	ND	P																
2-Ethylthiophene	2200	5000	ND	P																
Diethyl_Disulfide	1100	2500	ND	P																
Methyltrisulfide	1100	2500	ND	P																
Acquisition Time		2 Feb 2015 7:11 am																		
DataFile		02021506.d																		

LCS / LCS Dup Summary (ppbv)

	ppbv	%R	%RPD	Actual
Hydrogen_Sulfide	1691.67	84.9%		1992.00
Carbonyl_Sulfide	1616.31	79.5%		2032.00
Methyl_Mercaptan	1615.06	79.9%		2022.00
Acquisition Time	2 Feb 2015 6:41 am			
DataFile	02021503.d			

2/3/15

ALS Environmental

REPORT SUMMARY

Method : 20 Sulfurs

Client : Stantec Consulting Services, Inc.

Analyst : MC

Service Request : P1500365

Instrument : GC13

Date Acquired : 2/3/15

Compounds	MDL	RL	MB QC	Dry Wall QC	Lab Dup		Continuing Calibration Standards Summary (ppbv)													
					dup	%RSD	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Sample Information :	ppb	ppb	mb (ml)		0	0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Inj. Vol. (ml)	1.0	1.0	1.00	1.0	1.0	1.0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Dilution	1.0	1.0	1.00	1.0	1.0	1.0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Pi:	1.0	1.0	1.0	1.0	1.0	1.0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Pi:	1.0	1.0	1.0	1.0	1.0	1.0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
PI/PDF:	1.0	1.0	1.0	1.0	1.0	1.0	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff	ppbv	% Diff
Hydrogen_Sulfide	1700	5000	ND	P			1961.47	2.9%	2144.074	6.1%	2012.951	0.3%	1540.938	23.7%						
Carbonyl_Sulfide	1900	5000	ND	P			1888.35	5.6%	2177.978	8.9%	1929.527	3.5%	1564.888	21.8%						
Methyl_Mercaptan	2200	5000	ND	P			1857.85	7.1%	2048.028	2.4%	1863.919	6.8%	1444.521	27.8%						
Ethyl_Mercaptan	2200	5000	ND	P																
Dimethyl_Sulfide	2200	5000	ND	P																
Carbon_Disulfide	1100	2500	ND	P																
2-Propyl_Mercaptan	2200	5000	ND	P																
t-Butyl_Mercaptan	2200	5000	ND	P																
Propyl_Mercaptan	2200	5000	ND	P																
Ethyl_Methyl_Sulfide	2200	5000	ND	P																
Thiophene	2200	5000	ND	P																
i-Butyl_Mercaptan	2200	5000	ND	P																
Diethyl_Sulfide	2200	5000	ND	P																
n-Butyl_Mercaptan	2200	5000	ND	P																
Dimethyl_Disulfide	2200	5000	ND	P																
2-Methylthiophene	1100	2500	ND	P																
3-Methylthiophene	2200	5000	ND	P																
Tetrahydrothiophene	2200	5000	ND	P																
2,5-Dimethylthiophene	2200	5000	ND	P																
2-Ethylthiophene	2200	5000	ND	P																
Diethyl_Disulfide	1100	2500	ND	P																
Methyltrisulfide	1100	2500	ND	P																
Acquisition Time			8:00 AM																	
DataFile			02031506.D																	

LCS / LCS Dup Summary (ppbv)

	ppbv	%R	%RPD	Actual
Hydrogen_Sulfide	1733.46	87.0%		1992.00
Carbonyl_Sulfide	1625.08	80.0%		2032.00
Methyl_Mercaptan	1651.80	81.7%		2022.00
Acquisition Time	7:31 AM			
DataFile	02031503.D			

MC 2/3/15

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 1 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Ns-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-001

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00036

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0060 Liter(s)

Initial Pressure (psig): 0.46 Final Pressure (psig): 6.67

Canister Dilution Factor: 1.41

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	21,000	120	33	12,000	68	19	
75-71-8	Dichlorodifluoromethane (CFC 12)	88	120	40	18	24	8.1	J
74-87-3	Chloromethane	60	120	35	29	57	17	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	120	45	ND	17	6.4	
75-01-4	Vinyl Chloride	ND	120	40	ND	46	16	
106-99-0	1,3-Butadiene	430	120	52	190	53	23	
74-83-9	Bromomethane	ND	120	45	ND	30	12	
75-00-3	Chloroethane	ND	120	40	ND	45	15	
64-17-5	Ethanol	ND	1,200	190	ND	620	100	
75-05-8	Acetonitrile	ND	120	42	ND	70	25	
107-02-8	Acrolein	ND	470	40	ND	210	17	
67-64-1	Acetone	470	1,200	180	200	490	76	J
75-69-4	Trichlorofluoromethane	ND	120	40	ND	21	7.1	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	1,200	99	ND	480	40	
107-13-1	Acrylonitrile	ND	120	40	ND	54	18	
75-35-4	1,1-Dichloroethene	ND	120	40	ND	30	10	
75-09-2	Methylene Chloride	ND	120	40	ND	34	12	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	120	38	ND	38	12	
76-13-1	Trichlorotrifluoroethane	ND	120	40	ND	15	5.2	
75-15-0	Carbon Disulfide	ND	1,200	35	ND	380	11	
156-60-5	trans-1,2-Dichloroethene	ND	120	45	ND	30	11	
75-34-3	1,1-Dichloroethane	ND	120	38	ND	29	9.3	
1634-04-4	Methyl tert-Butyl Ether	110	120	40	30	33	11	J
108-05-4	Vinyl Acetate	ND	1,200	150	ND	330	43	
78-93-3	2-Butanone (MEK)	ND	1,200	49	ND	400	17	

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: 128Ns-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-001

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00036

Date Collected: 1/28/15
Date Received: 1/30/15
Date Analyzed: 2/9/15
Volume(s) Analyzed: 0.0060 Liter(s)

Initial Pressure (psig): 0.46 Final Pressure (psig): 6.67

Canister Dilution Factor: 1.41

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	120	38	ND	30	9.5	
141-78-6	Ethyl Acetate	ND	240	82	ND	65	23	
110-54-3	n-Hexane	1,100	120	35	300	33	10	
67-66-3	Chloroform	ND	120	40	ND	24	8.2	
109-99-9	Tetrahydrofuran (THF)	1,900	120	47	660	40	16	
107-06-2	1,2-Dichloroethane	ND	120	38	ND	29	9.3	
71-55-6	1,1,1-Trichloroethane	ND	120	40	ND	22	7.3	
71-43-2	Benzene	12,000	120	38	3,600	37	12	
56-23-5	Carbon Tetrachloride	ND	120	35	ND	19	5.6	
110-82-7	Cyclohexane	310	240	68	89	68	20	
78-87-5	1,2-Dichloropropane	ND	120	38	ND	25	8.1	
75-27-4	Bromodichloromethane	ND	120	35	ND	18	5.3	
79-01-6	Trichloroethene	ND	120	33	ND	22	6.1	
123-91-1	1,4-Dioxane	ND	120	38	ND	33	10	
80-62-6	Methyl Methacrylate	ND	240	73	ND	57	18	
142-82-5	n-Heptane	640	120	40	160	29	9.8	
10061-01-5	cis-1,3-Dichloropropene	ND	120	33	ND	26	7.2	
108-10-1	4-Methyl-2-pentanone	ND	120	38	ND	29	9.2	
10061-02-6	trans-1,3-Dichloropropene	ND	120	38	ND	26	8.3	
79-00-5	1,1,2-Trichloroethane	ND	120	38	ND	22	6.9	
108-88-3	Toluene	1,800	120	40	490	31	11	
591-78-6	2-Hexanone	ND	120	38	ND	29	9.2	
124-48-1	Dibromochloromethane	ND	120	38	ND	14	4.4	
106-93-4	1,2-Dibromoethane	ND	120	38	ND	15	4.9	
123-86-4	n-Butyl Acetate	ND	120	38	ND	25	7.9	

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: 128Ns-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-001

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00036

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0060 Liter(s)

Initial Pressure (psig): 0.46 Final Pressure (psig): 6.67

Canister Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	1,300	120	42	270	25	9.1	
127-18-4	Tetrachloroethene	ND	120	33	ND	17	4.9	
108-90-7	Chlorobenzene	860	120	38	190	26	8.2	
100-41-4	Ethylbenzene	640	120	38	150	27	8.7	
179601-23-1	m,p-Xylenes	2,100	240	71	490	54	16	
75-25-2	Bromoform	ND	120	35	ND	11	3.4	
100-42-5	Styrene	ND	120	35	ND	28	8.3	
95-47-6	o-Xylene	2,600	120	35	600	27	8.1	
111-84-2	n-Nonane	1,100	120	35	220	22	6.7	
79-34-5	1,1,2,2-Tetrachloroethane	ND	120	35	ND	17	5.1	
98-82-8	Cumene	120	120	35	24	24	7.2	
80-56-8	alpha-Pinene	2,600	120	33	470	21	5.9	
103-65-1	n-Propylbenzene	ND	120	38	ND	24	7.7	
622-96-8	4-Ethyltoluene	240	120	38	49	24	7.7	
108-67-8	1,3,5-Trimethylbenzene	720	120	38	150	24	7.7	
95-63-6	1,2,4-Trimethylbenzene	230	120	35	47	24	7.2	
100-44-7	Benzyl Chloride	ND	120	26	ND	23	5.0	
541-73-1	1,3-Dichlorobenzene	ND	120	35	ND	20	5.9	
106-46-7	1,4-Dichlorobenzene	900	120	33	150	20	5.5	
95-50-1	1,2-Dichlorobenzene	ND	120	35	ND	20	5.9	
5989-27-5	d-Limonene	530	120	33	95	21	5.9	
96-12-8	1,2-Dibromo-3-chloropropane	ND	120	23	ND	12	2.4	
120-82-1	1,2,4-Trichlorobenzene	ND	120	38	ND	16	5.1	
91-20-3	Naphthalene	ND	120	42	ND	22	8.1	
87-68-3	Hexachlorobutadiene	ND	120	33	ND	11	3.1	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Ns-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-001

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00036

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0060 Liter(s)

Initial Pressure (psig): 0.46

Final Pressure (psig): 6.67

Canister Dilution Factor: 1.41

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.16	Propane	4,100	
4.51	Dimethyl Ether	4,100	
5.18	2-Methyl-1-propene	24,000	
5.35	n-Butane	12,000	
5.54	C4H8 Alkene	15,000	
5.83	C4H8 Alkene	11,000	
7.57	Furan	14,000	
8.17	Dimethyl Sulfide	44,000	
8.56	C5H10 Alkene	6,200	
9.67	Cyclopentene	6,500	
10.31	C6H12 Alkene	2,800	
11.11	2-Methylfuran	8,200	
19.75	Camphene	4,700	
20.56	4-Isopropyltoluene + 4-Methyldecane	3,400	
20.84	unknown	3,000	

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: 128NQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-002

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00069

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 0.40 Liter(s)

0.040 Liter(s)

Initial Pressure (psig): 0.47 Final Pressure (psig): 5.22

Canister Dilution Factor: 1.31

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	1,500	16	4.6	880	9.5	2.7	D
75-71-8	Dichlorodifluoromethane (CFC 12)	140	1.6	0.56	28	0.33	0.11	
74-87-3	Chloromethane	ND	1.6	0.49	ND	0.79	0.24	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	28	1.6	0.62	4.0	0.23	0.089	
75-01-4	Vinyl Chloride	200	1.6	0.56	78	0.64	0.22	
106-99-0	1,3-Butadiene	8.1	1.6	0.72	3.7	0.74	0.33	
74-83-9	Bromomethane	ND	1.6	0.62	ND	0.42	0.16	
75-00-3	Chloroethane	8.5	1.6	0.56	3.2	0.62	0.21	
64-17-5	Ethanol	ND	16	2.6	ND	8.7	1.4	
75-05-8	Acetonitrile	ND	1.6	0.59	ND	0.98	0.35	
107-02-8	Acrolein	ND	6.6	0.56	ND	2.9	0.24	
67-64-1	Acetone	9.9	16	2.5	4.2	6.9	1.1	J, B
75-69-4	Trichlorofluoromethane	6.8	1.6	0.56	1.2	0.29	0.099	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	16	1.4	ND	6.7	0.56	
107-13-1	Acrylonitrile	ND	1.6	0.56	ND	0.75	0.26	
75-35-4	1,1-Dichloroethene	ND	1.6	0.56	ND	0.41	0.14	
75-09-2	Methylene Chloride	ND	1.6	0.56	ND	0.47	0.16	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.6	0.52	ND	0.52	0.17	
76-13-1	Trichlorotrifluoroethane	ND	1.6	0.56	ND	0.21	0.073	
75-15-0	Carbon Disulfide	12	16	0.49	3.7	5.3	0.16	J
156-60-5	trans-1,2-Dichloroethene	ND	1.6	0.62	ND	0.41	0.16	
75-34-3	1,1-Dichloroethane	1.1	1.6	0.52	0.28	0.40	0.13	J
1634-04-4	Methyl tert-Butyl Ether	ND	1.6	0.56	ND	0.45	0.15	
108-05-4	Vinyl Acetate	ND	16	2.1	ND	4.7	0.60	
78-93-3	2-Butanone (MEK)	3.8	16	0.69	1.3	5.6	0.23	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.

B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Page 2 of 4

Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-002

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00069

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 0.40 Liter(s)

0.040 Liter(s)

Initial Pressure (psig): 0.47 Final Pressure (psig): 5.22

Canister Dilution Factor: 1.31

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	1.1	1.6	0.52	0.28	0.41	0.13	J
141-78-6	Ethyl Acetate	ND	3.3	1.1	ND	0.91	0.32	
110-54-3	n-Hexane	100	1.6	0.49	29	0.46	0.14	
67-66-3	Chloroform	1.1	1.6	0.56	0.23	0.34	0.11	J
109-99-9	Tetrahydrofuran (THF)	ND	1.6	0.66	ND	0.56	0.22	
107-06-2	1,2-Dichloroethane	ND	1.6	0.52	ND	0.40	0.13	
71-55-6	1,1,1-Trichloroethane	ND	1.6	0.56	ND	0.30	0.10	
71-43-2	Benzene	12	1.6	0.52	3.7	0.51	0.16	
56-23-5	Carbon Tetrachloride	ND	1.6	0.49	ND	0.26	0.078	
110-82-7	Cyclohexane	140	3.3	0.95	41	0.95	0.28	
78-87-5	1,2-Dichloropropane	ND	1.6	0.52	ND	0.35	0.11	
75-27-4	Bromodichloromethane	ND	1.6	0.49	ND	0.24	0.073	
79-01-6	Trichloroethene	ND	1.6	0.46	ND	0.30	0.085	
123-91-1	1,4-Dioxane	ND	1.6	0.52	ND	0.45	0.15	
80-62-6	Methyl Methacrylate	ND	3.3	1.0	ND	0.80	0.25	
142-82-5	n-Heptane	56	1.6	0.56	14	0.40	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	1.6	0.46	ND	0.36	0.10	
108-10-1	4-Methyl-2-pentanone	ND	1.6	0.52	ND	0.40	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	1.6	0.52	ND	0.36	0.12	
79-00-5	1,1,2-Trichloroethane	ND	1.6	0.52	ND	0.30	0.096	
108-88-3	Toluene	2.5	1.6	0.56	0.67	0.43	0.15	
591-78-6	2-Hexanone	ND	1.6	0.52	ND	0.40	0.13	
124-48-1	Dibromochloromethane	ND	1.6	0.52	ND	0.19	0.062	
106-93-4	1,2-Dibromoethane	ND	1.6	0.52	ND	0.21	0.068	
123-86-4	n-Butyl Acetate	ND	1.6	0.52	ND	0.34	0.11	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-002

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00069

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 0.40 Liter(s)

0.040 Liter(s)

Initial Pressure (psig): 0.47 Final Pressure (psig): 5.22

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	4.9	1.6	0.59	1.1	0.35	0.13	
127-18-4	Tetrachloroethene	1.5	1.6	0.46	0.22	0.24	0.068	J
108-90-7	Chlorobenzene	4.2	1.6	0.52	0.91	0.36	0.11	
100-41-4	Ethylbenzene	3.4	1.6	0.52	0.79	0.38	0.12	
179601-23-1	m,p-Xylenes	6.8	3.3	0.98	1.6	0.75	0.23	
75-25-2	Bromoform	ND	1.6	0.49	ND	0.16	0.048	
100-42-5	Styrene	ND	1.6	0.49	ND	0.38	0.12	
95-47-6	o-Xylene	4.0	1.6	0.49	0.91	0.38	0.11	
111-84-2	n-Nonane	1.6	1.6	0.49	0.31	0.31	0.094	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.6	0.49	ND	0.24	0.072	
98-82-8	Cumene	2.0	1.6	0.49	0.41	0.33	0.10	
80-56-8	alpha-Pinene	5.6	1.6	0.46	1.0	0.29	0.082	
103-65-1	n-Propylbenzene	0.99	1.6	0.52	0.20	0.33	0.11	J
622-96-8	4-Ethyltoluene	1.2	1.6	0.52	0.24	0.33	0.11	J
108-67-8	1,3,5-Trimethylbenzene	2.7	1.6	0.52	0.56	0.33	0.11	
95-63-6	1,2,4-Trimethylbenzene	3.4	1.6	0.49	0.68	0.33	0.10	
100-44-7	Benzyl Chloride	ND	1.6	0.36	ND	0.32	0.070	
541-73-1	1,3-Dichlorobenzene	ND	1.6	0.49	ND	0.27	0.082	
106-46-7	1,4-Dichlorobenzene	1.7	1.6	0.46	0.28	0.27	0.076	
95-50-1	1,2-Dichlorobenzene	ND	1.6	0.49	ND	0.27	0.082	
5989-27-5	d-Limonene	1.8	1.6	0.46	0.32	0.29	0.082	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.6	0.32	ND	0.17	0.034	
120-82-1	1,2,4-Trichlorobenzene	ND	1.6	0.52	ND	0.22	0.071	
91-20-3	Naphthalene	ND	1.6	0.59	ND	0.31	0.11	
87-68-3	Hexachlorobutadiene	ND	1.6	0.46	ND	0.15	0.043	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-002

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00069

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 0.40 Liter(s)

0.040 Liter(s)

Initial Pressure (psig): 0.47

Final Pressure (psig): 5.22

Canister Dilution Factor: 1.31

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.19	Propane	830	
4.84	Isobutane	1,400	
5.20	2-Methyl-1-propene	1,000	
5.37	n-Butane	950	
5.57	C4H8 Alkene	350	
5.85	C4H8 Alkene	250	
7.10	2-Methylbutane	400	
7.90	n-Pentane	310	
8.57	C5H10 Alkene	220	
9.10	2,2-Dimethylbutane	270	
10.27	2-Methylpentane	230	
10.75	3-Methylpentane	160	
13.71	3-Methylhexane	260	
14.04	Hexamethyldisiloxane	170	
20.13	unknown	160	
21.83	Unidentified Siloxane	52	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128SQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-003

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00175

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0013 Liter(s)

Initial Pressure (psig): 0.53 Final Pressure (psig): 5.13

Canister Dilution Factor: 1.30

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	25,000	500	140	14,000	290	81	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	500	170	ND	100	34	
74-87-3	Chloromethane	480	500	150	230	240	73	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	500	190	ND	72	27	
75-01-4	Vinyl Chloride	ND	500	170	ND	200	67	
106-99-0	1,3-Butadiene	740	500	220	340	230	99	
74-83-9	Bromomethane	ND	500	190	ND	130	49	
75-00-3	Chloroethane	390	500	170	150	190	64	J
64-17-5	Ethanol	4,700	5,000	800	2,500	2,700	420	J
75-05-8	Acetonitrile	ND	500	180	ND	300	110	
107-02-8	Acrolein	ND	2,000	170	ND	870	74	
67-64-1	Acetone	31,000	5,000	770	13,000	2,100	320	
75-69-4	Trichlorofluoromethane	ND	500	170	ND	89	30	
67-63-0	2-Propanol (Isopropyl Alcohol)	12,000	5,000	420	4,900	2,000	170	
107-13-1	Acrylonitrile	ND	500	170	ND	230	78	
75-35-4	1,1-Dichloroethene	ND	500	170	ND	130	43	
75-09-2	Methylene Chloride	ND	500	170	ND	140	49	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	500	160	ND	160	51	
76-13-1	Trichlorotrifluoroethane	ND	500	170	ND	65	22	
75-15-0	Carbon Disulfide	ND	5,000	150	ND	1,600	48	
156-60-5	trans-1,2-Dichloroethene	ND	500	190	ND	130	48	
75-34-3	1,1-Dichloroethane	ND	500	160	ND	120	40	
1634-04-4	Methyl tert-Butyl Ether	ND	500	170	ND	140	47	
108-05-4	Vinyl Acetate	ND	5,000	650	ND	1,400	180	
78-93-3	2-Butanone (MEK)	27,000	5,000	210	9,000	1,700	71	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 128SQs-GRAB
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-003

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister
Test Notes:
Container ID: 1SS00175

Date Collected: 1/28/15
Date Received: 1/30/15
Date Analyzed: 2/9/15
Volume(s) Analyzed: 0.0013 Liter(s)

Initial Pressure (psig): 0.53 **Final Pressure (psig):** 5.13

Canister Dilution Factor: 1.30

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	500	160	ND	130	40	
141-78-6	Ethyl Acetate	ND	1,000	350	ND	280	97	
110-54-3	n-Hexane	950	500	150	270	140	43	
67-66-3	Chloroform	ND	500	170	ND	100	35	
109-99-9	Tetrahydrofuran (THF)	28,000	500	200	9,700	170	68	
107-06-2	1,2-Dichloroethane	ND	500	160	ND	120	40	
71-55-6	1,1,1-Trichloroethane	ND	500	170	ND	92	31	
71-43-2	Benzene	87,000	500	160	27,000	160	50	
56-23-5	Carbon Tetrachloride	ND	500	150	ND	80	24	
110-82-7	Cyclohexane	ND	1,000	290	ND	290	84	
78-87-5	1,2-Dichloropropane	ND	500	160	ND	110	35	
75-27-4	Bromodichloromethane	ND	500	150	ND	75	22	
79-01-6	Trichloroethene	ND	500	140	ND	93	26	
123-91-1	1,4-Dioxane	290	500	160	80	140	44	J
80-62-6	Methyl Methacrylate	ND	1,000	310	ND	240	76	
142-82-5	n-Heptane	800	500	170	190	120	41	
10061-01-5	cis-1,3-Dichloropropene	ND	500	140	ND	110	31	
108-10-1	4-Methyl-2-pentanone	2,100	500	160	520	120	39	
10061-02-6	trans-1,3-Dichloropropene	ND	500	160	ND	110	35	
79-00-5	1,1,2-Trichloroethane	ND	500	160	ND	92	29	
108-88-3	Toluene	9,600	500	170	2,600	130	45	
591-78-6	2-Hexanone	720	500	160	180	120	39	
124-48-1	Dibromochloromethane	ND	500	160	ND	59	19	
106-93-4	1,2-Dibromoethane	ND	500	160	ND	65	21	
123-86-4	n-Butyl Acetate	1,100	500	160	220	110	34	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128SQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-003

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00175

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0013 Liter(s)

Initial Pressure (psig): 0.53 Final Pressure (psig): 5.13

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	2,400	500	180	520	110	39	
127-18-4	Tetrachloroethene	ND	500	140	ND	74	21	
108-90-7	Chlorobenzene	220	500	160	47	110	35	J
100-41-4	Ethylbenzene	5,000	500	160	1,200	120	37	
179601-23-1	m,p-Xylenes	9,400	1,000	300	2,200	230	69	
75-25-2	Bromoform	ND	500	150	ND	48	15	
100-42-5	Styrene	250	500	150	58	120	35	J
95-47-6	o-Xylene	4,000	500	150	920	120	35	
111-84-2	n-Nonane	2,600	500	150	490	95	29	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	150	ND	73	22	
98-82-8	Cumene	1,200	500	150	250	100	31	
80-56-8	alpha-Pinene	7,700	500	140	1,400	90	25	
103-65-1	n-Propylbenzene	770	500	160	160	100	33	
622-96-8	4-Ethyltoluene	1,000	500	160	210	100	33	
108-67-8	1,3,5-Trimethylbenzene	1,200	500	160	240	100	33	
95-63-6	1,2,4-Trimethylbenzene	3,800	500	150	780	100	31	
100-44-7	Benzyl Chloride	ND	500	110	ND	97	21	
541-73-1	1,3-Dichlorobenzene	ND	500	150	ND	83	25	
106-46-7	1,4-Dichlorobenzene	1,600	500	140	270	83	23	
95-50-1	1,2-Dichlorobenzene	ND	500	150	ND	83	25	
5989-27-5	d-Limonene	12,000	500	140	2,100	90	25	
96-12-8	1,2-Dibromo-3-chloropropane	ND	500	99	ND	52	10	
120-82-1	1,2,4-Trichlorobenzene	ND	500	160	ND	67	22	
91-20-3	Naphthalene	ND	500	180	ND	95	34	
87-68-3	Hexachlorobutadiene	ND	500	140	ND	47	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128SQs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-003

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00175

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.0013 Liter(s)

Initial Pressure (psig): 0.53

Final Pressure (psig): 5.13

Canister Dilution Factor: 1.30

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.51	Dimethyl Ether	15,000	
5.17	2-Methyl-1-propene	29,000	
5.53	C4H8 Alkene	10,000	
5.81	C4H8 Alkene	10,000	
7.57	Furan	70,000	
8.16	Dimethyl Sulfide	90,000	
8.55	C5H10 Alkene	7,300	
9.67	Cyclopentene	13,000	
10.95	2-Butanol	11,000	
11.11	2-Methylfuran	66,000	
14.54	Methyl Butyrate	11,000	
15.15	Dimethyl disulfide	11,000	
16.98	3-Ethylcyclohexene	6,600	
20.27	n-Decane	6,500	
20.55	p-Isopropyltoluene	19,000	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Fs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00181

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): 1.30 Final Pressure (psig): 5.16

Canister Dilution Factor: 1.24

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	94,000	4,100	1,200	55,000	2,400	670	
75-71-8	Dichlorodifluoromethane (CFC 12)	ND	4,100	1,400	ND	840	280	
74-87-3	Chloromethane	10,000	4,100	1,200	4,800	2,000	600	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	4,100	1,600	ND	590	220	
75-01-4	Vinyl Chloride	ND	4,100	1,400	ND	1,600	550	
106-99-0	1,3-Butadiene	3,400	4,100	1,800	1,500	1,900	820	J
74-83-9	Bromomethane	ND	4,100	1,600	ND	1,100	400	
75-00-3	Chloroethane	2,500	4,100	1,400	940	1,600	530	J
64-17-5	Ethanol	500,000	41,000	6,600	260,000	22,000	3,500	
75-05-8	Acetonitrile	ND	4,100	1,500	ND	2,500	890	
107-02-8	Acrolein	ND	17,000	1,400	ND	7,200	610	
67-64-1	Acetone	930,000	41,000	6,400	390,000	17,000	2,700	
75-69-4	Trichlorofluoromethane	ND	4,100	1,400	ND	740	250	
67-63-0	2-Propanol (Isopropyl Alcohol)	140,000	41,000	3,500	57,000	17,000	1,400	
107-13-1	Acrylonitrile	ND	4,100	1,400	ND	1,900	650	
75-35-4	1,1-Dichloroethene	ND	4,100	1,400	ND	1,000	350	
75-09-2	Methylene Chloride	ND	4,100	1,400	ND	1,200	400	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	4,100	1,300	ND	1,300	420	
76-13-1	Trichlorotrifluoroethane	ND	4,100	1,400	ND	540	180	
75-15-0	Carbon Disulfide	ND	41,000	1,200	ND	13,000	400	
156-60-5	trans-1,2-Dichloroethene	ND	4,100	1,600	ND	1,000	400	
75-34-3	1,1-Dichloroethane	ND	4,100	1,300	ND	1,000	330	
1634-04-4	Methyl tert-Butyl Ether	ND	4,100	1,400	ND	1,100	390	
108-05-4	Vinyl Acetate	ND	41,000	5,400	ND	12,000	1,500	
78-93-3	2-Butanone (MEK)	600,000	41,000	1,700	200,000	14,000	590	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Fs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00181

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): 1.30

Final Pressure (psig): 5.16

Canister Dilution Factor: 1.24

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	4,100	1,300	ND	1,000	330	
141-78-6	Ethyl Acetate	130,000	8,300	2,900	35,000	2,300	800	
110-54-3	n-Hexane	4,100	4,100	1,200	1,200	1,200	350	J
67-66-3	Chloroform	ND	4,100	1,400	ND	850	290	
109-99-9	Tetrahydrofuran (THF)	340,000	4,100	1,700	110,000	1,400	560	
107-06-2	1,2-Dichloroethane	ND	4,100	1,300	ND	1,000	330	
71-55-6	1,1,1-Trichloroethane	ND	4,100	1,400	ND	760	260	
71-43-2	Benzene	460,000	4,100	1,300	140,000	1,300	410	
56-23-5	Carbon Tetrachloride	ND	4,100	1,200	ND	660	200	
110-82-7	Cyclohexane	ND	8,300	2,400	ND	2,400	700	
78-87-5	1,2-Dichloropropane	ND	4,100	1,300	ND	890	290	
75-27-4	Bromodichloromethane	ND	4,100	1,200	ND	620	190	
79-01-6	Trichloroethene	ND	4,100	1,200	ND	770	220	
123-91-1	1,4-Dioxane	5,300	4,100	1,300	1,500	1,100	370	
80-62-6	Methyl Methacrylate	ND	8,300	2,600	ND	2,000	630	
142-82-5	n-Heptane	4,200	4,100	1,400	1,000	1,000	340	
10061-01-5	cis-1,3-Dichloropropene	ND	4,100	1,200	ND	910	260	
108-10-1	4-Methyl-2-pentanone	18,000	4,100	1,300	4,300	1,000	320	
10061-02-6	trans-1,3-Dichloropropene	ND	4,100	1,300	ND	910	290	
79-00-5	1,1,2-Trichloroethane	ND	4,100	1,300	ND	760	240	
108-88-3	Toluene	60,000	4,100	1,400	16,000	1,100	370	
591-78-6	2-Hexanone	6,700	4,100	1,300	1,600	1,000	320	
124-48-1	Dibromochloromethane	ND	4,100	1,300	ND	490	160	
106-93-4	1,2-Dibromoethane	ND	4,100	1,300	ND	540	170	
123-86-4	n-Butyl Acetate	42,000	4,100	1,300	8,900	870	280	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Fs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-004

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00181

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): 1.30 Final Pressure (psig): 5.16

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	11,000	4,100	1,500	2,400	890	320	
127-18-4	Tetrachloroethene	ND	4,100	1,200	ND	610	170	
108-90-7	Chlorobenzene	ND	4,100	1,300	ND	900	290	
100-41-4	Ethylbenzene	19,000	4,100	1,300	4,400	950	300	
179601-23-1	m,p-Xylenes	31,000	8,300	2,500	7,200	1,900	570	
75-25-2	Bromoform	ND	4,100	1,200	ND	400	120	
100-42-5	Styrene	ND	4,100	1,200	ND	970	290	
95-47-6	o-Xylene	9,900	4,100	1,200	2,300	950	290	
111-84-2	n-Nonane	8,300	4,100	1,200	1,600	790	240	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4,100	1,200	ND	600	180	
98-82-8	Cumene	2,800	4,100	1,200	580	840	250	J
80-56-8	alpha-Pinene	11,000	4,100	1,200	1,900	740	210	
103-65-1	n-Propylbenzene	ND	4,100	1,300	ND	840	270	
622-96-8	4-Ethyltoluene	1,600	4,100	1,300	320	840	270	J
108-67-8	1,3,5-Trimethylbenzene	1,500	4,100	1,300	310	840	270	J
95-63-6	1,2,4-Trimethylbenzene	4,000	4,100	1,200	820	840	250	J
100-44-7	Benzyl Chloride	ND	4,100	910	ND	800	180	
541-73-1	1,3-Dichlorobenzene	ND	4,100	1,200	ND	690	210	
106-46-7	1,4-Dichlorobenzene	2,200	4,100	1,200	360	690	190	J
95-50-1	1,2-Dichlorobenzene	ND	4,100	1,200	ND	690	210	
5989-27-5	d-Limonene	8,300	4,100	1,200	1,500	740	210	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4,100	820	ND	430	85	
120-82-1	1,2,4-Trichlorobenzene	ND	4,100	1,300	ND	560	180	
91-20-3	Naphthalene	ND	4,100	1,500	ND	790	280	
87-68-3	Hexachlorobutadiene	ND	4,100	1,200	ND	390	110	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128Fs-GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-004

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00181

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): 1.30 Final Pressure (psig): 5.16

Canister Dilution Factor: 1.24

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.51	Dimethyl Ether	140,000	
5.16	2-Methyl-1-propene	95,000	
5.52	C4H8 Alkene	55,000	
5.81	C4H8 Alkene	57,000	
8.17	Dimethyl Sulfide	1,300,000	
9.58	1-Propanol	79,000	
10.95	2-Butanol	100,000	
11.12	2-Methylfuran	390,000	
11.87	Methyl Propionate	380,000	
13.40	2-Pentanone	56,000	
13.58	Falsefalse	94,000	
14.54	Methyl Butyrate	530,000	
15.15	Dimethyl disulfide	120,000	
15.95	Methyl isovalerate	60,000	
17.02	Methyl valerate	55,000	

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: 128GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00168

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.04 Final Pressure (psig): 5.34

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	0.48	1.7	0.48	0.28	1.0	0.28	J
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	1.7	0.58	0.42	0.35	0.12	
74-87-3	Chloromethane	0.83	1.7	0.51	0.40	0.83	0.25	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.7	0.65	ND	0.25	0.093	
75-01-4	Vinyl Chloride	ND	1.7	0.58	ND	0.67	0.23	
106-99-0	1,3-Butadiene	ND	1.7	0.75	ND	0.77	0.34	
74-83-9	Bromomethane	ND	1.7	0.65	ND	0.44	0.17	
75-00-3	Chloroethane	ND	1.7	0.58	ND	0.65	0.22	
64-17-5	Ethanol	6.0	17	2.7	3.2	9.1	1.5	J
75-05-8	Acetonitrile	ND	1.7	0.62	ND	1.0	0.37	
107-02-8	Acrolein	ND	6.9	0.58	ND	3.0	0.25	
67-64-1	Acetone	8.3	17	2.6	3.5	7.2	1.1	J, B
75-69-4	Trichlorofluoromethane	1.2	1.7	0.58	0.22	0.30	0.10	J
67-63-0	2-Propanol (Isopropyl Alcohol)	1.6	17	1.4	0.65	7.0	0.59	J
107-13-1	Acrylonitrile	ND	1.7	0.58	ND	0.79	0.27	
75-35-4	1,1-Dichloroethene	ND	1.7	0.58	ND	0.43	0.15	
75-09-2	Methylene Chloride	ND	1.7	0.58	ND	0.49	0.17	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	0.55	ND	0.55	0.18	
76-13-1	Trichlorotrifluoroethane	ND	1.7	0.58	ND	0.22	0.076	
75-15-0	Carbon Disulfide	ND	17	0.51	ND	5.5	0.17	
156-60-5	trans-1,2-Dichloroethene	ND	1.7	0.65	ND	0.43	0.16	
75-34-3	1,1-Dichloroethane	ND	1.7	0.55	ND	0.42	0.14	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.58	ND	0.48	0.16	
108-05-4	Vinyl Acetate	ND	17	2.2	ND	4.9	0.63	
78-93-3	2-Butanone (MEK)	2.7	17	0.72	0.92	5.8	0.24	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.

B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00168

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.04 Final Pressure (psig): 5.34

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	1.7	0.55	ND	0.43	0.14	
141-78-6	Ethyl Acetate	ND	3.4	1.2	ND	0.95	0.33	
110-54-3	n-Hexane	ND	1.7	0.51	ND	0.49	0.15	
67-66-3	Chloroform	ND	1.7	0.58	ND	0.35	0.12	
109-99-9	Tetrahydrofuran (THF)	0.84	1.7	0.69	0.28	0.58	0.23	J
107-06-2	1,2-Dichloroethane	ND	1.7	0.55	ND	0.42	0.14	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.58	ND	0.31	0.11	
71-43-2	Benzene	2.4	1.7	0.55	0.76	0.54	0.17	
56-23-5	Carbon Tetrachloride	ND	1.7	0.51	ND	0.27	0.082	
110-82-7	Cyclohexane	ND	3.4	0.99	ND	1.0	0.29	
78-87-5	1,2-Dichloropropane	ND	1.7	0.55	ND	0.37	0.12	
75-27-4	Bromodichloromethane	ND	1.7	0.51	ND	0.26	0.077	
79-01-6	Trichloroethene	ND	1.7	0.48	ND	0.32	0.089	
123-91-1	1,4-Dioxane	ND	1.7	0.55	ND	0.48	0.15	
80-62-6	Methyl Methacrylate	ND	3.4	1.1	ND	0.84	0.26	
142-82-5	n-Heptane	ND	1.7	0.58	ND	0.42	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.48	ND	0.38	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.7	0.55	ND	0.42	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.55	ND	0.38	0.12	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.55	ND	0.31	0.10	
108-88-3	Toluene	0.71	1.7	0.58	0.19	0.45	0.15	J
591-78-6	2-Hexanone	ND	1.7	0.55	ND	0.42	0.13	
124-48-1	Dibromochloromethane	ND	1.7	0.55	ND	0.20	0.064	
106-93-4	1,2-Dibromoethane	ND	1.7	0.55	ND	0.22	0.071	
123-86-4	n-Butyl Acetate	ND	1.7	0.55	ND	0.36	0.12	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-005

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00168

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.04 Final Pressure (psig): 5.34

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	ND	1.7	0.62	ND	0.37	0.13	
127-18-4	Tetrachloroethene	ND	1.7	0.48	ND	0.25	0.071	
108-90-7	Chlorobenzene	ND	1.7	0.55	ND	0.37	0.12	
100-41-4	Ethylbenzene	ND	1.7	0.55	ND	0.39	0.13	
179601-23-1	m,p-Xylenes	ND	3.4	1.0	ND	0.79	0.24	
75-25-2	Bromoform	ND	1.7	0.51	ND	0.17	0.050	
100-42-5	Styrene	ND	1.7	0.51	ND	0.40	0.12	
95-47-6	o-Xylene	ND	1.7	0.51	ND	0.39	0.12	
111-84-2	n-Nonane	ND	1.7	0.51	ND	0.33	0.098	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.51	ND	0.25	0.075	
98-82-8	Cumene	ND	1.7	0.51	ND	0.35	0.10	
80-56-8	alpha-Pinene	ND	1.7	0.48	ND	0.31	0.086	
103-65-1	n-Propylbenzene	ND	1.7	0.55	ND	0.35	0.11	
622-96-8	4-Ethyltoluene	ND	1.7	0.55	ND	0.35	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	0.55	ND	0.35	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	0.51	ND	0.35	0.10	
100-44-7	Benzyl Chloride	ND	1.7	0.38	ND	0.33	0.073	
541-73-1	1,3-Dichlorobenzene	ND	1.7	0.51	ND	0.28	0.085	
106-46-7	1,4-Dichlorobenzene	ND	1.7	0.48	ND	0.28	0.080	
95-50-1	1,2-Dichlorobenzene	ND	1.7	0.51	ND	0.28	0.085	
5989-27-5	d-Limonene	ND	1.7	0.48	ND	0.31	0.086	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.34	ND	0.18	0.035	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	0.55	ND	0.23	0.074	
91-20-3	Naphthalene	ND	1.7	0.62	ND	0.33	0.12	
87-68-3	Hexachlorobutadiene	ND	1.7	0.48	ND	0.16	0.045	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128GRAB

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-005

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00168

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.04 Final Pressure (psig): 5.34

Canister Dilution Factor: 1.37

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB2D

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00088

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.18 Final Pressure (psig): 5.68

Canister Dilution Factor: 1.40

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	1.8	0.49	ND	1.0	0.28	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	1.8	0.60	0.44	0.35	0.12	
74-87-3	Chloromethane	0.79	1.8	0.53	0.38	0.85	0.25	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.8	0.67	ND	0.25	0.095	
75-01-4	Vinyl Chloride	ND	1.8	0.60	ND	0.68	0.23	
106-99-0	1,3-Butadiene	ND	1.8	0.77	ND	0.79	0.35	
74-83-9	Bromomethane	ND	1.8	0.67	ND	0.45	0.17	
75-00-3	Chloroethane	ND	1.8	0.60	ND	0.66	0.23	
64-17-5	Ethanol	ND	18	2.8	ND	9.3	1.5	
75-05-8	Acetonitrile	ND	1.8	0.63	ND	1.0	0.38	
107-02-8	Acrolein	ND	7.0	0.60	ND	3.1	0.26	
67-64-1	Acetone	2.8	18	2.7	1.2	7.4	1.1	J, B
75-69-4	Trichlorofluoromethane	1.3	1.8	0.60	0.22	0.31	0.11	J
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	18	1.5	ND	7.1	0.60	
107-13-1	Acrylonitrile	ND	1.8	0.60	ND	0.81	0.27	
75-35-4	1,1-Dichloroethene	ND	1.8	0.60	ND	0.44	0.15	
75-09-2	Methylene Chloride	ND	1.8	0.60	ND	0.50	0.17	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.8	0.56	ND	0.56	0.18	
76-13-1	Trichlorotrifluoroethane	ND	1.8	0.60	ND	0.23	0.078	
75-15-0	Carbon Disulfide	ND	18	0.53	ND	5.6	0.17	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	0.67	ND	0.44	0.17	
75-34-3	1,1-Dichloroethane	ND	1.8	0.56	ND	0.43	0.14	
1634-04-4	Methyl tert-Butyl Ether	ND	1.8	0.60	ND	0.49	0.17	
108-05-4	Vinyl Acetate	ND	18	2.3	ND	5.0	0.65	
78-93-3	2-Butanone (MEK)	ND	18	0.74	ND	5.9	0.25	

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.

B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB2D

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00088

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.18 Final Pressure (psig): 5.68

Canister Dilution Factor: 1.40

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	1.8	0.56	ND	0.44	0.14	
141-78-6	Ethyl Acetate	ND	3.5	1.2	ND	0.97	0.34	
110-54-3	n-Hexane	ND	1.8	0.53	ND	0.50	0.15	
67-66-3	Chloroform	ND	1.8	0.60	ND	0.36	0.12	
109-99-9	Tetrahydrofuran (THF)	ND	1.8	0.70	ND	0.59	0.24	
107-06-2	1,2-Dichloroethane	ND	1.8	0.56	ND	0.43	0.14	
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.60	ND	0.32	0.11	
71-43-2	Benzene	0.87	1.8	0.56	0.27	0.55	0.18	J
56-23-5	Carbon Tetrachloride	ND	1.8	0.53	ND	0.28	0.083	
110-82-7	Cyclohexane	ND	3.5	1.0	ND	1.0	0.29	
78-87-5	1,2-Dichloropropane	ND	1.8	0.56	ND	0.38	0.12	
75-27-4	Bromodichloromethane	ND	1.8	0.53	ND	0.26	0.078	
79-01-6	Trichloroethene	ND	1.8	0.49	ND	0.33	0.091	
123-91-1	1,4-Dioxane	ND	1.8	0.56	ND	0.49	0.16	
80-62-6	Methyl Methacrylate	ND	3.5	1.1	ND	0.86	0.27	
142-82-5	n-Heptane	ND	1.8	0.60	ND	0.43	0.15	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.49	ND	0.39	0.11	
108-10-1	4-Methyl-2-pentanone	ND	1.8	0.56	ND	0.43	0.14	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.56	ND	0.39	0.12	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.56	ND	0.32	0.10	
108-88-3	Toluene	ND	1.8	0.60	ND	0.46	0.16	
591-78-6	2-Hexanone	ND	1.8	0.56	ND	0.43	0.14	
124-48-1	Dibromochloromethane	ND	1.8	0.56	ND	0.21	0.066	
106-93-4	1,2-Dibromoethane	ND	1.8	0.56	ND	0.23	0.073	
123-86-4	n-Butyl Acetate	ND	1.8	0.56	ND	0.37	0.12	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB2D

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-006

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00088

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.18 Final Pressure (psig): 5.68

Canister Dilution Factor: 1.40

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	1.8	0.63	ND	0.37	0.13	
127-18-4	Tetrachloroethene	ND	1.8	0.49	ND	0.26	0.072	
108-90-7	Chlorobenzene	ND	1.8	0.56	ND	0.38	0.12	
100-41-4	Ethylbenzene	ND	1.8	0.56	ND	0.40	0.13	
179601-23-1	m,p-Xylenes	ND	3.5	1.1	ND	0.81	0.24	
75-25-2	Bromoform	ND	1.8	0.53	ND	0.17	0.051	
100-42-5	Styrene	ND	1.8	0.53	ND	0.41	0.12	
95-47-6	o-Xylene	ND	1.8	0.53	ND	0.40	0.12	
111-84-2	n-Nonane	ND	1.8	0.53	ND	0.33	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.53	ND	0.25	0.076	
98-82-8	Cumene	ND	1.8	0.53	ND	0.36	0.11	
80-56-8	alpha-Pinene	ND	1.8	0.49	ND	0.31	0.088	
103-65-1	n-Propylbenzene	ND	1.8	0.56	ND	0.36	0.11	
622-96-8	4-Ethyltoluene	ND	1.8	0.56	ND	0.36	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.56	ND	0.36	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.53	ND	0.36	0.11	
100-44-7	Benzyl Chloride	ND	1.8	0.39	ND	0.34	0.074	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.53	ND	0.29	0.087	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.49	ND	0.29	0.082	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.53	ND	0.29	0.087	
5989-27-5	d-Limonene	ND	1.8	0.49	ND	0.31	0.088	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.8	0.35	ND	0.18	0.036	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.56	ND	0.24	0.075	
91-20-3	Naphthalene	ND	1.8	0.63	ND	0.33	0.12	
87-68-3	Hexachlorobutadiene	ND	1.8	0.49	ND	0.16	0.046	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB2D

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-006

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00088

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.18 Final Pressure (psig): 5.68

Canister Dilution Factor: 1.40

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB3U

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-007

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00024

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.11 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.36

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	1.7	0.48	ND	0.99	0.28	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.4	1.7	0.58	0.48	0.34	0.12	
74-87-3	Chloromethane	0.76	1.7	0.51	0.37	0.82	0.25	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.7	0.65	ND	0.24	0.092	
75-01-4	Vinyl Chloride	ND	1.7	0.58	ND	0.67	0.23	
106-99-0	1,3-Butadiene	ND	1.7	0.75	ND	0.77	0.34	
74-83-9	Bromomethane	ND	1.7	0.65	ND	0.44	0.17	
75-00-3	Chloroethane	ND	1.7	0.58	ND	0.64	0.22	
64-17-5	Ethanol	ND	17	2.7	ND	9.0	1.4	
75-05-8	Acetonitrile	ND	1.7	0.61	ND	1.0	0.36	
107-02-8	Acrolein	ND	6.8	0.58	ND	3.0	0.25	
67-64-1	Acetone	4.1	17	2.6	1.7	7.2	1.1	J, B
75-69-4	Trichlorofluoromethane	1.3	1.7	0.58	0.22	0.30	0.10	J
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	17	1.4	ND	6.9	0.58	
107-13-1	Acrylonitrile	ND	1.7	0.58	ND	0.78	0.27	
75-35-4	1,1-Dichloroethene	ND	1.7	0.58	ND	0.43	0.15	
75-09-2	Methylene Chloride	0.85	1.7	0.58	0.25	0.49	0.17	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.7	0.54	ND	0.54	0.17	
76-13-1	Trichlorotrifluoroethane	ND	1.7	0.58	ND	0.22	0.075	
75-15-0	Carbon Disulfide	0.88	17	0.51	0.28	5.5	0.16	J
156-60-5	trans-1,2-Dichloroethene	ND	1.7	0.65	ND	0.43	0.16	
75-34-3	1,1-Dichloroethane	ND	1.7	0.54	ND	0.42	0.13	
1634-04-4	Methyl tert-Butyl Ether	ND	1.7	0.58	ND	0.47	0.16	
108-05-4	Vinyl Acetate	ND	17	2.2	ND	4.8	0.63	
78-93-3	2-Butanone (MEK)	ND	17	0.71	ND	5.8	0.24	

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.

B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB3U

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-007

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00024

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.11 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.36

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	1.7	0.54	ND	0.43	0.14	
141-78-6	Ethyl Acetate	ND	3.4	1.2	ND	0.94	0.33	
110-54-3	n-Hexane	ND	1.7	0.51	ND	0.48	0.14	
67-66-3	Chloroform	ND	1.7	0.58	ND	0.35	0.12	
109-99-9	Tetrahydrofuran (THF)	ND	1.7	0.68	ND	0.58	0.23	
107-06-2	1,2-Dichloroethane	ND	1.7	0.54	ND	0.42	0.13	
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.58	ND	0.31	0.11	
71-43-2	Benzene	ND	1.7	0.54	ND	0.53	0.17	
56-23-5	Carbon Tetrachloride	ND	1.7	0.51	ND	0.27	0.081	
110-82-7	Cyclohexane	ND	3.4	0.99	ND	0.99	0.29	
78-87-5	1,2-Dichloropropane	ND	1.7	0.54	ND	0.37	0.12	
75-27-4	Bromodichloromethane	ND	1.7	0.51	ND	0.25	0.076	
79-01-6	Trichloroethene	ND	1.7	0.48	ND	0.32	0.089	
123-91-1	1,4-Dioxane	ND	1.7	0.54	ND	0.47	0.15	
80-62-6	Methyl Methacrylate	ND	3.4	1.1	ND	0.83	0.26	
142-82-5	n-Heptane	ND	1.7	0.58	ND	0.41	0.14	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.48	ND	0.37	0.10	
108-10-1	4-Methyl-2-pentanone	ND	1.7	0.54	ND	0.41	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.54	ND	0.37	0.12	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.54	ND	0.31	0.10	
108-88-3	Toluene	ND	1.7	0.58	ND	0.45	0.15	
591-78-6	2-Hexanone	ND	1.7	0.54	ND	0.42	0.13	
124-48-1	Dibromochloromethane	ND	1.7	0.54	ND	0.20	0.064	
106-93-4	1,2-Dibromoethane	ND	1.7	0.54	ND	0.22	0.071	
123-86-4	n-Butyl Acetate	ND	1.7	0.54	ND	0.36	0.11	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB3U

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-007

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Container ID: 1SS00024

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.11 Final Pressure (psig): 5.12

Canister Dilution Factor: 1.36

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	1.7	0.61	ND	0.36	0.13	
127-18-4	Tetrachloroethene	ND	1.7	0.48	ND	0.25	0.070	
108-90-7	Chlorobenzene	ND	1.7	0.54	ND	0.37	0.12	
100-41-4	Ethylbenzene	ND	1.7	0.54	ND	0.39	0.13	
179601-23-1	m,p-Xylenes	ND	3.4	1.0	ND	0.78	0.23	
75-25-2	Bromoform	ND	1.7	0.51	ND	0.16	0.049	
100-42-5	Styrene	ND	1.7	0.51	ND	0.40	0.12	
95-47-6	o-Xylene	ND	1.7	0.51	ND	0.39	0.12	
111-84-2	n-Nonane	ND	1.7	0.51	ND	0.32	0.097	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.51	ND	0.25	0.074	
98-82-8	Cumene	ND	1.7	0.51	ND	0.35	0.10	
80-56-8	alpha-Pinene	ND	1.7	0.48	ND	0.31	0.085	
103-65-1	n-Propylbenzene	ND	1.7	0.54	ND	0.35	0.11	
622-96-8	4-Ethyltoluene	ND	1.7	0.54	ND	0.35	0.11	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	0.54	ND	0.35	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	0.51	ND	0.35	0.10	
100-44-7	Benzyl Chloride	ND	1.7	0.37	ND	0.33	0.072	
541-73-1	1,3-Dichlorobenzene	ND	1.7	0.51	ND	0.28	0.085	
106-46-7	1,4-Dichlorobenzene	ND	1.7	0.48	ND	0.28	0.079	
95-50-1	1,2-Dichlorobenzene	ND	1.7	0.51	ND	0.28	0.085	
5989-27-5	d-Limonene	ND	1.7	0.48	ND	0.31	0.085	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.7	0.34	ND	0.18	0.035	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	0.54	ND	0.23	0.073	
91-20-3	Naphthalene	ND	1.7	0.61	ND	0.32	0.12	
87-68-3	Hexachlorobutadiene	ND	1.7	0.48	ND	0.16	0.045	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 129GRAB3U

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-007

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes: **T**

Container ID: 1SS00024

Date Collected: 1/29/15

Date Received: 1/30/15

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): -0.11

Final Pressure (psig): 5.12

Canister Dilution Factor: 1.36

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.20	Sulfur Dioxide	> 26	!
17.30	Hexamethylcyclotrisiloxane	16	

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

! = Previous studies have shown that EPA Method TO-15 is not an appropriate method for quantifying Sulfur Dioxide.

The TIC results for this compound is reported as "greater than" since the numeric value is probably biased low.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00301

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -5.12 Final Pressure (psig): 3.26

Canister Dilution Factor: 1.87

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	2.0	0.94	0.26	1.2	0.54	0.15	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.94	0.32	0.46	0.19	0.064	
74-87-3	Chloromethane	0.50	0.94	0.28	0.24	0.45	0.14	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.94	0.36	ND	0.13	0.051	
75-01-4	Vinyl Chloride	ND	0.94	0.32	ND	0.37	0.12	
106-99-0	1,3-Butadiene	ND	0.94	0.41	ND	0.42	0.19	
74-83-9	Bromomethane	ND	0.94	0.36	ND	0.24	0.092	
75-00-3	Chloroethane	ND	0.94	0.32	ND	0.35	0.12	
64-17-5	Ethanol	1.9	9.4	1.5	1.0	5.0	0.79	J
75-05-8	Acetonitrile	240	9.4	3.4	150	5.6	2.0	D
107-02-8	Acrolein	ND	3.7	0.32	ND	1.6	0.14	
67-64-1	Acetone	4.2	9.4	1.4	1.7	3.9	0.61	J, B
75-69-4	Trichlorofluoromethane	1.3	0.94	0.32	0.23	0.17	0.057	
67-63-0	2-Propanol (Isopropyl Alcohol)	4.3	9.4	0.79	1.7	3.8	0.32	J
107-13-1	Acrylonitrile	ND	0.94	0.32	ND	0.43	0.15	
75-35-4	1,1-Dichloroethene	ND	0.94	0.32	ND	0.24	0.080	
75-09-2	Methylene Chloride	3.4	0.94	0.32	0.97	0.27	0.092	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.94	0.30	ND	0.30	0.096	
76-13-1	Trichlorotrifluoroethane	0.47	0.94	0.32	0.061	0.12	0.041	J
75-15-0	Carbon Disulfide	ND	9.4	0.28	ND	3.0	0.090	
156-60-5	trans-1,2-Dichloroethene	ND	0.94	0.36	ND	0.24	0.090	
75-34-3	1,1-Dichloroethane	ND	0.94	0.30	ND	0.23	0.074	
1634-04-4	Methyl tert-Butyl Ether	ND	0.94	0.32	ND	0.26	0.088	
108-05-4	Vinyl Acetate	ND	9.4	1.2	ND	2.7	0.35	
78-93-3	2-Butanone (MEK)	0.42	9.4	0.39	0.14	3.2	0.13	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.

B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00301

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -5.12 Final Pressure (psig): 3.26

Canister Dilution Factor: 1.87

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	0.94	0.30	ND	0.24	0.075	
141-78-6	Ethyl Acetate	6.8	1.9	0.65	1.9	0.52	0.18	
110-54-3	n-Hexane	0.50	0.94	0.28	0.14	0.27	0.080	J
67-66-3	Chloroform	ND	0.94	0.32	ND	0.19	0.065	
109-99-9	Tetrahydrofuran (THF)	ND	0.94	0.37	ND	0.32	0.13	
107-06-2	1,2-Dichloroethane	ND	0.94	0.30	ND	0.23	0.074	
71-55-6	1,1,1-Trichloroethane	ND	0.94	0.32	ND	0.17	0.058	
71-43-2	Benzene	0.38	0.94	0.30	0.12	0.29	0.094	J
56-23-5	Carbon Tetrachloride	0.49	0.94	0.28	0.078	0.15	0.045	J
110-82-7	Cyclohexane	ND	1.9	0.54	ND	0.54	0.16	
78-87-5	1,2-Dichloropropane	ND	0.94	0.30	ND	0.20	0.065	
75-27-4	Bromodichloromethane	ND	0.94	0.28	ND	0.14	0.042	
79-01-6	Trichloroethene	ND	0.94	0.26	ND	0.17	0.049	
123-91-1	1,4-Dioxane	ND	0.94	0.30	ND	0.26	0.083	
80-62-6	Methyl Methacrylate	ND	1.9	0.58	ND	0.46	0.14	
142-82-5	n-Heptane	ND	0.94	0.32	ND	0.23	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	0.94	0.26	ND	0.21	0.058	
108-10-1	4-Methyl-2-pentanone	ND	0.94	0.30	ND	0.23	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	0.94	0.30	ND	0.21	0.066	
79-00-5	1,1,2-Trichloroethane	ND	0.94	0.30	ND	0.17	0.055	
108-88-3	Toluene	0.88	0.94	0.32	0.23	0.25	0.084	J
591-78-6	2-Hexanone	ND	0.94	0.30	ND	0.23	0.073	
124-48-1	Dibromochloromethane	ND	0.94	0.30	ND	0.11	0.035	
106-93-4	1,2-Dibromoethane	ND	0.94	0.30	ND	0.12	0.039	
123-86-4	n-Butyl Acetate	ND	0.94	0.30	ND	0.20	0.063	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-008

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00301

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -5.12 Final Pressure (psig): 3.26

Canister Dilution Factor: 1.87

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	0.94	0.34	ND	0.20	0.072	
127-18-4	Tetrachloroethene	ND	0.94	0.26	ND	0.14	0.039	
108-90-7	Chlorobenzene	ND	0.94	0.30	ND	0.20	0.065	
100-41-4	Ethylbenzene	ND	0.94	0.30	ND	0.22	0.069	
179601-23-1	m,p-Xylenes	ND	1.9	0.56	ND	0.43	0.13	
75-25-2	Bromoform	ND	0.94	0.28	ND	0.090	0.027	
100-42-5	Styrene	ND	0.94	0.28	ND	0.22	0.066	
95-47-6	o-Xylene	ND	0.94	0.28	ND	0.22	0.065	
111-84-2	n-Nonane	ND	0.94	0.28	ND	0.18	0.053	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.94	0.28	ND	0.14	0.041	
98-82-8	Cumene	ND	0.94	0.28	ND	0.19	0.057	
80-56-8	alpha-Pinene	ND	0.94	0.26	ND	0.17	0.047	
103-65-1	n-Propylbenzene	ND	0.94	0.30	ND	0.19	0.061	
622-96-8	4-Ethyltoluene	ND	0.94	0.30	ND	0.19	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	0.94	0.30	ND	0.19	0.061	
95-63-6	1,2,4-Trimethylbenzene	ND	0.94	0.28	ND	0.19	0.057	
100-44-7	Benzyl Chloride	ND	0.94	0.21	ND	0.18	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.94	0.28	ND	0.16	0.047	
106-46-7	1,4-Dichlorobenzene	ND	0.94	0.26	ND	0.16	0.044	
95-50-1	1,2-Dichlorobenzene	ND	0.94	0.28	ND	0.16	0.047	
5989-27-5	d-Limonene	ND	0.94	0.26	ND	0.17	0.047	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.94	0.19	ND	0.097	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.94	0.30	ND	0.13	0.040	
91-20-3	Naphthalene	ND	0.94	0.34	ND	0.18	0.064	
87-68-3	Hexachlorobutadiene	ND	0.94	0.26	ND	0.088	0.025	

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: 127U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-008

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00301

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/6/15 & 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

0.10 Liter(s)

Initial Pressure (psig): -5.12

Final Pressure (psig): 3.26

Canister Dilution Factor: 1.87

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-009

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00506

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.56

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	1.7	0.73	0.20	0.97	0.42	0.12	M1
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.73	0.25	0.43	0.15	0.050	
74-87-3	Chloromethane	0.52	0.73	0.22	0.25	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	2.6	7.3	1.2	1.4	3.9	0.62	J
75-05-8	Acetonitrile	8.1	0.73	0.26	4.8	0.43	0.16	
107-02-8	Acrolein	0.29	2.9	0.25	0.13	1.3	0.11	J
67-64-1	Acetone	4.7	7.3	1.1	2.0	3.1	0.47	J
75-69-4	Trichlorofluoromethane	1.3	0.73	0.25	0.23	0.13	0.044	
67-63-0	2-Propanol (Isopropyl Alcohol)	0.79	7.3	0.61	0.32	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	0.43	0.73	0.25	0.12	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	0.53	0.73	0.25	0.070	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)	0.51	7.3	0.31	0.17	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.

M1 = Matrix interference due to coelution with a non-target compound; results may be biased high.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-009

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00506

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.56

Canister Dilution Factor: 1.46

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	0.73	0.23	ND	0.18	0.059	
141-78-6	Ethyl Acetate	1.9	1.5	0.51	0.53	0.41	0.14	
110-54-3	n-Hexane	0.66	0.73	0.22	0.19	0.21	0.062	J
67-66-3	Chloroform	ND	0.73	0.25	ND	0.15	0.051	
109-99-9	Tetrahydrofuran (THF)	ND	0.73	0.29	ND	0.25	0.099	
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	2.0	0.73	0.23	0.62	0.23	0.073	
56-23-5	Carbon Tetrachloride	0.49	0.73	0.22	0.078	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	1.8	0.73	0.25	0.47	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	ND	0.73	0.23	ND	0.15	0.049	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-009

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00506

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.56

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	ND	0.73	0.23	ND	0.17	0.054	
179601-23-1	m,p-Xylenes	0.60	1.5	0.44	0.14	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	ND	0.73	0.22	ND	0.14	0.042	
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	ND	0.73	0.20	ND	0.13	0.037	
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	0.50	0.73	0.26	0.095	0.14	0.050	J
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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-009

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00506

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.21 Final Pressure (psig): 3.56

Canister Dilution Factor: 1.46

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
21.24	n-Nonanal	8.4	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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	0.69	0.19	ND	0.40	0.11	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.69	0.23	0.47	0.14	0.047	
74-87-3	Chloromethane	0.50	0.69	0.21	0.24	0.33	0.10	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.69	0.26	ND	0.099	0.038	
75-01-4	Vinyl Chloride	ND	0.69	0.23	ND	0.27	0.092	
106-99-0	1,3-Butadiene	ND	0.69	0.30	ND	0.31	0.14	
74-83-9	Bromomethane	ND	0.69	0.26	ND	0.18	0.068	
75-00-3	Chloroethane	ND	0.69	0.23	ND	0.26	0.089	
64-17-5	Ethanol	1.7	6.9	1.1	0.88	3.7	0.59	J
75-05-8	Acetonitrile	ND	0.69	0.25	ND	0.41	0.15	
107-02-8	Acrolein	ND	2.8	0.23	ND	1.2	0.10	
67-64-1	Acetone	3.9	6.9	1.1	1.6	2.9	0.45	J
75-69-4	Trichlorofluoromethane	1.3	0.69	0.23	0.24	0.12	0.042	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.9	0.58	ND	2.8	0.24	
107-13-1	Acrylonitrile	ND	0.69	0.23	ND	0.32	0.11	
75-35-4	1,1-Dichloroethene	ND	0.69	0.23	ND	0.17	0.059	
75-09-2	Methylene Chloride	0.41	0.69	0.23	0.12	0.20	0.068	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.69	0.22	ND	0.22	0.071	
76-13-1	Trichlorotrifluoroethane	0.55	0.69	0.23	0.072	0.090	0.031	J
75-15-0	Carbon Disulfide	ND	6.9	0.21	ND	2.2	0.066	
156-60-5	trans-1,2-Dichloroethene	ND	0.69	0.26	ND	0.17	0.066	
75-34-3	1,1-Dichloroethane	ND	0.69	0.22	ND	0.17	0.055	
1634-04-4	Methyl tert-Butyl Ether	ND	0.69	0.23	ND	0.19	0.065	
108-05-4	Vinyl Acetate	ND	6.9	0.90	ND	2.0	0.25	
78-93-3	2-Butanone (MEK)	0.43	6.9	0.29	0.15	2.3	0.098	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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	0.69	0.22	ND	0.17	0.056	
141-78-6	Ethyl Acetate	2.3	1.4	0.48	0.64	0.38	0.13	
110-54-3	n-Hexane	0.46	0.69	0.21	0.13	0.20	0.059	J
67-66-3	Chloroform	ND	0.69	0.23	ND	0.14	0.048	
109-99-9	Tetrahydrofuran (THF)	ND	0.69	0.28	ND	0.23	0.094	
107-06-2	1,2-Dichloroethane	ND	0.69	0.22	ND	0.17	0.055	
71-55-6	1,1,1-Trichloroethane	ND	0.69	0.23	ND	0.13	0.043	
71-43-2	Benzene	0.52	0.69	0.22	0.16	0.22	0.069	J
56-23-5	Carbon Tetrachloride	0.49	0.69	0.21	0.078	0.11	0.033	J
110-82-7	Cyclohexane	ND	1.4	0.40	ND	0.40	0.12	
78-87-5	1,2-Dichloropropane	ND	0.69	0.22	ND	0.15	0.048	
75-27-4	Bromodichloromethane	ND	0.69	0.21	ND	0.10	0.031	
79-01-6	Trichloroethene	ND	0.69	0.19	ND	0.13	0.036	
123-91-1	1,4-Dioxane	ND	0.69	0.22	ND	0.19	0.061	
80-62-6	Methyl Methacrylate	ND	1.4	0.43	ND	0.34	0.10	
142-82-5	n-Heptane	ND	0.69	0.23	ND	0.17	0.057	
10061-01-5	cis-1,3-Dichloropropene	ND	0.69	0.19	ND	0.15	0.043	
108-10-1	4-Methyl-2-pentanone	ND	0.69	0.22	ND	0.17	0.054	
10061-02-6	trans-1,3-Dichloropropene	ND	0.69	0.22	ND	0.15	0.049	
79-00-5	1,1,2-Trichloroethane	ND	0.69	0.22	ND	0.13	0.040	
108-88-3	Toluene	0.45	0.69	0.23	0.12	0.18	0.062	J
591-78-6	2-Hexanone	ND	0.69	0.22	ND	0.17	0.054	
124-48-1	Dibromochloromethane	ND	0.69	0.22	ND	0.081	0.026	
106-93-4	1,2-Dibromoethane	ND	0.69	0.22	ND	0.090	0.029	
123-86-4	n-Butyl Acetate	ND	0.69	0.22	ND	0.15	0.046	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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	0.69	0.25	ND	0.15	0.053	
127-18-4	Tetrachloroethene	ND	0.69	0.19	ND	0.10	0.029	
108-90-7	Chlorobenzene	ND	0.69	0.22	ND	0.15	0.048	
100-41-4	Ethylbenzene	ND	0.69	0.22	ND	0.16	0.051	
179601-23-1	m,p-Xylenes	ND	1.4	0.41	ND	0.32	0.095	
75-25-2	Bromoform	ND	0.69	0.21	ND	0.067	0.020	
100-42-5	Styrene	ND	0.69	0.21	ND	0.16	0.049	
95-47-6	o-Xylene	ND	0.69	0.21	ND	0.16	0.048	
111-84-2	n-Nonane	ND	0.69	0.21	ND	0.13	0.039	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.69	0.21	ND	0.10	0.030	
98-82-8	Cumene	ND	0.69	0.21	ND	0.14	0.042	
80-56-8	alpha-Pinene	ND	0.69	0.19	ND	0.12	0.035	
103-65-1	n-Propylbenzene	ND	0.69	0.22	ND	0.14	0.045	
622-96-8	4-Ethyltoluene	ND	0.69	0.22	ND	0.14	0.045	
108-67-8	1,3,5-Trimethylbenzene	ND	0.69	0.22	ND	0.14	0.045	
95-63-6	1,2,4-Trimethylbenzene	ND	0.69	0.21	ND	0.14	0.042	
100-44-7	Benzyl Chloride	ND	0.69	0.15	ND	0.13	0.029	
541-73-1	1,3-Dichlorobenzene	ND	0.69	0.21	ND	0.11	0.034	
106-46-7	1,4-Dichlorobenzene	ND	0.69	0.19	ND	0.11	0.032	
95-50-1	1,2-Dichlorobenzene	ND	0.69	0.21	ND	0.11	0.034	
5989-27-5	d-Limonene	ND	0.69	0.19	ND	0.12	0.035	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.69	0.14	ND	0.071	0.014	
120-82-1	1,2,4-Trichlorobenzene	ND	0.69	0.22	ND	0.093	0.030	
91-20-3	Naphthalene	ND	0.69	0.25	ND	0.13	0.047	
87-68-3	Hexachlorobutadiene	ND	0.69	0.19	ND	0.065	0.018	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67 Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.15	Propane	3.6	
20.13	unknown	3.0	
21.83	Unidentified Siloxane	5.3	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127F-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-011

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00866

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.01 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.11

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	1.1	0.30	ND	0.61	0.17	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	1.1	0.36	0.43	0.21	0.073	
74-87-3	Chloromethane	0.54	1.1	0.32	0.26	0.51	0.15	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	1.1	0.40	ND	0.15	0.057	
75-01-4	Vinyl Chloride	ND	1.1	0.36	ND	0.41	0.14	
106-99-0	1,3-Butadiene	ND	1.1	0.46	ND	0.48	0.21	
74-83-9	Bromomethane	ND	1.1	0.40	ND	0.27	0.10	
75-00-3	Chloroethane	ND	1.1	0.36	ND	0.40	0.14	
64-17-5	Ethanol	3.0	11	1.7	1.6	5.6	0.90	J
75-05-8	Acetonitrile	9.1	1.1	0.38	5.4	0.63	0.23	
107-02-8	Acrolein	ND	4.2	0.36	ND	1.8	0.16	
67-64-1	Acetone	4.4	11	1.6	1.8	4.4	0.68	J
75-69-4	Trichlorofluoromethane	1.3	1.1	0.36	0.23	0.19	0.064	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	11	0.89	ND	4.3	0.36	
107-13-1	Acrylonitrile	ND	1.1	0.36	ND	0.49	0.17	
75-35-4	1,1-Dichloroethene	ND	1.1	0.36	ND	0.27	0.091	
75-09-2	Methylene Chloride	0.59	1.1	0.36	0.17	0.30	0.10	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	1.1	0.34	ND	0.34	0.11	
76-13-1	Trichlorotrifluoroethane	0.51	1.1	0.36	0.066	0.14	0.047	J
75-15-0	Carbon Disulfide	ND	11	0.32	ND	3.4	0.10	
156-60-5	trans-1,2-Dichloroethene	ND	1.1	0.40	ND	0.27	0.10	
75-34-3	1,1-Dichloroethane	ND	1.1	0.34	ND	0.26	0.083	
1634-04-4	Methyl tert-Butyl Ether	ND	1.1	0.36	ND	0.29	0.10	
108-05-4	Vinyl Acetate	ND	11	1.4	ND	3.0	0.39	
78-93-3	2-Butanone (MEK)	ND	11	0.44	ND	3.6	0.15	

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

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Client: Stantec Consulting Services, Inc.
Client Sample ID: 127F-SUMMA
Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365
 ALS Sample ID: P1500365-011

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00866

Date Collected: 1/27/15
Date Received: 1/30/15
Date Analyzed: 2/7/15
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.01 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.11

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	1.1	0.34	ND	0.27	0.085	
141-78-6	Ethyl Acetate	2.4	2.1	0.74	0.67	0.59	0.21	
110-54-3	n-Hexane	0.77	1.1	0.32	0.22	0.30	0.090	J
67-66-3	Chloroform	ND	1.1	0.36	ND	0.22	0.073	
109-99-9	Tetrahydrofuran (THF)	ND	1.1	0.42	ND	0.36	0.14	
107-06-2	1,2-Dichloroethane	ND	1.1	0.34	ND	0.26	0.083	
71-55-6	1,1,1-Trichloroethane	ND	1.1	0.36	ND	0.19	0.066	
71-43-2	Benzene	0.60	1.1	0.34	0.19	0.33	0.11	J
56-23-5	Carbon Tetrachloride	0.49	1.1	0.32	0.078	0.17	0.050	J
110-82-7	Cyclohexane	ND	2.1	0.61	ND	0.61	0.18	
78-87-5	1,2-Dichloropropane	ND	1.1	0.34	ND	0.23	0.073	
75-27-4	Bromodichloromethane	ND	1.1	0.32	ND	0.16	0.047	
79-01-6	Trichloroethene	ND	1.1	0.30	ND	0.20	0.055	
123-91-1	1,4-Dioxane	ND	1.1	0.34	ND	0.29	0.094	
80-62-6	Methyl Methacrylate	ND	2.1	0.65	ND	0.52	0.16	
142-82-5	n-Heptane	0.38	1.1	0.36	0.094	0.26	0.088	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.1	0.30	ND	0.23	0.065	
108-10-1	4-Methyl-2-pentanone	ND	1.1	0.34	ND	0.26	0.082	
10061-02-6	trans-1,3-Dichloropropene	ND	1.1	0.34	ND	0.23	0.074	
79-00-5	1,1,2-Trichloroethane	ND	1.1	0.34	ND	0.19	0.062	
108-88-3	Toluene	0.97	1.1	0.36	0.26	0.28	0.095	J
591-78-6	2-Hexanone	ND	1.1	0.34	ND	0.26	0.082	
124-48-1	Dibromochloromethane	ND	1.1	0.34	ND	0.12	0.040	
106-93-4	1,2-Dibromoethane	ND	1.1	0.34	ND	0.14	0.044	
123-86-4	n-Butyl Acetate	0.71	1.1	0.34	0.15	0.22	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127F-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-011

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00866

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.01 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.11

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	0.38	ND	0.23	0.081	
127-18-4	Tetrachloroethene	ND	1.1	0.30	ND	0.16	0.044	
108-90-7	Chlorobenzene	ND	1.1	0.34	ND	0.23	0.073	
100-41-4	Ethylbenzene	ND	1.1	0.34	ND	0.24	0.078	
179601-23-1	m,p-Xylenes	ND	2.1	0.63	ND	0.49	0.15	
75-25-2	Bromoform	ND	1.1	0.32	ND	0.10	0.031	
100-42-5	Styrene	ND	1.1	0.32	ND	0.25	0.074	
95-47-6	o-Xylene	ND	1.1	0.32	ND	0.24	0.073	
111-84-2	n-Nonane	ND	1.1	0.32	ND	0.20	0.060	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.1	0.32	ND	0.15	0.046	
98-82-8	Cumene	ND	1.1	0.32	ND	0.21	0.064	
80-56-8	alpha-Pinene	ND	1.1	0.30	ND	0.19	0.053	
103-65-1	n-Propylbenzene	ND	1.1	0.34	ND	0.21	0.069	
622-96-8	4-Ethyltoluene	ND	1.1	0.34	ND	0.21	0.069	
108-67-8	1,3,5-Trimethylbenzene	ND	1.1	0.34	ND	0.21	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	1.1	0.32	ND	0.21	0.064	
100-44-7	Benzyl Chloride	ND	1.1	0.23	ND	0.20	0.045	
541-73-1	1,3-Dichlorobenzene	ND	1.1	0.32	ND	0.18	0.053	
106-46-7	1,4-Dichlorobenzene	ND	1.1	0.30	ND	0.18	0.049	
95-50-1	1,2-Dichlorobenzene	ND	1.1	0.32	ND	0.18	0.053	
5989-27-5	d-Limonene	ND	1.1	0.30	ND	0.19	0.053	
96-12-8	1,2-Dibromo-3-chloropropane	ND	1.1	0.21	ND	0.11	0.022	
120-82-1	1,2,4-Trichlorobenzene	ND	1.1	0.34	ND	0.14	0.045	
91-20-3	Naphthalene	ND	1.1	0.38	ND	0.20	0.072	
87-68-3	Hexachlorobutadiene	ND	1.1	0.30	ND	0.099	0.028	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127F-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-011

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00866

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -6.01 Final Pressure (psig): 3.61

Canister Dilution Factor: 2.11

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.14	Propane	9.8	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00544

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.46

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	0.62	0.71	0.20	0.36	0.41	0.12	J
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.71	0.24	0.47	0.14	0.049	
74-87-3	Chloromethane	0.45	0.71	0.21	0.22	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	9.1	7.1	1.1	4.8	3.8	0.60	
75-05-8	Acetonitrile	0.80	0.71	0.26	0.48	0.42	0.15	
107-02-8	Acrolein	ND	2.8	0.24	ND	1.2	0.11	
67-64-1	Acetone	6.7	7.1	1.1	2.8	3.0	0.46	J
75-69-4	Trichlorofluoromethane	1.3	0.71	0.24	0.23	0.13	0.043	
67-63-0	2-Propanol (Isopropyl Alcohol)	1.2	7.1	0.60	0.50	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	0.93	0.71	0.24	0.27	0.20	0.070	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.71	0.23	ND	0.23	0.073	
76-13-1	Trichlorotrifluoroethane	0.50	0.71	0.24	0.065	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)	2.5	7.1	0.30	0.84	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00544

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.46

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	11	1.4	0.50	2.9	0.39	0.14	
110-54-3	n-Hexane	0.90	0.71	0.21	0.26	0.20	0.060	
67-66-3	Chloroform	ND	0.71	0.24	ND	0.15	0.049	
109-99-9	Tetrahydrofuran (THF)	0.36	0.71	0.28	0.12	0.24	0.096	J
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	0.55	0.71	0.23	0.17	0.22	0.071	J
56-23-5	Carbon Tetrachloride	0.50	0.71	0.21	0.080	0.11	0.034	J
110-82-7	Cyclohexane	0.75	1.4	0.41	0.22	0.41	0.12	J
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	0.25	0.71	0.24	0.060	0.17	0.059	J
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	5.6	0.71	0.24	1.5	0.19	0.064	
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	ND	0.71	0.23	ND	0.15	0.048	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-012

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00544

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.46

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	0.20	0.71	0.20	0.036	0.13	0.036	J
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.

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127SQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-012

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00544

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.89 Final Pressure (psig): 3.46

Canister Dilution Factor: 1.42

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.80	Isobutane	3.7	
7.88	n-Pentane	4.6	
21.24	n-Nonanal	2.8	
21.83	Unidentified Siloxane	3.2	

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: 127-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-013

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00796

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

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)	0.49	5.0	0.42	0.20	2.0	0.17	J
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.

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: 127-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-013

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00796

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

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	0.19	0.50	0.16	0.059	0.16	0.050	J
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.

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-013

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00796

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127-SUMMA-B

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-013

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00796

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
17.30	Hexamethylcyclotrisiloxane	2.2	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127DUP10-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-014

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00161

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.97 Final Pressure (psig): 3.49

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	1.5	0.78	0.22	0.86	0.45	0.13	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.78	0.26	0.44	0.16	0.053	
74-87-3	Chloromethane	0.48	0.78	0.23	0.23	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	2.1	7.8	1.2	1.1	4.1	0.66	J
75-05-8	Acetonitrile	ND	0.78	0.28	ND	0.46	0.17	
107-02-8	Acrolein	ND	3.1	0.26	ND	1.4	0.11	
67-64-1	Acetone	4.1	7.8	1.2	1.7	3.3	0.50	J
75-69-4	Trichlorofluoromethane	1.2	0.78	0.26	0.22	0.14	0.047	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	7.8	0.65	ND	3.2	0.26	
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	0.44	0.78	0.26	0.13	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	0.49	0.78	0.26	0.065	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)	0.38	7.8	0.33	0.13	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127DUP10-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-014

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00161

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.97 Final Pressure (psig): 3.49

Canister Dilution Factor: 1.55

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	0.78	0.25	ND	0.20	0.063	
141-78-6	Ethyl Acetate	1.8	1.6	0.54	0.50	0.43	0.15	
110-54-3	n-Hexane	1.6	0.78	0.23	0.44	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	2.3	0.78	0.25	0.72	0.24	0.078	
56-23-5	Carbon Tetrachloride	0.47	0.78	0.23	0.074	0.12	0.037	J
110-82-7	Cyclohexane	1.1	1.6	0.45	0.31	0.45	0.13	J
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	1.3	0.78	0.26	0.32	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	3.3	0.78	0.26	0.87	0.21	0.070	
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: 127DUP10-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-014

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00161

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.97 Final Pressure (psig): 3.49

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	1.9	0.78	0.28	0.42	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	0.40	0.78	0.25	0.093	0.18	0.057	J
179601-23-1	m,p-Xylenes	3.5	1.6	0.47	0.80	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	0.66	0.78	0.23	0.15	0.18	0.054	J
111-84-2	n-Nonane	2.2	0.78	0.23	0.42	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	0.53	0.78	0.25	0.11	0.16	0.050	J
95-63-6	1,2,4-Trimethylbenzene	0.63	0.78	0.23	0.13	0.16	0.047	J
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	ND	0.78	0.22	ND	0.14	0.039	
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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 127DUP10-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-014

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00161

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.97

Final Pressure (psig): 3.49

Canister Dilution Factor: 1.55

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
15.01	Methylcyclohexane	4.2	
17.30	Hexamethylcyclotrisiloxane	4.3	

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: 128U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-015

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00763

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.19 Final Pressure (psig): 3.41

Canister Dilution Factor: 1.22

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	0.61	0.17	ND	0.35	0.099	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.2	0.61	0.21	0.44	0.12	0.042	
74-87-3	Chloromethane	0.49	0.61	0.18	0.24	0.30	0.089	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.61	0.23	ND	0.087	0.033	
75-01-4	Vinyl Chloride	ND	0.61	0.21	ND	0.24	0.081	
106-99-0	1,3-Butadiene	ND	0.61	0.27	ND	0.28	0.12	
74-83-9	Bromomethane	ND	0.61	0.23	ND	0.16	0.060	
75-00-3	Chloroethane	ND	0.61	0.21	ND	0.23	0.079	
64-17-5	Ethanol	1.9	6.1	0.98	1.0	3.2	0.52	J
75-05-8	Acetonitrile	ND	0.61	0.22	ND	0.36	0.13	
107-02-8	Acrolein	ND	2.4	0.21	ND	1.1	0.090	
67-64-1	Acetone	3.7	6.1	0.94	1.6	2.6	0.40	J
75-69-4	Trichlorofluoromethane	1.3	0.61	0.21	0.23	0.11	0.037	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.1	0.51	ND	2.5	0.21	
107-13-1	Acrylonitrile	ND	0.61	0.21	ND	0.28	0.096	
75-35-4	1,1-Dichloroethene	ND	0.61	0.21	ND	0.15	0.052	
75-09-2	Methylene Chloride	0.35	0.61	0.21	0.10	0.18	0.060	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.61	0.20	ND	0.19	0.062	
76-13-1	Trichlorotrifluoroethane	0.53	0.61	0.21	0.069	0.080	0.027	J
75-15-0	Carbon Disulfide	ND	6.1	0.18	ND	2.0	0.059	
156-60-5	trans-1,2-Dichloroethene	ND	0.61	0.23	ND	0.15	0.058	
75-34-3	1,1-Dichloroethane	ND	0.61	0.20	ND	0.15	0.048	
1634-04-4	Methyl tert-Butyl Ether	ND	0.61	0.21	ND	0.17	0.058	
108-05-4	Vinyl Acetate	ND	6.1	0.79	ND	1.7	0.23	
78-93-3	2-Butanone (MEK)	0.43	6.1	0.26	0.15	2.1	0.087	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-015

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00763

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.19 Final Pressure (psig): 3.41

Canister Dilution Factor: 1.22

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	0.61	0.20	ND	0.15	0.049	
141-78-6	Ethyl Acetate	1.5	1.2	0.43	0.42	0.34	0.12	
110-54-3	n-Hexane	3.5	0.61	0.18	1.0	0.17	0.052	
67-66-3	Chloroform	ND	0.61	0.21	ND	0.12	0.042	
109-99-9	Tetrahydrofuran (THF)	ND	0.61	0.24	ND	0.21	0.083	
107-06-2	1,2-Dichloroethane	ND	0.61	0.20	ND	0.15	0.048	
71-55-6	1,1,1-Trichloroethane	ND	0.61	0.21	ND	0.11	0.038	
71-43-2	Benzene	1.9	0.61	0.20	0.61	0.19	0.061	
56-23-5	Carbon Tetrachloride	0.48	0.61	0.18	0.077	0.097	0.029	J
110-82-7	Cyclohexane	3.4	1.2	0.35	0.98	0.35	0.10	
78-87-5	1,2-Dichloropropane	ND	0.61	0.20	ND	0.13	0.042	
75-27-4	Bromodichloromethane	ND	0.61	0.18	ND	0.091	0.027	
79-01-6	Trichloroethene	ND	0.61	0.17	ND	0.11	0.032	
123-91-1	1,4-Dioxane	ND	0.61	0.20	ND	0.17	0.054	
80-62-6	Methyl Methacrylate	1.9	1.2	0.38	0.46	0.30	0.092	
142-82-5	n-Heptane	4.2	0.61	0.21	1.0	0.15	0.051	
10061-01-5	cis-1,3-Dichloropropene	ND	0.61	0.17	ND	0.13	0.038	
108-10-1	4-Methyl-2-pentanone	ND	0.61	0.20	ND	0.15	0.048	
10061-02-6	trans-1,3-Dichloropropene	ND	0.61	0.20	ND	0.13	0.043	
79-00-5	1,1,2-Trichloroethane	ND	0.61	0.20	ND	0.11	0.036	
108-88-3	Toluene	6.1	0.61	0.21	1.6	0.16	0.055	
591-78-6	2-Hexanone	ND	0.61	0.20	ND	0.15	0.048	
124-48-1	Dibromochloromethane	ND	0.61	0.20	ND	0.072	0.023	
106-93-4	1,2-Dibromoethane	ND	0.61	0.20	ND	0.079	0.025	
123-86-4	n-Butyl Acetate	ND	0.61	0.20	ND	0.13	0.041	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-015

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00763

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.19 Final Pressure (psig): 3.41

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	3.9	0.61	0.22	0.83	0.13	0.047	
127-18-4	Tetrachloroethene	ND	0.61	0.17	ND	0.090	0.025	
108-90-7	Chlorobenzene	ND	0.61	0.20	ND	0.13	0.042	
100-41-4	Ethylbenzene	0.52	0.61	0.20	0.12	0.14	0.045	J
179601-23-1	m,p-Xylenes	5.2	1.2	0.37	1.2	0.28	0.084	
75-25-2	Bromoform	ND	0.61	0.18	ND	0.059	0.018	
100-42-5	Styrene	0.77	0.61	0.18	0.18	0.14	0.043	
95-47-6	o-Xylene	0.85	0.61	0.18	0.20	0.14	0.042	
111-84-2	n-Nonane	3.1	0.61	0.18	0.60	0.12	0.035	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.61	0.18	ND	0.089	0.027	
98-82-8	Cumene	ND	0.61	0.18	ND	0.12	0.037	
80-56-8	alpha-Pinene	ND	0.61	0.17	ND	0.11	0.031	
103-65-1	n-Propylbenzene	ND	0.61	0.20	ND	0.12	0.040	
622-96-8	4-Ethyltoluene	ND	0.61	0.20	ND	0.12	0.040	
108-67-8	1,3,5-Trimethylbenzene	0.73	0.61	0.20	0.15	0.12	0.040	
95-63-6	1,2,4-Trimethylbenzene	0.82	0.61	0.18	0.17	0.12	0.037	
100-44-7	Benzyl Chloride	ND	0.61	0.13	ND	0.12	0.026	
541-73-1	1,3-Dichlorobenzene	ND	0.61	0.18	ND	0.10	0.030	
106-46-7	1,4-Dichlorobenzene	ND	0.61	0.17	ND	0.10	0.028	
95-50-1	1,2-Dichlorobenzene	ND	0.61	0.18	ND	0.10	0.030	
5989-27-5	d-Limonene	ND	0.61	0.17	ND	0.11	0.031	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.61	0.12	ND	0.063	0.013	
120-82-1	1,2,4-Trichlorobenzene	ND	0.61	0.20	ND	0.082	0.026	
91-20-3	Naphthalene	ND	0.61	0.22	ND	0.12	0.042	
87-68-3	Hexachlorobutadiene	ND	0.61	0.17	ND	0.057	0.016	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128U1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-015

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00763

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.19 Final Pressure (psig): 3.41

Canister Dilution Factor: 1.22

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.15	Propane	3.6	
5.34	n-Butane	3.8	
7.88	n-Pentane	3.1	
10.26	2-Methylpentane	3.4	
12.19	Methylcyclopentane	3.6	
15.02	Methylcyclohexane	12	
16.46	Dimethylcyclohexane isomer	3.3	
17.30	Hexamethylcyclotrisiloxane	3.9	
20.27	n-Decane	2.7	
21.83	Unidentified Siloxane	4.7	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-016

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00696

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.32

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	1.0	0.66	0.18	0.59	0.38	0.11	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.66	0.22	0.47	0.13	0.045	
74-87-3	Chloromethane	0.56	0.66	0.20	0.27	0.32	0.096	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.66	0.25	ND	0.094	0.036	
75-01-4	Vinyl Chloride	ND	0.66	0.22	ND	0.26	0.088	
106-99-0	1,3-Butadiene	ND	0.66	0.29	ND	0.30	0.13	
74-83-9	Bromomethane	ND	0.66	0.25	ND	0.17	0.065	
75-00-3	Chloroethane	ND	0.66	0.22	ND	0.25	0.085	
64-17-5	Ethanol	7.8	6.6	1.1	4.1	3.5	0.56	
75-05-8	Acetonitrile	ND	0.66	0.24	ND	0.39	0.14	
107-02-8	Acrolein	ND	2.6	0.22	ND	1.2	0.098	
67-64-1	Acetone	6.6	6.6	1.0	2.8	2.8	0.43	
75-69-4	Trichlorofluoromethane	1.3	0.66	0.22	0.23	0.12	0.040	
67-63-0	2-Propanol (Isopropyl Alcohol)	0.73	6.6	0.55	0.30	2.7	0.23	J
107-13-1	Acrylonitrile	ND	0.66	0.22	ND	0.30	0.10	
75-35-4	1,1-Dichloroethene	ND	0.66	0.22	ND	0.17	0.057	
75-09-2	Methylene Chloride	0.63	0.66	0.22	0.18	0.19	0.065	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.66	0.21	ND	0.21	0.068	
76-13-1	Trichlorotrifluoroethane	0.50	0.66	0.22	0.065	0.086	0.029	J
75-15-0	Carbon Disulfide	ND	6.6	0.20	ND	2.1	0.064	
156-60-5	trans-1,2-Dichloroethene	ND	0.66	0.25	ND	0.17	0.063	
75-34-3	1,1-Dichloroethane	ND	0.66	0.21	ND	0.16	0.052	
1634-04-4	Methyl tert-Butyl Ether	ND	0.66	0.22	ND	0.18	0.062	
108-05-4	Vinyl Acetate	ND	6.6	0.86	ND	1.9	0.24	
78-93-3	2-Butanone (MEK)	0.84	6.6	0.28	0.29	2.2	0.094	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-016

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00696

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.32

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	0.66	0.21	ND	0.17	0.053	
141-78-6	Ethyl Acetate	1.3	1.3	0.46	0.35	0.37	0.13	J
110-54-3	n-Hexane	1.1	0.66	0.20	0.30	0.19	0.056	
67-66-3	Chloroform	ND	0.66	0.22	ND	0.14	0.046	
109-99-9	Tetrahydrofuran (THF)	ND	0.66	0.26	ND	0.22	0.090	
107-06-2	1,2-Dichloroethane	ND	0.66	0.21	ND	0.16	0.052	
71-55-6	1,1,1-Trichloroethane	ND	0.66	0.22	ND	0.12	0.041	
71-43-2	Benzene	0.98	0.66	0.21	0.31	0.21	0.066	
56-23-5	Carbon Tetrachloride	0.51	0.66	0.20	0.080	0.10	0.031	J
110-82-7	Cyclohexane	ND	1.3	0.38	ND	0.38	0.11	
78-87-5	1,2-Dichloropropane	ND	0.66	0.21	ND	0.14	0.046	
75-27-4	Bromodichloromethane	ND	0.66	0.20	ND	0.099	0.030	
79-01-6	Trichloroethene	ND	0.66	0.18	ND	0.12	0.034	
123-91-1	1,4-Dioxane	ND	0.66	0.21	ND	0.18	0.059	
80-62-6	Methyl Methacrylate	ND	1.3	0.41	ND	0.32	0.10	
142-82-5	n-Heptane	0.85	0.66	0.22	0.21	0.16	0.055	
10061-01-5	cis-1,3-Dichloropropene	ND	0.66	0.18	ND	0.15	0.041	
108-10-1	4-Methyl-2-pentanone	ND	0.66	0.21	ND	0.16	0.052	
10061-02-6	trans-1,3-Dichloropropene	ND	0.66	0.21	ND	0.15	0.047	
79-00-5	1,1,2-Trichloroethane	ND	0.66	0.21	ND	0.12	0.039	
108-88-3	Toluene	1.8	0.66	0.22	0.48	0.18	0.060	
591-78-6	2-Hexanone	ND	0.66	0.21	ND	0.16	0.052	
124-48-1	Dibromochloromethane	ND	0.66	0.21	ND	0.078	0.025	
106-93-4	1,2-Dibromoethane	ND	0.66	0.21	ND	0.086	0.027	
123-86-4	n-Butyl Acetate	ND	0.66	0.21	ND	0.14	0.044	

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: 128D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-016

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00696

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.88 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.32

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	0.29	0.66	0.24	0.063	0.14	0.051	J
127-18-4	Tetrachloroethene	ND	0.66	0.18	ND	0.097	0.027	
108-90-7	Chlorobenzene	ND	0.66	0.21	ND	0.14	0.046	
100-41-4	Ethylbenzene	0.37	0.66	0.21	0.085	0.15	0.049	J
179601-23-1	m,p-Xylenes	1.2	1.3	0.40	0.29	0.30	0.091	J
75-25-2	Bromoform	ND	0.66	0.20	ND	0.064	0.019	
100-42-5	Styrene	ND	0.66	0.20	ND	0.16	0.047	
95-47-6	o-Xylene	0.33	0.66	0.20	0.076	0.15	0.046	J
111-84-2	n-Nonane	0.33	0.66	0.20	0.063	0.13	0.038	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.66	0.20	ND	0.096	0.029	
98-82-8	Cumene	ND	0.66	0.20	ND	0.13	0.040	
80-56-8	alpha-Pinene	ND	0.66	0.18	ND	0.12	0.033	
103-65-1	n-Propylbenzene	ND	0.66	0.21	ND	0.13	0.043	
622-96-8	4-Ethyltoluene	ND	0.66	0.21	ND	0.13	0.043	
108-67-8	1,3,5-Trimethylbenzene	ND	0.66	0.21	ND	0.13	0.043	
95-63-6	1,2,4-Trimethylbenzene	ND	0.66	0.20	ND	0.13	0.040	
100-44-7	Benzyl Chloride	ND	0.66	0.15	ND	0.13	0.028	
541-73-1	1,3-Dichlorobenzene	ND	0.66	0.20	ND	0.11	0.033	
106-46-7	1,4-Dichlorobenzene	ND	0.66	0.18	ND	0.11	0.031	
95-50-1	1,2-Dichlorobenzene	ND	0.66	0.20	ND	0.11	0.033	
5989-27-5	d-Limonene	ND	0.66	0.18	ND	0.12	0.033	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.66	0.13	ND	0.068	0.014	
120-82-1	1,2,4-Trichlorobenzene	ND	0.66	0.21	ND	0.089	0.028	
91-20-3	Naphthalene	ND	0.66	0.24	ND	0.13	0.045	
87-68-3	Hexachlorobutadiene	ND	0.66	0.18	ND	0.062	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: 128D1-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-016

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00696

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.88

Final Pressure (psig): 3.55

Canister Dilution Factor: 1.32

GC/MS Retention Time	Compound Identification	Concentration $\mu\text{g}/\text{m}^3$	Data Qualifier
4.80	Isobutane	2.9	
5.34	n-Butane	4.0	

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: 128N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-017

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00598

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.55 Final Pressure (psig): 3.44

Canister Dilution Factor: 1.19

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	1.3	0.60	0.17	0.77	0.35	0.097	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.60	0.20	0.46	0.12	0.041	
74-87-3	Chloromethane	0.37	0.60	0.18	0.18	0.29	0.086	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.60	0.23	ND	0.085	0.032	
75-01-4	Vinyl Chloride	ND	0.60	0.20	ND	0.23	0.079	
106-99-0	1,3-Butadiene	ND	0.60	0.26	ND	0.27	0.12	
74-83-9	Bromomethane	ND	0.60	0.23	ND	0.15	0.058	
75-00-3	Chloroethane	ND	0.60	0.20	ND	0.23	0.077	
64-17-5	Ethanol	20	6.0	0.95	10	3.2	0.51	
75-05-8	Acetonitrile	0.95	0.60	0.21	0.57	0.35	0.13	
107-02-8	Acrolein	0.30	2.4	0.20	0.13	1.0	0.088	J
67-64-1	Acetone	8.7	6.0	0.92	3.7	2.5	0.39	
75-69-4	Trichlorofluoromethane	1.2	0.60	0.20	0.21	0.11	0.036	
67-63-0	2-Propanol (Isopropyl Alcohol)	2.1	6.0	0.50	0.86	2.4	0.20	J
107-13-1	Acrylonitrile	ND	0.60	0.20	ND	0.27	0.093	
75-35-4	1,1-Dichloroethene	ND	0.60	0.20	ND	0.15	0.051	
75-09-2	Methylene Chloride	0.63	0.60	0.20	0.18	0.17	0.058	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.60	0.19	ND	0.19	0.061	
76-13-1	Trichlorotrifluoroethane	0.47	0.60	0.20	0.062	0.078	0.026	J
75-15-0	Carbon Disulfide	ND	6.0	0.18	ND	1.9	0.057	
156-60-5	trans-1,2-Dichloroethene	ND	0.60	0.23	ND	0.15	0.057	
75-34-3	1,1-Dichloroethane	ND	0.60	0.19	ND	0.15	0.047	
1634-04-4	Methyl tert-Butyl Ether	ND	0.60	0.20	ND	0.17	0.056	
108-05-4	Vinyl Acetate	ND	6.0	0.77	ND	1.7	0.22	
78-93-3	2-Butanone (MEK)	1.2	6.0	0.25	0.42	2.0	0.085	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-017

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00598

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.55 Final Pressure (psig): 3.44

Canister Dilution Factor: 1.19

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	0.60	0.19	ND	0.15	0.048	
141-78-6	Ethyl Acetate	74	1.2	0.42	21	0.33	0.12	
110-54-3	n-Hexane	2.5	0.60	0.18	0.70	0.17	0.051	
67-66-3	Chloroform	ND	0.60	0.20	ND	0.12	0.041	
109-99-9	Tetrahydrofuran (THF)	ND	0.60	0.24	ND	0.20	0.081	
107-06-2	1,2-Dichloroethane	ND	0.60	0.19	ND	0.15	0.047	
71-55-6	1,1,1-Trichloroethane	ND	0.60	0.20	ND	0.11	0.037	
71-43-2	Benzene	1.8	0.60	0.19	0.57	0.19	0.060	
56-23-5	Carbon Tetrachloride	0.51	0.60	0.18	0.081	0.095	0.028	J
110-82-7	Cyclohexane	0.70	1.2	0.35	0.20	0.35	0.10	J
78-87-5	1,2-Dichloropropane	ND	0.60	0.19	ND	0.13	0.041	
75-27-4	Bromodichloromethane	ND	0.60	0.18	ND	0.089	0.027	
79-01-6	Trichloroethene	ND	0.60	0.17	ND	0.11	0.031	
123-91-1	1,4-Dioxane	ND	0.60	0.19	ND	0.17	0.053	
80-62-6	Methyl Methacrylate	ND	1.2	0.37	ND	0.29	0.090	
142-82-5	n-Heptane	0.64	0.60	0.20	0.16	0.15	0.049	
10061-01-5	cis-1,3-Dichloropropene	ND	0.60	0.17	ND	0.13	0.037	
108-10-1	4-Methyl-2-pentanone	ND	0.60	0.19	ND	0.15	0.046	
10061-02-6	trans-1,3-Dichloropropene	ND	0.60	0.19	ND	0.13	0.042	
79-00-5	1,1,2-Trichloroethane	ND	0.60	0.19	ND	0.11	0.035	
108-88-3	Toluene	5.9	0.60	0.20	1.6	0.16	0.054	
591-78-6	2-Hexanone	ND	0.60	0.19	ND	0.15	0.046	
124-48-1	Dibromochloromethane	ND	0.60	0.19	ND	0.070	0.022	
106-93-4	1,2-Dibromoethane	ND	0.60	0.19	ND	0.077	0.025	
123-86-4	n-Butyl Acetate	0.32	0.60	0.19	0.068	0.13	0.040	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-017

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00598

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.55 Final Pressure (psig): 3.44

Canister Dilution Factor: 1.19

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	0.28	0.60	0.21	0.059	0.13	0.046	J
127-18-4	Tetrachloroethene	0.30	0.60	0.17	0.045	0.088	0.025	J
108-90-7	Chlorobenzene	ND	0.60	0.19	ND	0.13	0.041	
100-41-4	Ethylbenzene	0.20	0.60	0.19	0.046	0.14	0.044	J
179601-23-1	m,p-Xylenes	0.75	1.2	0.36	0.17	0.27	0.082	J
75-25-2	Bromoform	ND	0.60	0.18	ND	0.058	0.017	
100-42-5	Styrene	ND	0.60	0.18	ND	0.14	0.042	
95-47-6	o-Xylene	0.23	0.60	0.18	0.054	0.14	0.041	J
111-84-2	n-Nonane	0.27	0.60	0.18	0.052	0.11	0.034	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.60	0.18	ND	0.087	0.026	
98-82-8	Cumene	ND	0.60	0.18	ND	0.12	0.036	
80-56-8	alpha-Pinene	0.42	0.60	0.17	0.075	0.11	0.030	J
103-65-1	n-Propylbenzene	ND	0.60	0.19	ND	0.12	0.039	
622-96-8	4-Ethyltoluene	ND	0.60	0.19	ND	0.12	0.039	
108-67-8	1,3,5-Trimethylbenzene	ND	0.60	0.19	ND	0.12	0.039	
95-63-6	1,2,4-Trimethylbenzene	0.18	0.60	0.18	0.037	0.12	0.036	J
100-44-7	Benzyl Chloride	ND	0.60	0.13	ND	0.11	0.025	
541-73-1	1,3-Dichlorobenzene	ND	0.60	0.18	ND	0.099	0.030	
106-46-7	1,4-Dichlorobenzene	ND	0.60	0.17	ND	0.099	0.028	
95-50-1	1,2-Dichlorobenzene	ND	0.60	0.18	ND	0.099	0.030	
5989-27-5	d-Limonene	1.4	0.60	0.17	0.26	0.11	0.030	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.60	0.12	ND	0.062	0.012	
120-82-1	1,2,4-Trichlorobenzene	ND	0.60	0.19	ND	0.080	0.026	
91-20-3	Naphthalene	ND	0.60	0.21	ND	0.11	0.041	
87-68-3	Hexachlorobutadiene	ND	0.60	0.17	ND	0.056	0.016	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128N-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-017

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00598

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.55 Final Pressure (psig): 3.44

Canister Dilution Factor: 1.19

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.00	1,1-Difluoroethane	21	
4.09	Chlorodifluoromethane	8.5	
4.15	Propane	4.6	
4.79	Isobutane	4.1	
5.34	n-Butane	3.5	
7.88	n-Pentane	4.4	
21.24	n-Nonanal	2.6	
21.67	2-Ethylhexylacetate	4.6	
21.83	Unidentified Siloxane	3.4	

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: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

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	0.64	0.18	ND	0.37	0.10	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.3	0.64	0.22	0.47	0.13	0.044	
74-87-3	Chloromethane	0.50	0.64	0.19	0.24	0.31	0.092	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.64	0.24	ND	0.091	0.035	
75-01-4	Vinyl Chloride	ND	0.64	0.22	ND	0.25	0.084	
106-99-0	1,3-Butadiene	ND	0.64	0.28	ND	0.29	0.13	
74-83-9	Bromomethane	ND	0.64	0.24	ND	0.16	0.062	
75-00-3	Chloroethane	ND	0.64	0.22	ND	0.24	0.082	
64-17-5	Ethanol	3.5	6.4	1.0	1.9	3.4	0.54	J
75-05-8	Acetonitrile	ND	0.64	0.23	ND	0.38	0.14	
107-02-8	Acrolein	ND	2.5	0.22	ND	1.1	0.094	
67-64-1	Acetone	4.1	6.4	0.98	1.7	2.7	0.41	J
75-69-4	Trichlorofluoromethane	1.3	0.64	0.22	0.24	0.11	0.038	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.4	0.53	ND	2.6	0.22	
107-13-1	Acrylonitrile	ND	0.64	0.22	ND	0.29	0.10	
75-35-4	1,1-Dichloroethene	ND	0.64	0.22	ND	0.16	0.054	
75-09-2	Methylene Chloride	0.38	0.64	0.22	0.11	0.18	0.062	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.64	0.20	ND	0.20	0.065	
76-13-1	Trichlorotrifluoroethane	0.53	0.64	0.22	0.069	0.083	0.028	J
75-15-0	Carbon Disulfide	ND	6.4	0.19	ND	2.0	0.061	
156-60-5	trans-1,2-Dichloroethene	ND	0.64	0.24	ND	0.16	0.061	
75-34-3	1,1-Dichloroethane	ND	0.64	0.20	ND	0.16	0.050	
1634-04-4	Methyl tert-Butyl Ether	ND	0.64	0.22	ND	0.18	0.060	
108-05-4	Vinyl Acetate	ND	6.4	0.83	ND	1.8	0.23	
78-93-3	2-Butanone (MEK)	0.42	6.4	0.27	0.14	2.2	0.090	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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

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	0.64	0.20	ND	0.16	0.051	
141-78-6	Ethyl Acetate	1.2	1.3	0.44	0.34	0.35	0.12	J
110-54-3	n-Hexane	0.94	0.64	0.19	0.27	0.18	0.054	
67-66-3	Chloroform	ND	0.64	0.22	ND	0.13	0.044	
109-99-9	Tetrahydrofuran (THF)	ND	0.64	0.25	ND	0.22	0.086	
107-06-2	1,2-Dichloroethane	ND	0.64	0.20	ND	0.16	0.050	
71-55-6	1,1,1-Trichloroethane	ND	0.64	0.22	ND	0.12	0.040	
71-43-2	Benzene	0.80	0.64	0.20	0.25	0.20	0.064	
56-23-5	Carbon Tetrachloride	0.53	0.64	0.19	0.084	0.10	0.030	J
110-82-7	Cyclohexane	0.40	1.3	0.37	0.12	0.37	0.11	J
78-87-5	1,2-Dichloropropane	ND	0.64	0.20	ND	0.14	0.044	
75-27-4	Bromodichloromethane	ND	0.64	0.19	ND	0.095	0.028	
79-01-6	Trichloroethene	ND	0.64	0.18	ND	0.12	0.033	
123-91-1	1,4-Dioxane	ND	0.64	0.20	ND	0.18	0.056	
80-62-6	Methyl Methacrylate	ND	1.3	0.39	ND	0.31	0.096	
142-82-5	n-Heptane	0.48	0.64	0.22	0.12	0.16	0.053	J
10061-01-5	cis-1,3-Dichloropropene	ND	0.64	0.18	ND	0.14	0.039	
108-10-1	4-Methyl-2-pentanone	ND	0.64	0.20	ND	0.16	0.050	
10061-02-6	trans-1,3-Dichloropropene	ND	0.64	0.20	ND	0.14	0.045	
79-00-5	1,1,2-Trichloroethane	ND	0.64	0.20	ND	0.12	0.037	
108-88-3	Toluene	1.3	0.64	0.22	0.35	0.17	0.057	
591-78-6	2-Hexanone	ND	0.64	0.20	ND	0.16	0.050	
124-48-1	Dibromochloromethane	ND	0.64	0.20	ND	0.075	0.024	
106-93-4	1,2-Dibromoethane	ND	0.64	0.20	ND	0.083	0.026	
123-86-4	n-Butyl Acetate	ND	0.64	0.20	ND	0.13	0.043	

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: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
111-65-9	n-Octane	0.43	0.64	0.23	0.092	0.14	0.049	J
127-18-4	Tetrachloroethene	ND	0.64	0.18	ND	0.094	0.026	
108-90-7	Chlorobenzene	ND	0.64	0.20	ND	0.14	0.044	
100-41-4	Ethylbenzene	ND	0.64	0.20	ND	0.15	0.047	
179601-23-1	m,p-Xylenes	1.1	1.3	0.38	0.25	0.29	0.088	J
75-25-2	Bromoform	ND	0.64	0.19	ND	0.061	0.018	
100-42-5	Styrene	ND	0.64	0.19	ND	0.15	0.045	
95-47-6	o-Xylene	0.27	0.64	0.19	0.061	0.15	0.044	J
111-84-2	n-Nonane	0.62	0.64	0.19	0.12	0.12	0.036	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.64	0.19	ND	0.093	0.028	
98-82-8	Cumene	ND	0.64	0.19	ND	0.13	0.039	
80-56-8	alpha-Pinene	ND	0.64	0.18	ND	0.11	0.032	
103-65-1	n-Propylbenzene	ND	0.64	0.20	ND	0.13	0.041	
622-96-8	4-Ethyltoluene	ND	0.64	0.20	ND	0.13	0.041	
108-67-8	1,3,5-Trimethylbenzene	ND	0.64	0.20	ND	0.13	0.041	
95-63-6	1,2,4-Trimethylbenzene	0.30	0.64	0.19	0.061	0.13	0.039	J
100-44-7	Benzyl Chloride	ND	0.64	0.14	ND	0.12	0.027	
541-73-1	1,3-Dichlorobenzene	ND	0.64	0.19	ND	0.11	0.032	
106-46-7	1,4-Dichlorobenzene	ND	0.64	0.18	ND	0.11	0.030	
95-50-1	1,2-Dichlorobenzene	ND	0.64	0.19	ND	0.11	0.032	
5989-27-5	d-Limonene	ND	0.64	0.18	ND	0.11	0.032	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.64	0.13	ND	0.066	0.013	
120-82-1	1,2,4-Trichlorobenzene	ND	0.64	0.20	ND	0.086	0.027	
91-20-3	Naphthalene	ND	0.64	0.23	ND	0.12	0.044	
87-68-3	Hexachlorobutadiene	ND	0.64	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: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.14	Propane	4.1	
5.33	n-Butane	2.9	

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: 128DUP11-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-019

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00728

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.33

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	0.67	0.19	ND	0.39	0.11	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.1	0.67	0.23	0.43	0.13	0.046	
74-87-3	Chloromethane	0.49	0.67	0.20	0.24	0.32	0.097	J
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	ND	0.67	0.25	ND	0.095	0.036	
75-01-4	Vinyl Chloride	ND	0.67	0.23	ND	0.26	0.088	
106-99-0	1,3-Butadiene	ND	0.67	0.29	ND	0.30	0.13	
74-83-9	Bromomethane	ND	0.67	0.25	ND	0.17	0.065	
75-00-3	Chloroethane	ND	0.67	0.23	ND	0.25	0.086	
64-17-5	Ethanol	1.9	6.7	1.1	0.98	3.5	0.56	J
75-05-8	Acetonitrile	ND	0.67	0.24	ND	0.40	0.14	
107-02-8	Acrolein	ND	2.7	0.23	ND	1.2	0.099	
67-64-1	Acetone	3.5	6.7	1.0	1.5	2.8	0.43	J
75-69-4	Trichlorofluoromethane	1.3	0.67	0.23	0.23	0.12	0.040	
67-63-0	2-Propanol (Isopropyl Alcohol)	ND	6.7	0.56	ND	2.7	0.23	
107-13-1	Acrylonitrile	ND	0.67	0.23	ND	0.31	0.10	
75-35-4	1,1-Dichloroethene	ND	0.67	0.23	ND	0.17	0.057	
75-09-2	Methylene Chloride	0.38	0.67	0.23	0.11	0.19	0.065	J
107-05-1	3-Chloro-1-propene (Allyl Chloride)	ND	0.67	0.21	ND	0.21	0.068	
76-13-1	Trichlorotrifluoroethane	0.51	0.67	0.23	0.067	0.087	0.030	J
75-15-0	Carbon Disulfide	ND	6.7	0.20	ND	2.1	0.064	
156-60-5	trans-1,2-Dichloroethene	ND	0.67	0.25	ND	0.17	0.064	
75-34-3	1,1-Dichloroethane	ND	0.67	0.21	ND	0.16	0.053	
1634-04-4	Methyl tert-Butyl Ether	ND	0.67	0.23	ND	0.18	0.063	
108-05-4	Vinyl Acetate	ND	6.7	0.86	ND	1.9	0.25	
78-93-3	2-Butanone (MEK)	0.41	6.7	0.28	0.14	2.3	0.095	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: 128DUP11-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-019

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00728

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.33

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	0.67	0.21	ND	0.17	0.054	
141-78-6	Ethyl Acetate	1.3	1.3	0.47	0.35	0.37	0.13	J
110-54-3	n-Hexane	0.70	0.67	0.20	0.20	0.19	0.057	
67-66-3	Chloroform	ND	0.67	0.23	ND	0.14	0.046	
109-99-9	Tetrahydrofuran (THF)	ND	0.67	0.27	ND	0.23	0.090	
107-06-2	1,2-Dichloroethane	ND	0.67	0.21	ND	0.16	0.053	
71-55-6	1,1,1-Trichloroethane	ND	0.67	0.23	ND	0.12	0.041	
71-43-2	Benzene	0.65	0.67	0.21	0.20	0.21	0.067	J
56-23-5	Carbon Tetrachloride	0.51	0.67	0.20	0.081	0.11	0.032	J
110-82-7	Cyclohexane	ND	1.3	0.39	ND	0.39	0.11	
78-87-5	1,2-Dichloropropane	ND	0.67	0.21	ND	0.14	0.046	
75-27-4	Bromodichloromethane	ND	0.67	0.20	ND	0.099	0.030	
79-01-6	Trichloroethene	ND	0.67	0.19	ND	0.12	0.035	
123-91-1	1,4-Dioxane	ND	0.67	0.21	ND	0.18	0.059	
80-62-6	Methyl Methacrylate	ND	1.3	0.41	ND	0.32	0.10	
142-82-5	n-Heptane	0.27	0.67	0.23	0.065	0.16	0.055	J
10061-01-5	cis-1,3-Dichloropropene	ND	0.67	0.19	ND	0.15	0.041	
108-10-1	4-Methyl-2-pentanone	ND	0.67	0.21	ND	0.16	0.052	
10061-02-6	trans-1,3-Dichloropropene	ND	0.67	0.21	ND	0.15	0.047	
79-00-5	1,1,2-Trichloroethane	ND	0.67	0.21	ND	0.12	0.039	
108-88-3	Toluene	0.95	0.67	0.23	0.25	0.18	0.060	
591-78-6	2-Hexanone	ND	0.67	0.21	ND	0.16	0.052	
124-48-1	Dibromochloromethane	ND	0.67	0.21	ND	0.078	0.025	
106-93-4	1,2-Dibromoethane	ND	0.67	0.21	ND	0.087	0.028	
123-86-4	n-Butyl Acetate	ND	0.67	0.21	ND	0.14	0.045	

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128DUP11-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-019

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00728

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.06 Final Pressure (psig): 3.47

Canister Dilution Factor: 1.33

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	0.67	0.24	ND	0.14	0.051	
127-18-4	Tetrachloroethene	ND	0.67	0.19	ND	0.098	0.027	
108-90-7	Chlorobenzene	ND	0.67	0.21	ND	0.14	0.046	
100-41-4	Ethylbenzene	ND	0.67	0.21	ND	0.15	0.049	
179601-23-1	m,p-Xylenes	ND	1.3	0.40	ND	0.31	0.092	
75-25-2	Bromoform	ND	0.67	0.20	ND	0.064	0.019	
100-42-5	Styrene	ND	0.67	0.20	ND	0.16	0.047	
95-47-6	o-Xylene	ND	0.67	0.20	ND	0.15	0.046	
111-84-2	n-Nonane	ND	0.67	0.20	ND	0.13	0.038	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.67	0.20	ND	0.097	0.029	
98-82-8	Cumene	ND	0.67	0.20	ND	0.14	0.041	
80-56-8	alpha-Pinene	ND	0.67	0.19	ND	0.12	0.033	
103-65-1	n-Propylbenzene	ND	0.67	0.21	ND	0.14	0.043	
622-96-8	4-Ethyltoluene	ND	0.67	0.21	ND	0.14	0.043	
108-67-8	1,3,5-Trimethylbenzene	ND	0.67	0.21	ND	0.14	0.043	
95-63-6	1,2,4-Trimethylbenzene	ND	0.67	0.20	ND	0.14	0.041	
100-44-7	Benzyl Chloride	ND	0.67	0.15	ND	0.13	0.028	
541-73-1	1,3-Dichlorobenzene	ND	0.67	0.20	ND	0.11	0.033	
106-46-7	1,4-Dichlorobenzene	ND	0.67	0.19	ND	0.11	0.031	
95-50-1	1,2-Dichlorobenzene	ND	0.67	0.20	ND	0.11	0.033	
5989-27-5	d-Limonene	ND	0.67	0.19	ND	0.12	0.033	
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.67	0.13	ND	0.069	0.014	
120-82-1	1,2,4-Trichlorobenzene	ND	0.67	0.21	ND	0.090	0.029	
91-20-3	Naphthalene	ND	0.67	0.24	ND	0.13	0.046	
87-68-3	Hexachlorobutadiene	ND	0.67	0.19	ND	0.062	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.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

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Client: Stantec Consulting Services, Inc.

Client Sample ID: 128DUP11-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-019

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes: **T**

Container ID: AS00728

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.06

Final Pressure (psig): 3.47

Canister Dilution Factor: 1.33

GC/MS Retention Time	Compound Identification	Concentration µg/m ³	Data Qualifier
4.15	Propane	3.4	
5.34	n-Butane	3.0	

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: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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	0.84	5.0	0.77	0.35	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)	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.

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: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-MB

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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

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Client: Stantec Consulting Services, Inc.

Client Sample ID: Method Blank

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-MB

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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: P1500365

ALS Sample ID: P150209-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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: P1500365

ALS Sample ID: P150209-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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: P1500365

ALS Sample ID: P150209-MB

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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: P1500365

ALS Sample ID: P150209-MB

Tentatively Identified Compounds

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

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

ALS Project ID: P1500365

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sample Type: 1.0 L Silonite Summa Canister(s)
Test Notes:

Date(s) Collected: 1/27 - 1/29/15
Date(s) Received: 1/30/15
Date(s) Analyzed: 2/6 - 2/9/15

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	P150206-MB	103	102	101	70-130	
Method Blank	P150206-MB	104	100	103	70-130	
Method Blank	P150209-MB	104	94	104	70-130	
Lab Control Sample	P150206-LCS	99	100	104	70-130	
Lab Control Sample	P150206-LCS	101	102	105	70-130	
Lab Control Sample	P150209-LCS	103	97	103	70-130	
128Ns-GRAB	P1500365-001	104	94	103	70-130	
128NQs-GRAB	P1500365-002	104	91	99	70-130	
128SQs-GRAB	P1500365-003	101	95	108	70-130	
128Fs-GRAB	P1500365-004	99	98	108	70-130	
128GRAB	P1500365-005	103	100	104	70-130	
129GRAB2D	P1500365-006	101	99	107	70-130	
129GRAB3U	P1500365-007	103	97	103	70-130	
127U1-SUMMA	P1500365-008	103	100	105	70-130	
127D1-SUMMA	P1500365-009	105	101	102	70-130	
127D2-SUMMA	P1500365-010	104	102	103	70-130	
127D2-SUMMA	P1500365-010DUP	105	102	103	70-130	
127F-SUMMA	P1500365-011	103	100	102	70-130	
127SQ-SUMMA	P1500365-012	101	99	106	70-130	
127-SUMMA-B	P1500365-013	103	102	102	70-130	
127DUP10-SUMMA	P1500365-014	105	100	101	70-130	
128U1-SUMMA	P1500365-015	105	101	102	70-130	
128D1-SUMMA	P1500365-016	103	96	100	70-130	
128N-SUMMA	P1500365-017	99	102	111	70-130	
128NQ-SUMMA	P1500365-018	101	96	105	70-130	
128NQ-SUMMA	P1500365-018DUP	103	94	104	70-130	
128DUP11-SUMMA	P1500365-019	100	101	105	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: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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	200	182	91	50-128	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	190	93	66-117	
74-87-3	Chloromethane	198	192	97	51-133	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	199	97	65-117	
75-01-4	Vinyl Chloride	202	202	100	61-127	
106-99-0	1,3-Butadiene	214	225	105	65-132	
74-83-9	Bromomethane	202	198	98	62-114	
75-00-3	Chloroethane	202	194	96	64-122	
64-17-5	Ethanol	1,020	928	91	57-131	
75-05-8	Acetonitrile	204	196	96	52-135	
107-02-8	Acrolein	214	217	101	64-124	
67-64-1	Acetone	1,080	973	90	60-113	
75-69-4	Trichlorofluoromethane	198	209	106	64-112	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	376	90	62-129	
107-13-1	Acrylonitrile	208	205	99	69-133	
75-35-4	1,1-Dichloroethene	214	205	96	70-114	
75-09-2	Methylene Chloride	216	201	93	63-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	227	104	57-135	
76-13-1	Trichlorotrifluoroethane	216	207	96	69-116	
75-15-0	Carbon Disulfide	196	201	103	66-118	
156-60-5	trans-1,2-Dichloroethene	212	213	100	69-123	
75-34-3	1,1-Dichloroethane	208	202	97	65-118	
1634-04-4	Methyl tert-Butyl Ether	212	206	97	57-125	
108-05-4	Vinyl Acetate	1,020	1050	103	69-131	
78-93-3	2-Butanone (MEK)	216	197	91	63-121	

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: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
156-59-2	cis-1,2-Dichloroethene	214	211	99	69-119	
141-78-6	Ethyl Acetate	428	395	92	65-129	
110-54-3	n-Hexane	210	184	88	55-116	
67-66-3	Chloroform	216	206	95	68-111	
109-99-9	Tetrahydrofuran (THF)	206	184	89	69-120	
107-06-2	1,2-Dichloroethane	210	203	97	67-117	
71-55-6	1,1,1-Trichloroethane	208	202	97	74-116	
71-43-2	Benzene	220	199	90	61-109	
56-23-5	Carbon Tetrachloride	214	225	105	76-120	
110-82-7	Cyclohexane	422	405	96	72-115	
78-87-5	1,2-Dichloropropane	212	203	96	67-119	
75-27-4	Bromodichloromethane	216	215	100	78-124	
79-01-6	Trichloroethene	208	210	101	69-115	
123-91-1	1,4-Dioxane	218	189	87	69-127	
80-62-6	Methyl Methacrylate	420	429	102	76-128	
142-82-5	n-Heptane	214	205	96	66-118	
10061-01-5	cis-1,3-Dichloropropene	226	236	104	77-124	
108-10-1	4-Methyl-2-pentanone	218	209	96	66-134	
10061-02-6	trans-1,3-Dichloropropene	216	236	109	80-130	
79-00-5	1,1,2-Trichloroethane	212	205	97	75-119	
108-88-3	Toluene	212	188	89	68-114	
591-78-6	2-Hexanone	222	207	93	60-136	
124-48-1	Dibromochloromethane	220	224	102	75-132	
106-93-4	1,2-Dibromoethane	216	218	101	72-122	
123-86-4	n-Butyl Acetate	224	209	93	60-137	

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: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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	208	204	98	66-120	
127-18-4	Tetrachloroethene	198	189	95	67-120	
108-90-7	Chlorobenzene	216	203	94	69-114	
100-41-4	Ethylbenzene	212	208	98	71-117	
179601-23-1	m,p-Xylenes	420	396	94	71-118	
75-25-2	Bromoform	216	250	116	76-149	
100-42-5	Styrene	218	216	99	71-128	
95-47-6	o-Xylene	206	197	96	72-118	
111-84-2	n-Nonane	204	197	97	63-123	
79-34-5	1,1,2,2-Tetrachloroethane	202	197	98	73-124	
98-82-8	Cumene	204	193	95	71-118	
80-56-8	alpha-Pinene	208	209	100	71-123	
103-65-1	n-Propylbenzene	202	193	96	71-120	
622-96-8	4-Ethyltoluene	212	203	96	71-121	
108-67-8	1,3,5-Trimethylbenzene	212	194	92	72-121	
95-63-6	1,2,4-Trimethylbenzene	210	196	93	71-122	
100-44-7	Benzyl Chloride	218	240	110	79-143	
541-73-1	1,3-Dichlorobenzene	218	202	93	67-121	
106-46-7	1,4-Dichlorobenzene	212	185	87	68-121	
95-50-1	1,2-Dichlorobenzene	214	199	93	68-121	
5989-27-5	d-Limonene	210	213	101	69-137	
96-12-8	1,2-Dibromo-3-chloropropane	206	226	110	73-145	
120-82-1	1,2,4-Trichlorobenzene	210	216	103	60-135	
91-20-3	Naphthalene	196	212	108	63-142	
87-68-3	Hexachlorobutadiene	214	209	98	65-127	

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 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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	200	192	96	50-128	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	197	97	66-117	
74-87-3	Chloromethane	198	184	93	51-133	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	211	102	65-117	
75-01-4	Vinyl Chloride	202	206	102	61-127	
106-99-0	1,3-Butadiene	214	244	114	65-132	
74-83-9	Bromomethane	202	216	107	62-114	
75-00-3	Chloroethane	202	196	97	64-122	
64-17-5	Ethanol	1,020	951	93	57-131	
75-05-8	Acetonitrile	204	202	99	52-135	
107-02-8	Acrolein	214	226	106	64-124	
67-64-1	Acetone	1,080	1020	94	60-113	
75-69-4	Trichlorofluoromethane	198	212	107	64-112	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	386	92	62-129	
107-13-1	Acrylonitrile	208	210	101	69-133	
75-35-4	1,1-Dichloroethene	214	208	97	70-114	
75-09-2	Methylene Chloride	216	208	96	63-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	235	108	57-135	
76-13-1	Trichlorotrifluoroethane	216	204	94	69-116	
75-15-0	Carbon Disulfide	196	204	104	66-118	
156-60-5	trans-1,2-Dichloroethene	212	222	105	69-123	
75-34-3	1,1-Dichloroethane	208	210	101	65-118	
1634-04-4	Methyl tert-Butyl Ether	212	207	98	57-125	
108-05-4	Vinyl Acetate	1,020	1070	105	69-131	
78-93-3	2-Butanone (MEK)	216	199	92	63-121	

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: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m ³	Result µg/m ³	% Recovery	ALS	Data Qualifier
					Acceptance Limits	
156-59-2	cis-1,2-Dichloroethene	214	216	101	69-119	
141-78-6	Ethyl Acetate	428	402	94	65-129	
110-54-3	n-Hexane	210	194	92	55-116	
67-66-3	Chloroform	216	210	97	68-111	
109-99-9	Tetrahydrofuran (THF)	206	188	91	69-120	
107-06-2	1,2-Dichloroethane	210	206	98	67-117	
71-55-6	1,1,1-Trichloroethane	208	200	96	74-116	
71-43-2	Benzene	220	197	90	61-109	
56-23-5	Carbon Tetrachloride	214	225	105	76-120	
110-82-7	Cyclohexane	422	407	96	72-115	
78-87-5	1,2-Dichloropropane	212	201	95	67-119	
75-27-4	Bromodichloromethane	216	215	100	78-124	
79-01-6	Trichloroethene	208	204	98	69-115	
123-91-1	1,4-Dioxane	218	187	86	69-127	
80-62-6	Methyl Methacrylate	420	426	101	76-128	
142-82-5	n-Heptane	214	204	95	66-118	
10061-01-5	cis-1,3-Dichloropropene	226	236	104	77-124	
108-10-1	4-Methyl-2-pentanone	218	207	95	66-134	
10061-02-6	trans-1,3-Dichloropropene	216	234	108	80-130	
79-00-5	1,1,2-Trichloroethane	212	202	95	75-119	
108-88-3	Toluene	212	189	89	68-114	
591-78-6	2-Hexanone	222	210	95	60-136	
124-48-1	Dibromochloromethane	220	224	102	75-132	
106-93-4	1,2-Dibromoethane	216	219	101	72-122	
123-86-4	n-Butyl Acetate	224	213	95	60-137	

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: P1500365

ALS Sample ID: P150206-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/6/15

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	208	205	99	66-120	
127-18-4	Tetrachloroethene	198	190	96	67-120	
108-90-7	Chlorobenzene	216	203	94	69-114	
100-41-4	Ethylbenzene	212	209	99	71-117	
179601-23-1	m,p-Xylenes	420	410	98	71-118	
75-25-2	Bromoform	216	248	115	76-149	
100-42-5	Styrene	218	217	100	71-128	
95-47-6	o-Xylene	206	198	96	72-118	
111-84-2	n-Nonane	204	199	98	63-123	
79-34-5	1,1,2,2-Tetrachloroethane	202	200	99	73-124	
98-82-8	Cumene	204	192	94	71-118	
80-56-8	alpha-Pinene	208	210	101	71-123	
103-65-1	n-Propylbenzene	202	193	96	71-120	
622-96-8	4-Ethyltoluene	212	203	96	71-121	
108-67-8	1,3,5-Trimethylbenzene	212	198	93	72-121	
95-63-6	1,2,4-Trimethylbenzene	210	201	96	71-122	
100-44-7	Benzyl Chloride	218	242	111	79-143	
541-73-1	1,3-Dichlorobenzene	218	207	95	67-121	
106-46-7	1,4-Dichlorobenzene	212	190	90	68-121	
95-50-1	1,2-Dichlorobenzene	214	202	94	68-121	
5989-27-5	d-Limonene	210	217	103	69-137	
96-12-8	1,2-Dibromo-3-chloropropane	206	227	110	73-145	
120-82-1	1,2,4-Trichlorobenzene	210	218	104	60-135	
91-20-3	Naphthalene	196	215	110	63-142	
87-68-3	Hexachlorobutadiene	214	212	99	65-127	

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 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: Lab Control Sample

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P150209-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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	200	178	89	50-128	
75-71-8	Dichlorodifluoromethane (CFC 12)	204	195	96	66-117	
74-87-3	Chloromethane	198	184	93	51-133	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	206	217	105	65-117	
75-01-4	Vinyl Chloride	202	207	102	61-127	
106-99-0	1,3-Butadiene	214	241	113	65-132	
74-83-9	Bromomethane	202	208	103	62-114	
75-00-3	Chloroethane	202	190	94	64-122	
64-17-5	Ethanol	1,020	953	93	57-131	
75-05-8	Acetonitrile	204	198	97	52-135	
107-02-8	Acrolein	214	219	102	64-124	
67-64-1	Acetone	1,080	978	91	60-113	
75-69-4	Trichlorofluoromethane	198	205	104	64-112	
67-63-0	2-Propanol (Isopropyl Alcohol)	420	399	95	62-129	
107-13-1	Acrylonitrile	208	206	99	69-133	
75-35-4	1,1-Dichloroethene	214	215	100	70-114	
75-09-2	Methylene Chloride	216	200	93	63-103	
107-05-1	3-Chloro-1-propene (Allyl Chloride)	218	232	106	57-135	
76-13-1	Trichlorotrifluoroethane	216	207	96	69-116	
75-15-0	Carbon Disulfide	196	211	108	66-118	
156-60-5	trans-1,2-Dichloroethene	212	214	101	69-123	
75-34-3	1,1-Dichloroethane	208	203	98	65-118	
1634-04-4	Methyl tert-Butyl Ether	212	203	96	57-125	
108-05-4	Vinyl Acetate	1,020	1070	105	69-131	
78-93-3	2-Butanone (MEK)	216	203	94	63-121	

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: P1500365

ALS Sample ID: P150209-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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	214	212	99	69-119	
141-78-6	Ethyl Acetate	428	411	96	65-129	
110-54-3	n-Hexane	210	201	96	55-116	
67-66-3	Chloroform	216	210	97	68-111	
109-99-9	Tetrahydrofuran (THF)	206	187	91	69-120	
107-06-2	1,2-Dichloroethane	210	210	100	67-117	
71-55-6	1,1,1-Trichloroethane	208	193	93	74-116	
71-43-2	Benzene	220	192	87	61-109	
56-23-5	Carbon Tetrachloride	214	216	101	76-120	
110-82-7	Cyclohexane	422	384	91	72-115	
78-87-5	1,2-Dichloropropane	212	201	95	67-119	
75-27-4	Bromodichloromethane	216	207	96	78-124	
79-01-6	Trichloroethene	208	206	99	69-115	
123-91-1	1,4-Dioxane	218	189	87	69-127	
80-62-6	Methyl Methacrylate	420	422	100	76-128	
142-82-5	n-Heptane	214	201	94	66-118	
10061-01-5	cis-1,3-Dichloropropene	226	229	101	77-124	
108-10-1	4-Methyl-2-pentanone	218	206	94	66-134	
10061-02-6	trans-1,3-Dichloropropene	216	237	110	80-130	
79-00-5	1,1,2-Trichloroethane	212	205	97	75-119	
108-88-3	Toluene	212	180	85	68-114	
591-78-6	2-Hexanone	222	203	91	60-136	
124-48-1	Dibromochloromethane	220	220	100	75-132	
106-93-4	1,2-Dibromoethane	216	215	100	72-122	
123-86-4	n-Butyl Acetate	224	205	92	60-137	

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: P1500365

ALS Sample ID: P150209-LCS

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 1.0 L Silonite Summa Canister

Test Notes:

Date Collected: NA

Date Received: NA

Date Analyzed: 2/9/15

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	208	197	95	66-120	
127-18-4	Tetrachloroethene	198	183	92	67-120	
108-90-7	Chlorobenzene	216	198	92	69-114	
100-41-4	Ethylbenzene	212	203	96	71-117	
179601-23-1	m,p-Xylenes	420	398	95	71-118	
75-25-2	Bromoform	216	232	107	76-149	
100-42-5	Styrene	218	208	95	71-128	
95-47-6	o-Xylene	206	192	93	72-118	
111-84-2	n-Nonane	204	193	95	63-123	
79-34-5	1,1,2,2-Tetrachloroethane	202	188	93	73-124	
98-82-8	Cumene	204	181	89	71-118	
80-56-8	alpha-Pinene	208	203	98	71-123	
103-65-1	n-Propylbenzene	202	178	88	71-120	
622-96-8	4-Ethyltoluene	212	192	91	71-121	
108-67-8	1,3,5-Trimethylbenzene	212	186	88	72-121	
95-63-6	1,2,4-Trimethylbenzene	210	188	90	71-122	
100-44-7	Benzyl Chloride	218	229	105	79-143	
541-73-1	1,3-Dichlorobenzene	218	194	89	67-121	
106-46-7	1,4-Dichlorobenzene	212	178	84	68-121	
95-50-1	1,2-Dichlorobenzene	214	191	89	68-121	
5989-27-5	d-Limonene	210	202	96	69-137	
96-12-8	1,2-Dibromo-3-chloropropane	206	215	104	73-145	
120-82-1	1,2,4-Trichlorobenzene	210	211	100	60-135	
91-20-3	Naphthalene	196	207	106	63-142	
87-68-3	Hexachlorobutadiene	214	203	95	65-127	

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 DUPLICATE SUMMARY RESULTS

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67

Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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)	2.31	0.467	2.22	0.448	2.265	4	25	
Chloromethane	0.504	0.244	0.359	0.174	0.4315	34	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	1.65	0.876	1.48	0.785	1.565	11	25	J
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	3.85	1.62	3.69	1.55	3.77	4	25	J
Trichlorofluoromethane	1.35	0.240	1.30	0.231	1.325	4	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	0.414	0.119	0.421	0.121	0.4175	2	25	J
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	0.549	0.0717	0.506	0.0661	0.5275	8	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)	0.428	0.145	0.396	0.134	0.412	8	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: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67

Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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	2.32	0.644	2.20	0.612	2.26	5	25	
n-Hexane	0.464	0.132	0.444	0.126	0.454	4	25	J
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	0.522	0.163	0.493	0.154	0.5075	6	25	J
Carbon Tetrachloride	0.490	0.0779	0.446	0.0709	0.468	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	0.446	0.118	0.431	0.114	0.4385	3	25	J
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: 127D2-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-010DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00224

Date Collected: 1/27/15

Date Received: 1/30/15

Date Analyzed: 2/7/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.67

Final Pressure (psig): 3.29

Canister Dilution Factor: 1.38

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.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

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)	2.30	0.466	2.38	0.482	2.34	3	25	
Chloromethane	0.503	0.244	0.399	0.193	0.451	23	25	J
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	3.51	1.86	3.47	1.84	3.49	1	25	J
Acetonitrile	ND	ND	ND	ND	-	-	25	
Acrolein	ND	ND	ND	ND	-	-	25	
Acetone	4.07	1.71	4.05	1.71	4.06	0.5	25	J
Trichlorofluoromethane	1.35	0.240	1.32	0.235	1.335	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	0.377	0.109	0.389	0.112	0.383	3	25	J
3-Chloro-1-propene (Allyl Chloride)	ND	ND	ND	ND	-	-	25	
Trichlorotrifluoroethane	0.526	0.0686	0.540	0.0705	0.533	3	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)	0.418	0.142	0.442	0.150	0.43	6	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.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Page 2 of 3

Client: Stantec Consulting Services, Inc.

Client Sample ID: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

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	1.23	0.341	1.13	0.313	1.18	8	25	J
n-Hexane	0.940	0.267	0.895	0.254	0.9175	5	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	0.796	0.249	0.782	0.245	0.789	2	25	
Carbon Tetrachloride	0.527	0.0838	0.478	0.0759	0.5025	10	25	J
Cyclohexane	0.401	0.117	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	0.484	0.118	0.481	0.117	0.4825	0.6	25	J
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	1.30	0.346	1.27	0.337	1.285	2	25	
2-Hexanone	ND	ND	0.232	0.0568	-	-	25	J
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: 128NQ-SUMMA

Client Project ID: Bridgeton / 182608020

ALS Project ID: P1500365

ALS Sample ID: P1500365-018DUP

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16

Analyst: Lusine Hakobyan

Sample Type: 6.0 L Silonite Canister

Test Notes:

Container ID: AS00798

Date Collected: 1/28/15

Date Received: 1/30/15

Date Analyzed: 2/9/15

Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.32

Final Pressure (psig): 3.52

Canister Dilution Factor: 1.27

Compound	Sample Result		Duplicate Sample Result		Average µg/m³	% RPD	RPD Limit	Data Qualifier
	µg/m³	ppbV	µg/m³	ppbV				
n-Octane	0.432	0.0925	0.451	0.0965	0.4415	4	25	J
Tetrachloroethene	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Ethylbenzene	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	1.09	0.250	1.07	0.246	1.08	2	25	J
Bromoform	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
o-Xylene	0.267	0.0614	0.265	0.0611	0.266	0.8	25	J
n-Nonane	0.621	0.118	0.627	0.120	0.624	1	25	J
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	0.300	0.0610	0.298	0.0607	0.299	0.7	25	J
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.

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

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
 Method File : R16112414.M
 Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
 Last Update : Tue Nov 25 09:22:10 2014
 Response Via : Initial Calibration

Calibration Files

0.08=11241413.D 0.10=11241414.D 0.20=11241431.D 0.40=11241432.D 1.0 =11241417.D 5.0 =11241418.D
 25 =11241419.D 50 =11241420.D 100 =11241421.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	1.083	1.060	1.616	1.184	1.137	1.048	1.037	1.027	0.884	1.120	18.20
3) T Dichlorodifluo...	2.222	2.343	2.812	2.654	2.634	2.365	2.530	2.408	2.174	2.460	8.63
4) T Chloromethane	1.579	1.546	1.999	1.714	1.834	1.576	1.719	1.621	1.359	1.661	11.07
5) T 1,2-Dichloro-1...	1.287	1.399	1.826	1.523	1.586	1.481	1.479	1.518	1.383	1.498	10.15
6) T Vinyl Chloride	1.428	1.443	1.939	1.751	1.815	1.689	1.783	1.785	1.586	1.691	10.23
7) T 1,3-Butadiene	0.743	0.747	1.198	1.028	1.116	1.055	1.140	1.173	1.070	1.030	16.58
8) T Bromomethane	1.067	1.088	1.424	1.315	1.415	1.206	1.379	1.282	1.169	1.260	10.74
9) T Chloroethane	0.787	0.822	1.015	0.933	1.034	0.886	1.012	0.956	0.832	0.920	10.05
10) T Ethanol				0.866	0.855	0.765	0.777	0.744	0.650	0.776	10.22
11) T Acetonitrile				2.053	2.065	1.861	1.962	1.915	1.766	1.937	5.93
12) T Acrolein	0.836	0.597	0.806	0.575	0.655	0.659	0.702	0.690	0.623	0.682	12.98
13) T Acetone				0.946	0.940	0.846	0.828	0.795	0.674	0.838	12.07
14) T Trichlorofluor...	1.642	1.696	2.121	1.870	1.962	1.697	1.770	1.788	1.616	1.796	9.14
15) T 2-Propanol (Is...	2.969	2.783	2.954	2.586	2.675	2.557	2.657	2.534	2.113	2.648	9.70
16) T Acrylonitrile	1.337	0.982	1.922	1.476	1.565	1.482	1.605	1.551	1.427	1.483	16.76
17) T 1,1-Dichloroet...	1.044	1.115	1.348	1.250	1.363	1.265	1.334	1.293	1.182	1.244	8.82
18) T 2-Methyl-2-Pro...	3.249	3.098	2.895	2.638	2.724	2.562	2.788	2.551	1.947	2.717	13.74
19) T Methylene Chlo...				1.448	1.429	1.257	1.284	1.262	1.123	1.300	9.32
20) T 3-Chloro-1-pro...	0.895	0.951	1.309	1.146	1.273	1.235	1.393	1.382	1.244	1.203	14.65
21) T Trichlorotrifi...	1.097	1.053	1.509	1.139	1.268	1.063	1.145	1.035	1.016	1.147	13.58
22) T Carbon Disulfide				5.352	4.558	4.814	4.416	4.691	4.590	4.120	8.19
23) T trans-1,2-Dich...	1.226	1.339	1.634	1.485	1.607	1.534	1.594	1.592	1.459	1.497	9.16
24) T 1,1-Dichloroet...	1.726	1.764	2.205	1.941	2.081	1.883	1.942	1.948	1.822	1.923	7.83
25) T Methyl tert-Bu...	2.883	2.732	3.541	3.122	3.451	3.106	3.277	3.231	2.897	3.138	8.56
26) T Vinyl Acetate	0.250	0.234	0.306	0.287	0.315	0.297	0.305	0.294	0.269	0.284	9.65
27) T 2-Butanone (MEK)				1.042	0.753	0.778	0.758	0.793	0.725	0.805	13.30
28) T cis-1,2-Dichlo...	1.189	1.314	1.614	1.446	1.547	1.387	1.493	1.456	1.359	1.423	8.96
29) T Diisopropyl Ether	1.045	1.032	1.250	1.137	1.270	1.109	1.142	1.089	0.969	1.116	8.81
30) T Ethyl Acetate	0.492	0.307	0.525	0.414	0.418	0.396	0.407	0.385	0.333	0.408	16.74
31) T n-Hexane	1.800	1.743	1.971	1.696	1.665	1.507	1.382	1.363	1.274	1.600	14.49
32) T Chloroform	1.798	1.778	2.107	2.012	2.077	1.886	1.950	1.899	1.759	1.919	6.69
33) S 1,2-Dichloroet...	1.111	1.071	1.066	1.108	1.075	1.060	1.066	1.088	1.084	1.081	1.70
34) T Tetrahydrofura...	0.837	0.836	1.092	0.767	0.833	0.752	0.786	0.771	0.716	0.821	13.39
35) T Ethyl tert-But...	1.132	1.162	1.556	1.347	1.497	1.375	1.430	1.377	1.266	1.349	10.54
36) T 1,2-Dichloroet...	1.079	0.992	1.310	1.201	1.288	1.135	1.185	1.179	1.115	1.165	8.52
37) IR 1,4-Difluorobenzen...											
38) T 1,1,1-Trichlor...	0.320	0.322	0.410	0.359	0.406	0.369	0.382	0.361	0.341	0.363	9.00

44 11/25/14

Method Path : I:\MS16\METHODS\
Method File : R16112414.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

		0.145	0.139	0.171	0.150	0.158	0.145	0.151	0.138	0.122	0.147	9.36
39) T	Isopropyl Acetate	0.145	0.139	0.171	0.150	0.158	0.145	0.151	0.138	0.122	0.147	9.36
40) T	1-Butanol		0.275	0.329	0.209	0.234	0.247	0.240	0.223	0.192	0.244	17.39
41) T	Benzene	1.038	1.034	1.223	1.076	1.112	0.987	0.971	0.892	0.794	1.014	12.26
42) T	Carbon Tetrach...	0.246	0.261	0.351	0.305	0.337	0.308	0.321	0.306	0.288	0.303	11.09
43) T	Cyclohexane	0.360	0.373	0.448	0.391	0.427	0.418	0.399	0.375	0.331	0.391	9.25
44) T	tert-Amyl Meth...	0.624	0.631	0.786	0.745	0.738	0.702	0.735	0.695	0.633	0.699	8.35
45) T	1,2-Dichloropr...	0.209	0.227	0.276	0.246	0.263	0.241	0.251	0.238	0.221	0.241	8.62
46) T	Bromodichlorom...	0.291	0.275	0.349	0.330	0.350	0.323	0.354	0.337	0.307	0.324	8.52
47) T	Trichloroethene	0.268	0.277	0.355	0.324	0.359	0.318	0.323	0.310	0.295	0.314	9.94
48) T	1,4-Dioxane	0.276	0.256	0.268	0.232	0.243	0.236	0.239	0.225	0.198	0.241	9.69
49) T	2,2,4-Trimethy...	0.952	0.931	1.137	1.035	1.162	1.034	1.004	0.931	0.825	1.001	10.58
50) T	Methyl Methacr...	0.093	0.087	0.127	0.108	0.119	0.115	0.120	0.114	0.102	0.109	12.20
51) T	n-Heptane	0.205	0.228	0.254	0.239	0.264	0.229	0.224	0.206	0.198	0.227	9.75
52) T	cis-1,3-Dichlo...	0.286	0.296	0.403	0.390	0.400	0.383	0.420	0.405	0.367	0.372	13.04
53) T	4-Methyl-2-pen...	0.215	0.220	0.237	0.206	0.228	0.221	0.241	0.216	0.193	0.220	6.75
54) T	trans-1,3-Dich...	0.224	0.224	0.340	0.306	0.339	0.345	0.375	0.361	0.324	0.315	17.57
55) T	1,1,2-Trichlor...	0.227	0.236	0.313	0.287	0.297	0.276	0.290	0.271	0.242	0.271	11.00
		2.490	2.417	2.520	2.506	2.455	2.404	2.422	2.442	2.427	2.454	1.70
56) IR	Chlorobenzene-d5	2.490	2.417	2.520	2.506	2.455	2.404	2.422	2.442	2.427	2.454	1.70
57) S	Toluene-d8 (SS2)	3.186	3.065	4.568	3.269	3.335	2.883	2.996	2.842	2.577	3.191	17.76
58) T	Toluene				1.244	1.417	1.399	1.351	1.300	1.168	1.313	7.26
59) T	2-Hexanone	0.771	0.755	0.953	0.848	0.946	0.905	0.983	0.932	0.861	0.884	9.13
60) T	Dibromochlorom...	0.690	0.720	0.978	0.855	0.938	0.891	0.931	0.897	0.824	0.858	11.45
61) T	1,2-Dibromoethane		1.412	2.038	1.307	1.475	1.479	1.467	1.407	1.264	1.481	16.11
62) T	n-Butyl Acetate	0.463	0.485	0.606	0.557	0.587	0.531	0.545	0.514	0.472	0.529	9.49
63) T	n-Octane	1.107	1.043	1.273	1.163	1.229	1.090	1.127	1.088	1.002	1.125	7.66
64) T	Tetrachloroethene	2.116	2.128	2.553	2.166	2.306	2.094	2.175	2.055	1.872	2.163	8.60
65) T	Chlorobenzene	3.047	2.893	3.841	3.306	3.523	3.339	3.452	3.244	2.890	3.282	9.42
66) T	Ethylbenzene	2.378	2.271	3.172	2.670	2.798	2.673	2.676	2.519	2.215	2.597	11.34
67) T	m- & p-Xylenes	0.712	0.655	0.823	0.776	0.894	0.851	0.927	0.911	0.834	0.820	11.19
68) T	Bromoform	1.925	1.972	2.446	2.012	2.423	2.276	2.288	2.178	1.933	2.162	9.60
69) T	Styrene	2.474	2.410	3.132	2.728	3.010	2.784	2.721	2.568	2.261	2.676	10.50
70) T	o-Xylene	1.065	1.069	1.302	1.178	1.335	1.196	1.170	1.077	0.909	1.145	11.45
71) T	n-Nonane	1.333	1.218	1.557	1.397	1.623	1.468	1.488	1.369	1.201	1.406	10.19
72) T	1,1,2,2-Tetrac...	1.181	1.177	1.178	1.171	1.259	1.233	1.182	1.200	1.194	1.197	2.49
73) S	Bromofluoroben...	3.707	3.470	4.157	3.613	4.133	3.722	3.734	3.541	3.027	3.678	9.28
74) T	Cumene	1.484	1.382	1.856	1.647	1.839	1.796	1.801	1.713	1.502	1.669	10.47
75) T	alpha-Pinene	4.391	4.114	5.083	4.333	4.850	4.438	4.423	4.121	3.561	4.368	10.01
76) T	n-Propylbenzene	3.911	3.548	4.089	3.491	3.960	3.624	3.545	3.476	2.869	3.613	9.94
77) T	3-Ethyltoluene	3.294	3.066	4.176	3.569	3.989	3.497	3.598	3.084	2.815	3.454	12.80
78) T	4-Ethyltoluene	3.061	2.817	3.383	2.964	3.367	2.932	2.978	2.733	2.373	2.957	10.51
79) T	1,3,5-Trimethy...	1.457	1.439	1.805	1.519	1.842	1.718	1.746	1.605	1.387	1.613	10.58
80) T	alpha-Methylst...	3.439	3.343	3.897	3.468	4.023	3.487	3.500	3.192	2.732	3.453	10.86
81) T	2-Ethyltoluene	3.015	2.807	3.423	2.931	3.343	2.938	2.941	2.636	2.195	2.914	12.50
82) T	1,2,4-Trimethy...	1.432	1.252	1.772	1.414	1.630	1.416	1.390	1.245	1.032	1.398	15.46
83) T	n-Decane	1.895	1.675	2.686	2.097	2.456	2.481	2.554	2.388	2.051	2.254	15.02
84) T	Benzyl Chloride	2.066	1.915	2.656	1.995	2.269	1.985	2.006	1.833	1.563	2.032	14.81
85) T	1,3-Dichlorobe...	2.465	2.187	2.946	2.134	2.375	2.136	2.127	1.970	1.705	2.227	15.58
86) T	1,4-Dichlorobe...											

in 11/25/14

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\

Method File : R16112414.M

Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)													
87) T	sec-Butylbenzene	4.036	3.955	4.472	4.012	4.589	4.023	3.987	3.584	3.011	3.963	11.68	
88) T	4-Isopropyltol...	4.341	4.063	4.396	3.791	4.375	3.860	3.642	3.219	2.608	3.811	15.62	
89) T	1,2,3-Trimethy...	3.444	3.296	3.700	3.069	3.534	3.142	3.052	2.739	2.273	3.139	13.84	
90) T	1,2-Dichlorobe...	2.054	1.958	2.502	1.932	2.226	1.985	1.921	1.751	1.444	1.975	14.81	
91) T	d-Limonene	0.824	0.837	1.055	0.974	1.138	1.073	1.026	0.909	0.728	0.951	14.25	
92) T	1,2-Dibromo-3-...	0.611	0.535	0.822	0.625	0.763	0.742	0.781	0.748	0.671	0.700	13.51	
93) T	n-Undecane	1.767	1.495	1.648	1.388	1.658	1.534	1.486	1.350	1.103	1.492	13.24	
94) T	1,2,4-Trichlor...				1.487	1.612	1.567	1.598	1.532	1.379	1.529	5.65	
95) T	Naphthalene				4.504	4.905	4.672	4.511	4.131	3.380	4.351	12.38	
96) T	n-Dodecane		1.675	1.633	1.240	1.453	1.388	1.300	1.160	0.902	1.344	18.85	
97) T	Hexachlorobuta...	1.017	0.994	1.084	0.911	1.068	0.957	0.976	0.940	0.850	0.978	7.59	
98) T	Cyclohexanone				0.879	0.948	0.905	0.890	0.851	0.770	0.874	6.88	
99) T	tert-Butylbenzene	3.016	2.915	3.360	2.956	3.433	2.956	2.927	2.596	2.158	2.924	12.99	
100) T	n-Butylbenzene	3.565	3.320	3.594	2.990	3.431	3.150	3.016	2.800	2.320	3.132	13.02	

(#) = Out of Range

11/25/14

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\06\02061502.D

Acq On : 6 Feb 2015 4:06

Operator: LH

Sample : CCV R16020615 25ng

Misc : S29-01071501/S29-01081503 (2/6)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 06 08:53:11 2015

LH 2/9/15

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 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	118	0.01
2 T	Propene	1.120	0.911	18.7	104	-0.04
3 T	Dichlorodifluoromethane (CF	2.460	2.082	15.4	97	-0.04
4 T	Chloromethane	1.661	1.338	19.4	92	-0.04
5 T	1,2-Dichloro-1,1,2,2-tetra	1.498	1.321	11.8	105	-0.03
6 T	Vinyl Chloride	1.691	1.595	5.7	106	-0.04
7 T	1,3-Butadiene	1.030	1.029	0.1	107	-0.03
8 T	Bromomethane	1.260	1.135	9.9	97	-0.03
9 T	Chloroethane	0.920	0.789	14.2	92	-0.03
10 T	Ethanol	0.776	0.615	20.7	94	0.03
11 T	Acetonitrile	1.937	1.593	17.8	96	0.00
12 T	Acrolein	0.682	0.514	24.6	86	-0.02
13 T	Acetone	0.838	0.682	18.6	97	-0.02
14 T	Trichlorofluoromethane	1.796	1.533	14.6	102	-0.02
15 T	2-Propanol (Isopropanol)	2.648	2.104	20.5	94	0.00
16 T	Acrylonitrile	1.483	1.311	11.6	96	0.00
17 T	1,1-Dichloroethene	1.244	1.067	14.2	94	-0.02
18 T	2-Methyl-2-Propanol (tert-B	2.717	1.934	28.8	82	-0.01
19 T	Methylene Chloride	1.300	1.071	17.6	99	0.00
20 T	3-Chloro-1-propene (Allyl C	1.203	1.137	5.5	96	0.00
21 T	Trichlorotrifluoroethane	1.147	0.970	15.4	100	0.00
22 T	Carbon Disulfide	4.649	3.804	18.2	96	-0.02
23 T	trans-1,2-Dichloroethene	1.497	1.364	8.9	101	0.00
24 T	1,1-Dichloroethane	1.923	1.712	11.0	104	0.01
25 T	Methyl tert-Butyl Ether	3.138	2.616	16.6	94	-0.02
26 T	Vinyl Acetate	0.284	0.234	17.6	91	0.00
27 T	2-Butanone (MEK)	0.805	0.665	17.4	99	-0.02
28 T	cis-1,2-Dichloroethene	1.423	1.277	10.3	101	0.00
29 T	Diisopropyl Ether	1.116	0.986	11.6	102	0.00
30 T	Ethyl Acetate	0.408	0.348	14.7	101	-0.01
31 T	n-Hexane	1.600	1.327	17.1	113	0.00
32 T	Chloroform	1.919	1.651	14.0	100	0.01
33 S	1,2-Dichloroethane-d4 (SS1)	1.081	1.091	-0.9	121	0.01
34 T	Tetrahydrofuran (THF)	0.821	0.665	19.0	100	-0.03
35 T	Ethyl tert-Butyl Ether	1.349	1.201	11.0	99	0.00
36 T	1,2-Dichloroethane	1.165	1.033	11.3	103	0.00
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	121	0.00
38 T	1,1,1-Trichloroethane	0.363	0.317	12.7	101	0.00
39 T	Isopropyl Acetate	0.147	0.120	18.4	97	-0.01
40 T	1-Butanol	0.244	0.169	30.7#	86	-0.02
41 T	Benzene	1.014	0.821	19.0	103	0.00
42 T	Carbon Tetrachloride	0.303	0.267	11.9	101	0.00
43 T	Cyclohexane	0.391	0.334	14.6	102	0.00
44 T	tert-Amyl Methyl Ether	0.699	0.590	15.6	97	0.00
45 T	1,2-Dichloropropane	0.241	0.207	14.1	100	0.00
46 T	Bromodichloromethane	0.324	0.278	14.2	95	0.00
47 T	Trichloroethene	0.314	0.275	12.4	103	0.00
48 T	1,4-Dioxane	0.241	0.190	21.2	97	-0.02
49 T	2,2,4-Trimethylpentane (Iso	1.001	0.840	16.1	102	0.00
50 T	Methyl Methacrylate	0.109	0.096	11.9	97	0.00
51 T	n-Heptane	0.227	0.195	14.1	106	0.00
52 T	cis-1,3-Dichloropropene	0.372	0.333	10.5	96	0.00
53 T	4-Methyl-2-pentanone	0.220	0.184	16.4	92	-0.01
54 T	trans-1,3-Dichloropropene	0.315	0.302	4.1	98	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\06\02061502.D

Acq On : 6 Feb 2015 4:06

Operator: LH

Sample : CCV R16020615 25ng

Misc : S29-01071501/S29-01081503 (2/6)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 06 08:53:11 2015

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 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)
55 T	1,1,2-Trichloroethane	0.271	0.232	14.4	97	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	116	0.00
57 S	Toluene-d8 (SS2)	2.454	2.420	1.4	116	0.00
58 T	Toluene	3.191	2.481	22.3	96	0.00
59 T	2-Hexanone	1.313	1.065	18.9	92	-0.01
60 T	Dibromochloromethane	0.884	0.812	8.1	96	0.00
61 T	1,2-Dibromoethane	0.858	0.781	9.0	98	0.00
62 T	n-Butyl Acetate	1.481	1.119	24.4	89	0.00
63 T	n-Octane	0.529	0.459	13.2	98	0.00
64 T	Tetrachloroethene	1.125	0.949	15.6	98	0.00
65 T	Chlorobenzene	2.163	1.802	16.7	96	0.00
66 T	Ethylbenzene	3.282	2.857	12.9	96	0.00
67 T	m- & p-Xylenes	2.597	2.231	14.1	97	0.00
68 T	Bromoform	0.820	0.782	4.6	98	0.00
69 T	Styrene	2.162	1.905	11.9	97	0.00
70 T	o-Xylene	2.676	2.299	14.1	98	0.00
71 T	n-Nonane	1.145	0.982	14.2	98	0.00
72 T	1,1,2,2-Tetrachloroethane	1.406	1.217	13.4	95	0.00
73 S	Bromofluorobenzene (SS3)	1.197	1.252	-4.6	123	0.00
74 T	Cumene	3.678	3.144	14.5	98	0.00
75 T	alpha-Pinene	1.669	1.494	10.5	96	0.00
76 T	n-Propylbenzene	4.368	3.734	14.5	98	0.00
77 T	3-Ethyltoluene	3.613	2.991	17.2	98	0.00
78 T	4-Ethyltoluene	3.454	2.988	13.5	97	0.00
79 T	1,3,5-Trimethylbenzene	2.957	2.467	16.6	96	0.00
80 T	alpha-Methylstyrene	1.613	1.403	13.0	93	0.00
81 T	2-Ethyltoluene	3.453	2.903	15.9	96	0.00
82 T	1,2,4-Trimethylbenzene	2.914	2.435	16.4	96	0.00
83 T	n-Decane	1.398	1.146	18.0	96	0.00
84 T	Benzyl Chloride	2.254	1.932	14.3	88	0.00
85 T	1,3-Dichlorobenzene	2.032	1.670	17.8	97	0.00
86 T	1,4-Dichlorobenzene	2.227	1.772	20.4	97	0.00
87 T	sec-Butylbenzene	3.963	3.288	17.0	96	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.811	3.103	18.6	99	0.00
89 T	1,2,3-Trimethylbenzene	3.139	2.580	17.8	98	0.00
90 T	1,2-Dichlorobenzene	1.975	1.656	16.2	100	0.00
91 T	d-Limonene	0.951	0.846	11.0	96	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.700	0.639	8.7	95	0.00
93 T	n-Undecane	1.492	1.217	18.4	95	0.00
94 T	1,2,4-Trichlorobenzene	1.529	1.274	16.7	93	0.00
95 T	Naphthalene	4.351	3.473	20.2	90	0.00
96 T	n-Dodecane	1.344	0.940	30.1#	84	0.00
97 T	Hexachlorobutadiene	0.978	0.798	18.4	95	0.00
98 T	Cyclohexanone	0.874	0.651	25.5	85	-0.01
99 T	tert-Butylbenzene	2.924	2.433	16.8	97	0.00
100 T	n-Butylbenzene	3.132	2.560	18.3	99	0.00

(#)= Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\06\02061527.D

Acq On : 6 Feb 2015 21:54

Operator: LH

Sample : CCV2 R16020615 25ng

Misc : S29-01071501/S29-01081503 (2/6)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 09 08:58:08 2015

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 2014

Response via : Initial Calibration

DataAcq Meth:TO15.M

LH 2/9/15

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	114	0.01
2 T	Propene	1.120	0.910	18.8	100	-0.04
3 T	Dichlorodifluoromethane (CF	2.460	2.088	15.1	94	-0.04
4 T	Chloromethane	1.661	1.382	16.8	92	-0.04
5 T	1,2-Dichloro-1,1,2,2-tetra	1.498	1.346	10.1	104	-0.03
6 T	Vinyl Chloride	1.691	1.554	8.1	99	-0.04
7 T	1,3-Butadiene	1.030	1.046	-1.6	105	-0.03
8 T	Bromomethane	1.260	1.207	4.2	100	-0.03
9 T	Chloroethane	0.920	0.819	11.0	92	-0.03
10 T	Ethanol	0.776	0.623	19.7	91	0.04
11 T	Acetonitrile	1.937	1.602	17.3	93	0.00
12 T	Acrolein	0.682	0.517	24.2	84	-0.02
13 T	Acetone	0.838	0.687	18.0	95	-0.01
14 T	Trichlorofluoromethane	1.796	1.478	17.7	95	-0.02
15 T	2-Propanol (Isopropanol)	2.648	2.131	19.5	91	0.01
16 T	Acrylonitrile	1.483	1.302	12.2	93	0.00
17 T	1,1-Dichloroethene	1.244	1.051	15.5	90	-0.02
18 T	2-Methyl-2-Propanol (tert-B	2.717	1.933	28.9	79	0.00
19 T	Methylene Chloride	1.300	1.080	16.9	96	0.00
20 T	3-Chloro-1-propene (Allyl C	1.203	1.161	3.5	95	0.00
21 T	Trichlorotrifluoroethane	1.147	0.921	19.7	92	0.00
22 T	Carbon Disulfide	4.649	3.752	19.3	91	-0.02
23 T	trans-1,2-Dichloroethene	1.497	1.366	8.8	98	0.00
24 T	1,1-Dichloroethane	1.923	1.689	12.2	99	0.02
25 T	Methyl tert-Butyl Ether	3.138	2.666	15.0	93	-0.02
26 T	Vinyl Acetate	0.284	0.228	19.7	85	0.00
27 T	2-Butanone (MEK)	0.805	0.660	18.0	95	-0.02
28 T	cis-1,2-Dichloroethene	1.423	1.262	11.3	96	0.01
29 T	Diisopropyl Ether	1.116	0.983	11.9	98	0.00
30 T	Ethyl Acetate	0.408	0.345	15.4	97	-0.01
31 T	n-Hexane	1.600	1.315	17.8	108	0.00
32 T	Chloroform	1.919	1.629	15.1	95	0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.081	1.081	0.0	116	0.02
34 T	Tetrahydrofuran (THF)	0.821	0.658	19.9	96	-0.03
35 T	Ethyl tert-Butyl Ether	1.349	1.200	11.0	96	0.00
36 T	1,2-Dichloroethane	1.165	1.011	13.2	97	0.00
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	115	0.01
38 T	1,1,1-Trichloroethane	0.363	0.321	11.6	97	0.00
39 T	Isopropyl Acetate	0.147	0.123	16.3	94	-0.01
40 T	1-Butanol	0.244	0.175	28.3	84	-0.01
41 T	Benzene	1.014	0.821	19.0	98	0.00
42 T	Carbon Tetrachloride	0.303	0.269	11.2	97	0.00
43 T	Cyclohexane	0.391	0.339	13.3	98	0.00
44 T	tert-Amyl Methyl Ether	0.699	0.596	14.7	94	0.00
45 T	1,2-Dichloropropane	0.241	0.208	13.7	96	0.00
46 T	Bromodichloromethane	0.324	0.290	10.5	95	0.00
47 T	Trichloroethene	0.314	0.275	12.4	98	0.00
48 T	1,4-Dioxane	0.241	0.194	19.5	94	-0.02
49 T	2,2,4-Trimethylpentane (Iso	1.001	0.842	15.9	97	0.00
50 T	Methyl Methacrylate	0.109	0.099	9.2	95	0.00
51 T	n-Heptane	0.227	0.194	14.5	100	0.00
52 T	cis-1,3-Dichloropropene	0.372	0.342	8.1	94	0.00
53 T	4-Methyl-2-pentanone	0.220	0.190	13.6	91	-0.01
54 T	trans-1,3-Dichloropropene	0.315	0.307	2.5	95	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\06\02061527.D

Acq On : 6 Feb 2015 21:54

Operator: LH

Sample : CCV2 R16020615 25ng

Misc : S29-01071501/S29-01081503 (2/6)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 09 08:58:08 2015

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 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)
55 T	1,1,2-Trichloroethane	0.271	0.239	11.8	95	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	117	0.00
57 S	Toluene-d8 (SS2)	2.454	2.370	3.4	114	0.00
58 T	Toluene	3.191	2.435	23.7	95	0.00
59 T	2-Hexanone	1.313	1.061	19.2	92	-0.01
60 T	Dibromochloromethane	0.884	0.797	9.8	95	0.00
61 T	1,2-Dibromoethane	0.858	0.761	11.3	95	0.00
62 T	n-Butyl Acetate	1.481	1.108	25.2	88	0.00
63 T	n-Octane	0.529	0.444	16.1	95	0.00
64 T	Tetrachloroethene	1.125	0.928	17.5	96	0.00
65 T	Chlorobenzene	2.163	1.768	18.3	95	0.00
66 T	Ethylbenzene	3.282	2.805	14.5	95	0.00
67 T	m- & p-Xylenes	2.597	2.192	15.6	96	0.00
68 T	Bromoform	0.820	0.759	7.4	95	0.00
69 T	Styrene	2.162	1.855	14.2	95	0.00
70 T	o-Xylene	2.676	2.244	16.1	96	0.00
71 T	n-Nonane	1.145	0.966	15.6	96	0.00
72 T	1,1,2,2-Tetrachloroethane	1.406	1.178	16.2	92	0.00
73 S	Bromofluorobenzene (SS3)	1.197	1.239	-3.5	122	0.00
74 T	Cumene	3.678	3.048	17.1	95	0.00
75 T	alpha-Pinene	1.669	1.459	12.6	94	0.00
76 T	n-Propylbenzene	4.368	3.609	17.4	95	0.00
77 T	3-Ethyltoluene	3.613	2.902	19.7	95	0.00
78 T	4-Ethyltoluene	3.454	2.877	16.7	93	0.00
79 T	1,3,5-Trimethylbenzene	2.957	2.391	19.1	94	0.00
80 T	alpha-Methylstyrene	1.613	1.356	15.9	91	0.00
81 T	2-Ethyltoluene	3.453	2.813	18.5	94	0.00
82 T	1,2,4-Trimethylbenzene	2.914	2.340	19.7	93	0.00
83 T	n-Decane	1.398	1.101	21.2	92	0.00
84 T	Benzyl Chloride	2.254	1.840	18.4	84	0.00
85 T	1,3-Dichlorobenzene	2.032	1.614	20.6	94	0.00
86 T	1,4-Dichlorobenzene	2.227	1.705	23.4	93	0.00
87 T	sec-Butylbenzene	3.963	3.167	20.1	93	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.811	2.939	22.9	94	0.00
89 T	1,2,3-Trimethylbenzene	3.139	2.446	22.1	93	0.00
90 T	1,2-Dichlorobenzene	1.975	1.554	21.3	94	0.00
91 T	d-Limonene	0.951	0.799	16.0	91	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.700	0.617	11.9	92	0.00
93 T	n-Undecane	1.492	1.176	21.2	92	0.00
94 T	1,2,4-Trichlorobenzene	1.529	1.252	18.1	91	0.00
95 T	Naphthalene	4.351	3.425	21.3	89	0.00
96 T	n-Dodecane	1.344	0.926	31.1#	83	0.00
97 T	Hexachlorobutadiene	0.978	0.780	20.2	93	0.00
98 T	Cyclohexanone	0.874	0.626	28.4	82	-0.01
99 T	tert-Butylbenzene	2.924	2.345	19.8	93	0.00
100 T	n-Butylbenzene	3.132	2.451	21.7	95	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\09\02091502.D

Acq On : 9 Feb 2015 9:47

Operator: LH

Sample : CCV R16020915 25ng

Misc : S29-01071501/S29-01201503 (2/18)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 09 10:12:51 2015

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 2014

Response via : Initial Calibration

LH 2/10/15

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	106	0.02
2 T	Propene	1.120	0.985	12.1	100	-0.04
3 T	Dichlorodifluoromethane (CF	2.460	2.239	9.0	94	-0.03
4 T	Chloromethane	1.661	1.476	11.1	91	-0.03
5 T	1,2-Dichloro-1,1,2,2-tetra	1.498	1.440	3.9	103	-0.02
6 T	Vinyl Chloride	1.691	1.577	6.7	93	-0.03
7 T	1,3-Butadiene	1.030	1.086	-5.4	101	-0.03
8 T	Bromomethane	1.260	1.261	-0.1	97	-0.02
9 T	Chloroethane	0.920	0.839	8.8	88	-0.03
10 T	Ethanol	0.776	0.670	13.7	91	0.04
11 T	Acetonitrile	1.937	1.700	12.2	92	0.00
12 T	Acrolein	0.682	0.597	12.5	90	-0.01
13 T	Acetone	0.838	0.730	12.9	93	0.00
14 T	Trichlorofluoromethane	1.796	1.569	12.6	94	-0.01
15 T	2-Propanol (Isopropanol)	2.648	2.278	14.0	91	0.01
16 T	Acrylonitrile	1.483	1.378	7.1	91	0.00
17 T	1,1-Dichloroethene	1.244	1.149	7.6	91	-0.01
18 T	2-Methyl-2-Propanol (tert-B	2.717	2.245	17.4	85	0.00
19 T	Methylene Chloride	1.300	1.141	12.2	94	0.01
20 T	3-Chloro-1-propene (Allyl C	1.203	1.230	-2.2	93	0.00
21 T	Trichlorotrifluoroethane	1.147	1.017	11.3	94	0.00
22 T	Carbon Disulfide	4.649	4.068	12.5	92	-0.02
23 T	trans-1,2-Dichloroethene	1.497	1.454	2.9	96	0.00
24 T	1,1-Dichloroethane	1.923	1.764	8.3	96	0.02
25 T	Methyl tert-Butyl Ether	3.138	2.858	8.9	92	-0.02
26 T	Vinyl Acetate	0.284	0.271	4.6	94	0.00
27 T	2-Butanone (MEK)	0.805	0.684	15.0	91	-0.02
28 T	cis-1,2-Dichloroethene	1.423	1.326	6.8	94	0.01
29 T	Diisopropyl Ether	1.116	1.014	9.1	94	0.00
30 T	Ethyl Acetate	0.408	0.359	12.0	93	-0.01
31 T	n-Hexane	1.600	1.377	13.9	105	0.00
32 T	Chloroform	1.919	1.709	10.9	93	0.02
33 S	1,2-Dichloroethane-d4 (SS1)	1.081	1.079	0.2	107	0.02
34 T	Tetrahydrofuran (THF)	0.821	0.692	15.7	93	-0.02
35 T	Ethyl tert-Butyl Ether	1.349	1.241	8.0	92	0.00
36 T	1,2-Dichloroethane	1.165	1.055	9.4	94	0.00
37 IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	0.01
38 T	1,1,1-Trichloroethane	0.363	0.332	8.5	94	0.00
39 T	Isopropyl Acetate	0.147	0.127	13.6	91	0.00
40 T	1-Butanol	0.244	0.204	16.4	92	-0.01
41 T	Benzene	1.014	0.851	16.1	95	0.00
42 T	Carbon Tetrachloride	0.303	0.280	7.6	94	0.00
43 T	Cyclohexane	0.391	0.359	8.2	97	0.00
44 T	tert-Amyl Methyl Ether	0.699	0.610	12.7	90	0.00
45 T	1,2-Dichloropropane	0.241	0.215	10.8	92	0.00
46 T	Bromodichloromethane	0.324	0.299	7.7	91	0.00
47 T	Trichloroethene	0.314	0.284	9.6	95	0.00
48 T	1,4-Dioxane	0.241	0.205	14.9	93	-0.02
49 T	2,2,4-Trimethylpentane (Iso	1.001	0.868	13.3	93	0.00
50 T	Methyl Methacrylate	0.109	0.103	5.5	92	0.00
51 T	n-Heptane	0.227	0.201	11.5	97	0.00
52 T	cis-1,3-Dichloropropene	0.372	0.358	3.8	92	0.00
53 T	4-Methyl-2-pentanone	0.220	0.205	6.8	92	-0.01
54 T	trans-1,3-Dichloropropene	0.315	0.328	-4.1	94	0.00

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2015 02\09\02091502.D

Acq On : 9 Feb 2015 9:47

Operator: LH

Sample : CCV R16020915 25ng

Misc : S29-01071501/S29-01201503 (2/18)

ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 09 10:12:51 2015

Quant Method : I:\MS16\METHODS\R16112414.M

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

QLast Update : Tue Nov 25 09:22:10 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)
55 T	1,1,2-Trichloroethane	0.271	0.253	6.6	94	0.00
56 IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	110	0.00
57 S	Toluene-d8 (SS2)	2.454	2.351	4.2	107	0.00
58 T	Toluene	3.191	2.485	22.1	91	0.00
59 T	2-Hexanone	1.313	1.168	11.0	95	-0.01
60 T	Dibromochloromethane	0.884	0.845	4.4	95	0.00
61 T	1,2-Dibromoethane	0.858	0.801	6.6	95	0.00
62 T	n-Butyl Acetate	1.481	1.236	16.5	93	0.00
63 T	n-Octane	0.529	0.453	14.4	92	0.00
64 T	Tetrachloroethene	1.125	0.956	15.0	94	0.00
65 T	Chlorobenzene	2.163	1.884	12.9	96	0.00
66 T	Ethylbenzene	3.282	2.960	9.8	95	0.00
67 T	m- & p-Xylenes	2.597	2.260	13.0	93	0.00
68 T	Bromoform	0.820	0.799	2.6	95	0.00
69 T	Styrene	2.162	1.953	9.7	94	0.00
70 T	o-Xylene	2.676	2.355	12.0	95	0.00
71 T	n-Nonane	1.145	1.017	11.2	96	0.00
72 T	1,1,2,2-Tetrachloroethane	1.406	1.218	13.4	90	0.00
73 S	Bromofluorobenzene (SS3)	1.197	1.241	-3.7	116	0.00
74 T	Cumene	3.678	3.171	13.8	94	0.00
75 T	alpha-Pinene	1.669	1.540	7.7	94	0.00
76 T	n-Propylbenzene	4.368	3.756	14.0	94	0.00
77 T	3-Ethyltoluene	3.613	2.990	17.2	93	0.00
78 T	4-Ethyltoluene	3.454	2.964	14.2	91	0.00
79 T	1,3,5-Trimethylbenzene	2.957	2.457	16.9	91	0.00
80 T	alpha-Methylstyrene	1.613	1.401	13.1	89	0.00
81 T	2-Ethyltoluene	3.453	2.889	16.3	91	0.00
82 T	1,2,4-Trimethylbenzene	2.914	2.427	16.7	91	0.00
83 T	n-Decane	1.398	1.154	17.5	92	0.00
84 T	Benzyl Chloride	2.254	2.109	6.4	91	0.00
85 T	1,3-Dichlorobenzene	2.032	1.686	17.0	93	0.00
86 T	1,4-Dichlorobenzene	2.227	1.793	19.5	93	0.00
87 T	sec-Butylbenzene	3.963	3.326	16.1	92	0.00
88 T	4-Isopropyltoluene (p-Cymen	3.811	3.081	19.2	93	0.00
89 T	1,2,3-Trimethylbenzene	3.139	2.565	18.3	93	0.00
90 T	1,2-Dichlorobenzene	1.975	1.635	17.2	94	0.00
91 T	d-Limonene	0.951	0.836	12.1	90	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.700	0.659	5.9	93	0.00
93 T	n-Undecane	1.492	1.242	16.8	92	0.00
94 T	1,2,4-Trichlorobenzene	1.529	1.388	9.2	96	0.00
95 T	Napthalene	4.351	3.933	9.6	96	0.00
96 T	n-Dodecane	1.344	1.099	18.2	93	0.00
97 T	Hexachlorobutadiene	0.978	0.834	14.7	94	0.00
98 T	Cyclohexanone	0.874	0.723	17.3	90	-0.01
99 T	tert-Butylbenzene	2.924	2.426	17.0	91	0.00
100 T	n-Butylbenzene	3.132	2.535	19.1	93	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0