

Olsson Associates - CO

Sample Delivery Group: L899262
Samples Received: 03/30/2017
Project Number: A14-2069
Description: A14-2069
Site: ROCK SPRINGS
Report To: Robert Stockton
760 Horizon Drive, Ste 102
Grand Junction, CO 81506

Entire Report Reviewed By:



Shane Gambill

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DS L899262-01 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 10:44	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 16:12	04/05/17 16:12	GLN

¹ Cp

² Tc

³ Ss

POND L899262-02 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 10:56	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 16:35	04/05/17 16:35	GLN

⁴ Cn

⁵ Sr

SS L899262-03 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 11:09	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 16:57	04/05/17 16:57	GLN

⁶ Qc

⁷ Gl

RS1 L899262-04 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 14:11	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	250	04/05/17 17:19	04/05/17 17:19	GLN

⁸ Al

⁹ Sc

RS2 L899262-05 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 11:59	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 17:42	04/05/17 17:42	GLN

RS3 L899262-06 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 12:21	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 18:04	04/05/17 18:04	GLN

RS4 L899262-07 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 11:44	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 20:40	04/05/17 20:40	GLN

RS5 L899262-08 GW

			Collected by Robert Stockton	Collected date/time 03/28/17 12:39	Received date/time 03/30/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/05/17 21:03	04/05/17 21:03	GLN



RS7 L899262-09 GW

Collected by
Robert StocktonCollected date/time
03/28/17 00:00Received date/time
03/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/06/17 00:34	04/06/17 00:34	GLN

¹Cp²Tc³Ss

RS9 L899262-10 GW

Collected by
Robert StocktonCollected date/time
03/28/17 00:00Received date/time
03/30/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG966461	1	04/06/17 00:56	04/06/17 00:56	GLN

⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/05/2017 16:12	WG966461
Toluene	ND		0.00100	1	04/05/2017 16:12	WG966461
Ethylbenzene	ND		0.000500	1	04/05/2017 16:12	WG966461
Total Xylene	ND		0.00150	1	04/05/2017 16:12	WG966461
TPH (GC/FID) Low Fraction	ND	J3	0.100	1	04/05/2017 16:12	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.8		77.0-122		04/05/2017 16:12	WG966461
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-121		04/05/2017 16:12	WG966461

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/05/2017 16:35	WG966461
Toluene	ND		0.00100	1	04/05/2017 16:35	WG966461
Ethylbenzene	ND		0.000500	1	04/05/2017 16:35	WG966461
Total Xylene	ND		0.00150	1	04/05/2017 16:35	WG966461
TPH (GC/FID) Low Fraction	ND		0.100	1	04/05/2017 16:35	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.9		77.0-122		04/05/2017 16:35	WG966461
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-121		04/05/2017 16:35	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0298		0.000500	1	04/05/2017 16:57	WG966461
Toluene	ND		0.00100	1	04/05/2017 16:57	WG966461
Ethylbenzene	0.00122		0.000500	1	04/05/2017 16:57	WG966461
Total Xylene	0.00827		0.00150	1	04/05/2017 16:57	WG966461
TPH (GC/FID) Low Fraction	0.297		0.100	1	04/05/2017 16:57	WG966461
(S) a,a,a-Trifluorotoluene(FID)	94.4		77.0-122		04/05/2017 16:57	WG966461
(S) a,a,a-Trifluorotoluene(PID)	101		80.0-121		04/05/2017 16:57	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.404		0.125	250	04/05/2017 17:19	WG966461
Toluene	ND		0.250	250	04/05/2017 17:19	WG966461
Ethylbenzene	0.282		0.125	250	04/05/2017 17:19	WG966461
Total Xylene	3.95		0.375	250	04/05/2017 17:19	WG966461
TPH (GC/FID) Low Fraction	29.3		25.0	250	04/05/2017 17:19	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.3		77.0-122		04/05/2017 17:19	WG966461
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-121		04/05/2017 17:19	WG966461

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/05/2017 17:42	WG966461
Toluene	ND		0.00100	1	04/05/2017 17:42	WG966461
Ethylbenzene	0.0011		0.000500	1	04/05/2017 17:42	WG966461
Total Xylene	0.00713		0.00150	1	04/05/2017 17:42	WG966461
TPH (GC/FID) Low Fraction	0.286		0.100	1	04/05/2017 17:42	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-122		04/05/2017 17:42	WG966461
(S) a,a,a-Trifluorotoluene(PID)	103		80.0-121		04/05/2017 17:42	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/05/2017 18:04	WG966461
Toluene	ND		0.00100	1	04/05/2017 18:04	WG966461
Ethylbenzene	ND		0.000500	1	04/05/2017 18:04	WG966461
Total Xylene	ND		0.00150	1	04/05/2017 18:04	WG966461
TPH (GC/FID) Low Fraction	ND		0.100	1	04/05/2017 18:04	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.2		77.0-122		04/05/2017 18:04	WG966461
(S) a,a,a-Trifluorotoluene(PID)	102		80.0-121		04/05/2017 18:04	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00539		0.000500	1	04/05/2017 20:40	WG966461
Toluene	ND		0.00100	1	04/05/2017 20:40	WG966461
Ethylbenzene	0.00220		0.000500	1	04/05/2017 20:40	WG966461
Total Xylene	0.0188		0.00150	1	04/05/2017 20:40	WG966461
TPH (GC/FID) Low Fraction	0.176		0.100	1	04/05/2017 20:40	WG966461
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	96.6		77.0-122		04/05/2017 20:40	WG966461
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	103		80.0-121		04/05/2017 20:40	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/05/2017 21:03	WG966461
Toluene	ND		0.00100	1	04/05/2017 21:03	WG966461
Ethylbenzene	ND		0.000500	1	04/05/2017 21:03	WG966461
Total Xylene	ND		0.00150	1	04/05/2017 21:03	WG966461
TPH (GC/FID) Low Fraction	ND		0.100	1	04/05/2017 21:03	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.9		77.0-122		04/05/2017 21:03	WG966461
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-121		04/05/2017 21:03	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	04/06/2017 00:34	WG966461
Toluene	ND		0.00100	1	04/06/2017 00:34	WG966461
Ethylbenzene	ND		0.000500	1	04/06/2017 00:34	WG966461
Total Xylene	ND		0.00150	1	04/06/2017 00:34	WG966461
TPH (GC/FID) Low Fraction	ND		0.100	1	04/06/2017 00:34	WG966461
(S) a,a,a-Trifluorotoluene(FID)	97.6		77.0-122		04/06/2017 00:34	WG966461
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-121		04/06/2017 00:34	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0259		0.000500	1	04/06/2017 00:56	WG966461
Toluene	0.00258		0.00100	1	04/06/2017 00:56	WG966461
Ethylbenzene	0.00411		0.000500	1	04/06/2017 00:56	WG966461
Total Xylene	0.108		0.00150	1	04/06/2017 00:56	WG966461
TPH (GC/FID) Low Fraction	0.615		0.100	1	04/06/2017 00:56	WG966461
(S) a,a,a-Trifluorotoluene(FID)	95.3		77.0-122		04/06/2017 00:56	WG966461
(S) a,a,a-Trifluorotoluene(PID)	102		80.0-121		04/06/2017 00:56	WG966461

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3208697-5 04/05/17 12:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID) 98.1			77.0-122	
(S) a,a,a-Trifluorotoluene(PID) 105			80.0-121	

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208697-1 04/05/17 10:17 • (LCSD) R3208697-2 04/05/17 10:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0457	0.0479	91.3	95.8	71.0-121			4.81	20
Toluene	0.0500	0.0482	0.0488	96.4	97.6	72.0-120			1.29	20
Ethylbenzene	0.0500	0.0498	0.0507	99.7	101	75.0-122			1.79	20
Total Xylene	0.150	0.153	0.154	102	103	74.0-124			0.910	20
(S) a,a,a-Trifluorotoluene(FID)				97.5	97.7	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				102	102	80.0-121				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208697-3 04/05/17 11:02 • (LCSD) R3208697-4 04/05/17 11:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.81	5.65	106	103	71.0-136			2.75	20
(S) a,a,a-Trifluorotoluene(FID)				103	101	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				111	111	80.0-121				

L899262-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899262-01 04/05/17 16:12 • (MS) R3208697-6 04/05/17 19:11 • (MSD) R3208697-7 04/05/17 19:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0430	0.0486	86.0	97.2	1	29.0-146			12.2	20
Toluene	0.0500	ND	0.0427	0.0483	85.4	96.6	1	35.0-140			12.3	20
Ethylbenzene	0.0500	ND	0.0444	0.0504	88.8	101	1	39.0-143			12.6	20
Total Xylene	0.150	ND	0.134	0.152	89.1	101	1	42.0-142			12.7	20
(S) a,a,a-Trifluorotoluene(FID)					97.2	97.4		77.0-122				



L899262-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899262-01 04/05/17 16:12 • (MS) R3208697-6 04/05/17 19:11 • (MSD) R3208697-7 04/05/17 19:33												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
(S) a,a,a-Trifluorotoluene(PID)					101	101		80.0-121				

L899262-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899262-01 04/05/17 16:12 • (MS) R3208697-8 04/05/17 19:56 • (MSD) R3208697-9 04/05/17 20:18												
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	ND	8.29	5.62	151	102	1	18.0-160		J3	38.4	20
(S) a,a,a-Trifluorotoluene(FID)					101	102		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					110	110		80.0-121				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

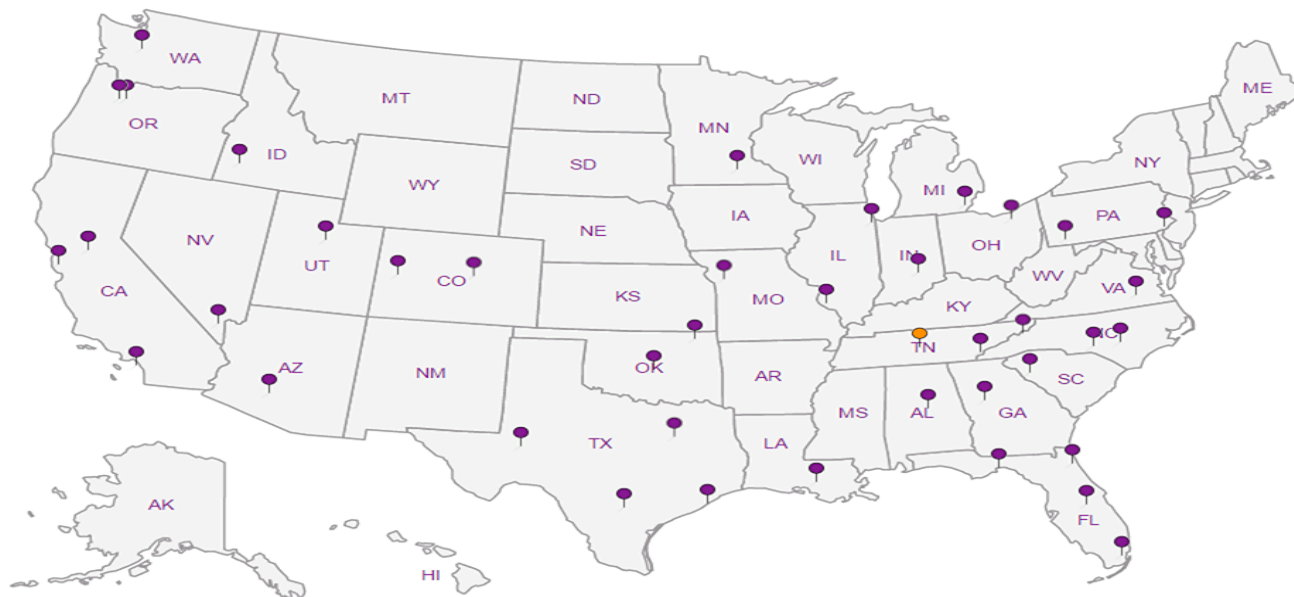
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address:

Billing Information:

Olsson Associates760 Horizon Drive, Suite 102
Grand Junction, CO 81506

Analysis / Container / Preservative

Chain of Custody

Page 1 of 1



YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to:

Robert Stockton

Email To:

rstockton@olssonassociates.com

Project

A14-2069

Description:

City/State

Collected: **Cascade Crk.**Phone: **(970) 263-7800**

Client Project #

A14-2069

Fax:

Lab Project #

Collected by (print):

Robert Stockton

Site/Facility ID #

Rock Springs

P.O. #

Collected by (Signature):

Rush? (Lab MUST Be Notified)

Same Day200%

Next Day100%

Two Day50%

Three Day25%

Date Results Needed

Email? ☐ No ☒ YesFAX? ☒ No ☐ YesNo.
of
Cnts

BTEX / GRO

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

DS

Grab

GW

3/28/2017

1044

4

X

Pond

Grab

GW

3/28/2017

1056

4

X

SS

Grab

GW

3/28/2017

1109

4

X

RS1

Grab

GW

3/28/2017

1411

4

X

RS2

Grab

GW

3/28/2017

1159

4

X

RS3

Grab

GW

3/28/2017

1239¹²²

4

X

RS4

Grab

GW

3/28/2017

1144

4

X

RS5

Grab

GW

3/28/2017

1239

4

X

RS7

Grab

GW

3/28/2017

4

X

RS9

Grab

GW

3/28/2017

4

X

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by: (Signature)

Date:

3/29/2017

Time:

1630

Received by: (Signature)

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐ _____

Condition:

(lab use only)

Relinquished by: (Signature)

Date:

3/29/17

Time:

1730

Received by: (Signature)

Temp: ^{°C} Bottles Received:

21°C T01 40

COC Seal Intact: ☐ Y ☐ N ☒ NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 3/30/17

Time: 0745

pH Checked:

NCF:

ESC LAB SCIENCES Cooler Receipt Form

Client:	<i>OLSSonco</i>	SDG#	<i>899062</i>	
Cooler Received/Opened On:	<i>3/17</i>	Temperature:		
Received By: Matt Shacklock				
Signature: <i>Matt Shacklock</i>				
Receipt Check List	NP	Yes	No	
COC Seal Present / Intact?	<i>/</i>			
COC Signed / Accurate?		<i>/</i>		
Bottles arrive intact?		<i>/</i>		
Correct bottles used?		<i>/</i>		
Sufficient volume sent?		<i>/</i>		
If Applicable				
VOA Zero headspace?		<i>/</i>		
Preservation Correct / Checked?				

Olsson Associates - CO

Sample Delivery Group: L919108
Samples Received: 06/28/2017
Project Number: A14-2069
Description: A14-2069
Site: ROCK SPRINGS
Report To: Robert Stockton
760 Horizon Drive, Ste 102
Grand Junction, CO 81506

Entire Report Reviewed By:



Shane Gambill

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DOWNSTREAM L919108-01 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:55	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 14:04	07/05/17 14:04	JAH

¹ Cp

² Tc

³ Ss

SOUTH SPRING L919108-02 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:45	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 14:28	07/05/17 14:28	JAH

⁴ Cn

⁵ Sr

RS6 L919108-03 GW

			Collected by JD/KR	Collected date/time 06/27/17 11:05	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 14:52	07/05/17 14:52	JAH

⁶ Qc

⁷ Gl

RS2 L919108-04 GW

			Collected by JD/KR	Collected date/time 06/27/17 11:50	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 15:15	07/05/17 15:15	JAH

⁸ Al

⁹ Sc

RS3 L919108-05 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:15	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 16:03	07/05/17 16:03	JAH

RS4 L919108-06 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:15	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 17:04	07/05/17 17:04	JAH

RS5 L919108-07 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:00	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 17:27	07/05/17 17:27	JAH

RS7 L919108-08 GW

			Collected by JD/KR	Collected date/time 06/27/17 10:50	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 17:51	07/05/17 17:51	JAH

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



RS9 L919108-09 GW

			Collected by JD/KR	Collected date/time 06/27/17 11:35	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 18:15	07/05/17 18:15	JAH

POND L919108-10 GW

			Collected by JD/KR	Collected date/time 06/27/17 12:45	Received date/time 06/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG994599	1	07/05/17 18:39	07/05/17 18:39	JAH

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

Sample Handling and Receiving

VOC pH outside of method requirement.

ESC Sample ID	Project Sample ID	Method
L919108-03	RS6	8015/8021
L919108-04	RS2	8015/8021
L919108-05	RS3	8015/8021
L919108-06	RS4	8015/8021
L919108-07	RS5	8015/8021
L919108-09	RS9	8015/8021

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 14:04	WG994599
Toluene	ND		0.00100	1	07/05/2017 14:04	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 14:04	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 14:04	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 14:04	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 14:04	WG994599
(S) a,a,a-Trifluorotoluene(PID)	107		80.0-121		07/05/2017 14:04	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0422		0.000500	1	07/05/2017 14:28	WG994599
Toluene	ND		0.00100	1	07/05/2017 14:28	WG994599
Ethylbenzene	0.00270		0.000500	1	07/05/2017 14:28	WG994599
Total Xylene	0.0159		0.00150	1	07/05/2017 14:28	WG994599
TPH (GC/FID) Low Fraction	0.328		0.100	1	07/05/2017 14:28	WG994599
(S) a,a,a-Trifluorotoluene(FID)	105		77.0-122		07/05/2017 14:28	WG994599
(S) a,a,a-Trifluorotoluene(PID)	107		80.0-121		07/05/2017 14:28	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 14:52	WG994599
Toluene	ND		0.00100	1	07/05/2017 14:52	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 14:52	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 14:52	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 14:52	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 14:52	WG994599
(S) a,a,a-Trifluorotoluene(PID)	107		80.0-121		07/05/2017 14:52	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 15:15	WG994599
Toluene	ND		0.00100	1	07/05/2017 15:15	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 15:15	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 15:15	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 15:15	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 15:15	WG994599
(S) a,a,a-Trifluorotoluene(PID)	106		80.0-121		07/05/2017 15:15	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00354		0.000500	1	07/05/2017 16:03	WG994599
Toluene	ND		0.00100	1	07/05/2017 16:03	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 16:03	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 16:03	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 16:03	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 16:03	WG994599
(S) a,a,a-Trifluorotoluene(PID)	106		80.0-121		07/05/2017 16:03	WG994599

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0183		0.000500	1	07/05/2017 17:04	WG994599
Toluene	ND		0.00100	1	07/05/2017 17:04	WG994599
Ethylbenzene	0.00867		0.000500	1	07/05/2017 17:04	WG994599
Total Xylene	0.0595		0.00150	1	07/05/2017 17:04	WG994599
TPH (GC/FID) Low Fraction	0.424		0.100	1	07/05/2017 17:04	WG994599
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-122		07/05/2017 17:04	WG994599
(S) a,a,a-Trifluorotoluene(PID)	107		80.0-121		07/05/2017 17:04	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 17:27	WG994599
Toluene	0.00447		0.00100	1	07/05/2017 17:27	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 17:27	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 17:27	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 17:27	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 17:27	WG994599
(S) a,a,a-Trifluorotoluene(PID)	106		80.0-121		07/05/2017 17:27	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 17:51	WG994599
Toluene	ND		0.00100	1	07/05/2017 17:51	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 17:51	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 17:51	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 17:51	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 17:51	WG994599
(S) a,a,a-Trifluorotoluene(PID)	106		80.0-121		07/05/2017 17:51	WG994599

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0545		0.000500	1	07/05/2017 18:15	WG994599
Toluene	0.00208		0.00100	1	07/05/2017 18:15	WG994599
Ethylbenzene	0.00800		0.000500	1	07/05/2017 18:15	WG994599
Total Xylene	0.133		0.00150	1	07/05/2017 18:15	WG994599
TPH (GC/FID) Low Fraction	1.69		0.100	1	07/05/2017 18:15	WG994599
(S) a,a,a-Trifluorotoluene(FID)	99.7		77.0-122		07/05/2017 18:15	WG994599
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		07/05/2017 18:15	WG994599

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	07/05/2017 18:39	WG994599
Toluene	ND		0.00100	1	07/05/2017 18:39	WG994599
Ethylbenzene	ND		0.000500	1	07/05/2017 18:39	WG994599
Total Xylene	ND		0.00150	1	07/05/2017 18:39	WG994599
TPH (GC/FID) Low Fraction	ND		0.100	1	07/05/2017 18:39	WG994599
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-122		07/05/2017 18:39	WG994599
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		07/05/2017 18:39	WG994599

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Method Blank (MB)

(MB) R3231082-5 07/05/17 12:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID) 104			77.0-122	
(S) a,a,a-Trifluorotoluene(PID) 107			80.0-121	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3231082-1 07/05/17 10:21 • (LCSD) R3231082-2 07/05/17 10:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0513	0.0527	103	105	71.0-121			2.69	20
Toluene	0.0500	0.0518	0.0526	104	105	72.0-120			1.67	20
Ethylbenzene	0.0500	0.0537	0.0542	107	108	75.0-122			0.810	20
Total Xylene	0.150	0.162	0.163	108	108	74.0-124			0.190	20
(S) a,a,a-Trifluorotoluene(FID)				104	104	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				105	105	80.0-121				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3231082-3 07/05/17 11:12 • (LCSD) R3231082-4 07/05/17 11:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.13	6.03	111	110	71.0-136			1.60	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				121	121	80.0-121				

L919108-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L919108-01 07/05/17 14:04 • (MS) R3231082-6 07/05/17 19:59 • (MSD) R3231082-7 07/05/17 20:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0421	0.0447	84.2	89.5	1	29.0-146			6.05	20
Toluene	0.0500	ND	0.0420	0.0442	84.1	88.4	1	35.0-140			4.97	20
Ethylbenzene	0.0500	ND	0.0443	0.0468	88.6	93.6	1	39.0-143			5.48	20
Total Xylene	0.150	ND	0.134	0.142	89.2	94.5	1	42.0-142			5.81	20
(S) a,a,a-Trifluorotoluene(FID)					105	105		77.0-122				



L919108-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L919108-01 07/05/17 14:04 • (MS) R3231082-6 07/05/17 19:59 • (MSD) R3231082-7 07/05/17 20:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) a,a,a-Trifluorotoluene(PID)					106	105		80.0-121				

L919108-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L919108-01 07/05/17 14:04 • (MS) R3231082-8 07/05/17 21:17 • (MSD) R3231082-9 07/05/17 21:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	6.18	6.76	112	123	1	18.0-160			9.01	20
(S) a,a,a-Trifluorotoluene(FID)					105	106		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					118	118		80.0-121				

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
-----------	-------------

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

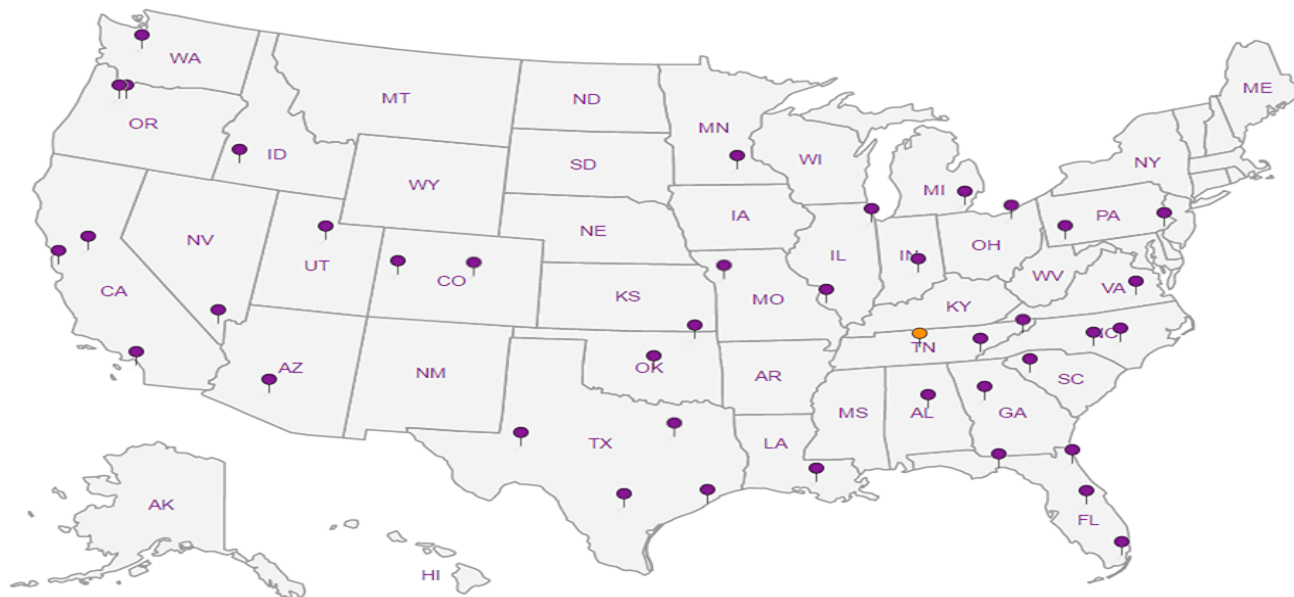
Third Party & Federal Accreditations



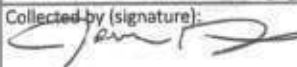
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

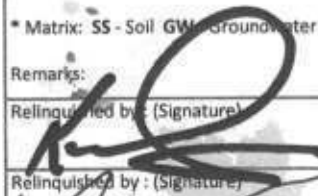
Our Locations

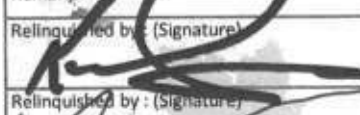
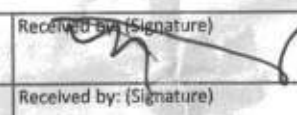
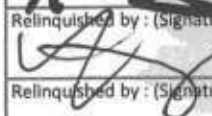
ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address: Olsson Associates 760 Horizon Drive, Suite 102 Grand Junction, CO 81506			Billing Information: 			Analysis / Container / Preservative 										Chain of Custody Page <u>1</u> of <u>1</u>  L.A.B. S.C.I.E.N.C.E.S. YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859  L # <u>L9A108</u> B082 Acctnum: Template: Prelogin: TSR: Cooler: Shipped Via: Rem./Contaminant: Sample # (lab only)			
Report to: Robert Stockton			Email To: rstockton@olssonassociates.com																
Project Description: A14-2069			City/State Collected: Cascade Crk.																
Phone: (970) 263-7800 Fax:			Client Project # A14-2069			Lab Project #													
Collected by (print): <u>S. Dika</u> Robert Stockton			Site/Facility ID # Rock Springs			P.O. #													
Collected by (signature):  Immediately Packed on Ice N <u> </u> Y <u> </u> <input checked="" type="checkbox"/>			Rush? (Lab MUST Be Notified) Same Day200% Next Day100% Two Day50% Three Day25%			Date Results Needed Email? <u> </u> No <input checked="" type="checkbox"/> Yes FAX? <input checked="" type="checkbox"/> No <u> </u> Yes			No. of Cntrs										
Sample ID		Comp/Grab	Matrix *	Depth	Date To	Time	No. of Cntrs	BTEX / GRO											
SS Navigstream		Grab	GW		3/28/2017	1255	4	X											
Pond		Grab	GW		3/28/2017	1245	4	X										-10	
SS South Spring		Grab	GW		3/28/2017	1245	4	X										-02-05	
RS1 RSL		Grab	GW		3/28/2017	1105	4	X										-03	
RS2		Grab	GW		3/28/2017	1150	4	X										-04	
RS3		Grab	GW		3/28/2017	1215	4	X										-05	
RS4		Grab	GW		3/28/2017	1215	4	X										-06	
RS5		Grab	GW		3/28/2017	1200	4	X										-07	
RS7		Grab	GW		3/28/2017	1050	4	X										-08	
RS9		Grab	GW		3/28/2017	1135	4	X										-09	

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: 

Relinquished by: (Signature) 	Date: <u>4/27/17</u>	Time: <u>1600</u>	Received by: (Signature) 	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Hold #
Relinquished by: (Signature) 	Date: <u>6/27/17</u>	Time: <u>1700</u>	Received by: (Signature) _____	Temp: <u>0.1</u> °C Bottles Received: <u>36</u>	Condition: (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) <u>marina mabre</u>	Date: <u>6-28-17</u> Time: <u>0845</u>	COC Seal Intact: <u> </u> Y <u> </u> N <u> </u> NA pH Checked: <u> </u> NCF: <u> </u> X

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>OLSSONCO</u>	SDG# <u>6919108</u>		
Cooler Received/Opened On: <u>06/28/2017</u>	Temperature: <u>0.1</u>		
Received By: <u>Marina Malone</u>			
Signature: <u>Marina Malone</u>			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Signed / Accurate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bottles arrive intact?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct bottles used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sufficient volume sent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOA Zero headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation Correct / Checked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Troy Dunlap

ESC Lab Sciences
Non-Conformance Form

Login #: L919108	Client: OLSSONCO	Date: 6/28/17	Evaluated by: Troy Dunlap
-------------------------	-------------------------	----------------------	----------------------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	If Broken Container:
Parameter(s) past holding time	X Login Clarification Needed	
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container;	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont. Rec./pH:
		Carrier:
		Tracking#

Login Comments: Did not receive sample POND at 1245.
Received sample LOWER PIT #44 at 1249 not listed on the COC.

Client informed by:	Call	Email	Voice Mail	Date: 06/28/17	Time:
TSR Initials: CSG	Client Contact: Robert Stockton				

Login Instructions:

The "Pond" and "Lower Pit" are synonymous. Please change the samples to "Pond" and use sample time of 1245

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.

October 04, 2017

Entrada Consulting Group

Sample Delivery Group: L939844
Samples Received: 09/28/2017
Project Number:
Description: Rock Springs
Site: ROCK SPRINGS
Report To: Robert Stockton
240 Mesa Avenue
Grand Junction, CO 81501

Entire Report Reviewed By:



Shane Gambill

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DS L939844-01 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 12:14	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 15:33	10/02/17 15:33	DAH

¹ Cp

² Tc

³ Ss

POND L939844-02 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 11:50	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 18:08	10/02/17 18:08	LRL

⁴ Cn

⁵ Sr

SS L939844-03 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 11:55	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 18:30	10/02/17 18:30	LRL

⁶ Qc

⁷ Gl

RS9 L939844-04 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 10:46	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 18:53	10/02/17 18:53	LRL

⁸ Al

⁹ Sc

RS2 L939844-05 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 10:10	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 19:15	10/02/17 19:15	LRL

RS3 L939844-06 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 10:23	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 19:37	10/02/17 19:37	LRL

RS4 L939844-07 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 11:30	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 19:59	10/02/17 19:59	LRL

RS5 L939844-08 GW

			Collected by Robert Stockton	Collected date/time 09/27/17 11:09	Received date/time 09/28/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1026517	1	10/02/17 20:21	10/02/17 20:21	LRL



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	10/02/2017 15:33	WG1026517
Toluene	ND		0.00100	1	10/02/2017 15:33	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 15:33	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 15:33	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 15:33	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	99.0		77.0-122		10/02/2017 15:33	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		10/02/2017 15:33	WG1026517

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	10/02/2017 18:08	WG1026517
Toluene	ND		0.00100	1	10/02/2017 18:08	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 18:08	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 18:08	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 18:08	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	98.8		77.0-122		10/02/2017 18:08	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		10/02/2017 18:08	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0227		0.000500	1	10/02/2017 18:30	WG1026517
Toluene	ND		0.00100	1	10/02/2017 18:30	WG1026517
Ethylbenzene	0.00102		0.000500	1	10/02/2017 18:30	WG1026517
Total Xylene	0.00700		0.00150	1	10/02/2017 18:30	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 18:30	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-122		10/02/2017 18:30	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-121		10/02/2017 18:30	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0823		0.000500	1	10/02/2017 18:53	WG1026517
Toluene	0.00275		0.00100	1	10/02/2017 18:53	WG1026517
Ethylbenzene	0.0294		0.000500	1	10/02/2017 18:53	WG1026517
Total Xylene	0.226		0.00150	1	10/02/2017 18:53	WG1026517
TPH (GC/FID) Low Fraction	2.56		0.100	1	10/02/2017 18:53	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	92.8		77.0-122		10/02/2017 18:53	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-121		10/02/2017 18:53	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	10/02/2017 19:15	WG1026517
Toluene	ND		0.00100	1	10/02/2017 19:15	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 19:15	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 19:15	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 19:15	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	98.8		77.0-122		10/02/2017 19:15	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		10/02/2017 19:15	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	10/02/2017 19:37	WG1026517
Toluene	ND		0.00100	1	10/02/2017 19:37	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 19:37	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 19:37	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 19:37	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	97.8		77.0-122		10/02/2017 19:37	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	104		80.0-121		10/02/2017 19:37	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000646		0.000500	1	10/02/2017 19:59	WG1026517
Toluene	ND		0.00100	1	10/02/2017 19:59	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 19:59	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 19:59	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 19:59	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	98.9		77.0-122		10/02/2017 19:59	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		10/02/2017 19:59	WG1026517

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	10/02/2017 20:21	WG1026517
Toluene	0.0293		0.00100	1	10/02/2017 20:21	WG1026517
Ethylbenzene	ND		0.000500	1	10/02/2017 20:21	WG1026517
Total Xylene	ND		0.00150	1	10/02/2017 20:21	WG1026517
TPH (GC/FID) Low Fraction	ND		0.100	1	10/02/2017 20:21	WG1026517
(S) a,a,a-Trifluorotoluene(FID)	98.8		77.0-122		10/02/2017 20:21	WG1026517
(S) a,a,a-Trifluorotoluene(PID)	105		80.0-121		10/02/2017 20:21	WG1026517

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Method Blank (MB)

(MB) R3254105-5 10/02/17 12:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	U		0.000160	0.000500
Total Xylene	U		0.000510	0.00150
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.3			77.0-122
(S) a,a,a-Trifluorotoluene(PID)	105			80.0-121

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Tc

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Ss

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Cn

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Sr

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Qc

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254105-1 10/02/17 10:29 • (LCSD) R3254105-2 10/02/17 10:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0471	0.0506	94.1	101	71.0-121			7.22	20
Toluene	0.0500	0.0486	0.0513	97.2	103	72.0-120			5.39	20
Ethylbenzene	0.0500	0.0502	0.0530	100	106	75.0-122			5.41	20
Total Xylene	0.150	0.155	0.160	103	107	74.0-124			3.30	20
(S) a,a,a-Trifluorotoluene(FID)				97.7	98.6	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				102	104	80.0-121				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254105-3 10/02/17 11:14 • (LCSD) R3254105-4 10/02/17 11:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.52	5.52	100	100	71.0-136			0.0900	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				117	117	80.0-121				



L939827-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939827-01 10/02/17 13:41 • (MS) R3254105-6 10/02/17 21:05 • (MSD) R3254105-7 10/02/17 21:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0444	0.0515	88.7	103	1	29.0-146			14.9	20
Toluene	0.0500	ND	0.0437	0.0502	86.1	99.0	1	35.0-140			13.7	20
Ethylbenzene	0.0500	ND	0.0449	0.0515	89.5	103	1	39.0-143			13.6	20
Total Xylene	0.150	ND	0.137	0.157	91.5	104	1	42.0-142			13.1	20
(S) a,a,a-Trifluorotoluene(FID)					99.2	98.8		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					103	103		80.0-121				

L939827-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939827-01 10/02/17 13:41 • (MS) R3254105-8 10/02/17 21:51 • (MSD) R3254105-9 10/02/17 22:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	5.39	5.59	98.0	102	1	18.0-160			3.72	20
(S) a,a,a-Trifluorotoluene(FID)					103	102		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					113	113		80.0-121				

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

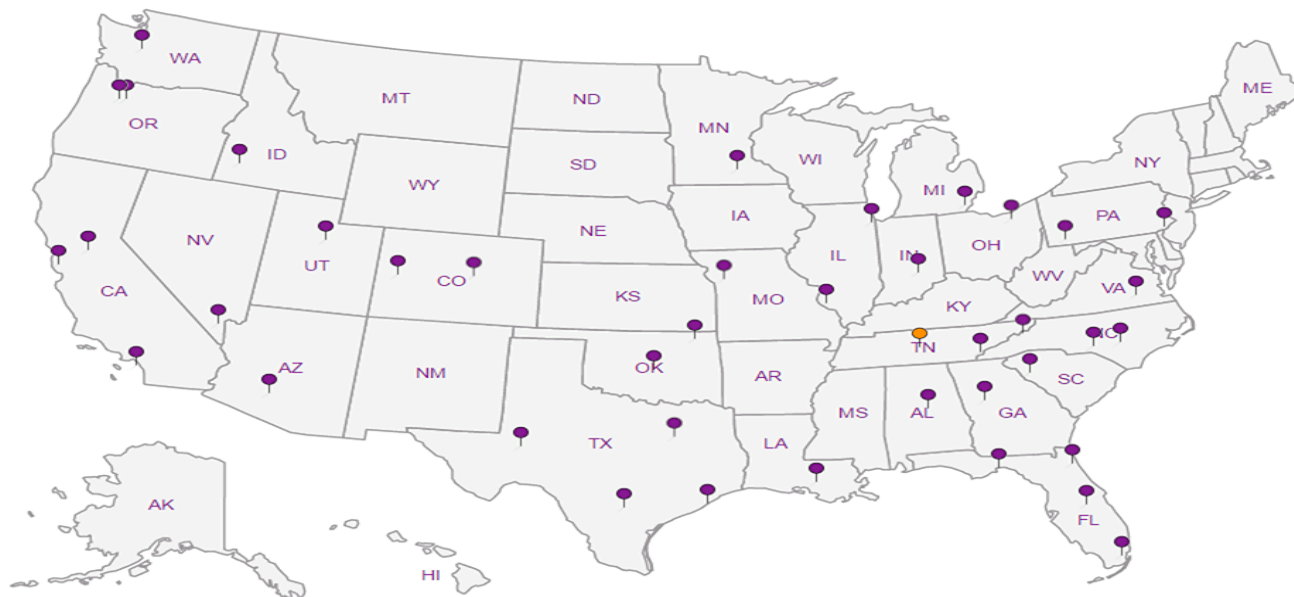
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address:

Entrada Consulting Group240 Mesa Avenue
Grand Junction, CO 81501

Billing Information:

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to:

Robert Stockton

Email To:

rstockton@entradainc.com

Project

Rock Springs

City/State

Collected: **Cascade Crk.**

Description:

Phone: **(970) 640-0568**

Client Project #

Lab Project #

Fax:

Collected by (print):

Robert Stockton

Site/Facility ID #

Rock Springs

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Date Results Needed

☐ Same Day200%
☐ Next Day100%
☐ Two Day50%
☐ Three Day25%

Email? ☐ No ☒ YesFAX? ☒ No ☐ YesNo.
of
Cntrs

Immediately

Packed on Ice N ☐ Y ☒

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

DS

Grab

GW

9/27/2017

1214

4

X

Pond

Grab

GW

9/27/2017

1150

4

X

SS

Grab

GW

9/27/2017

1155

4

X

RS9

Grab

GW

9/27/2017

1046

4

X

RS2

Grab

GW

9/27/2017

1010

4

X

RS3

Grab

GW

9/27/2017

1023

4

X

RS4

Grab

GW

9/27/2017

1130

4

X

RS5

Grab

GW

9/27/2017

1109

4

X

Grab

GW

Grab

GW

BTEX / GRO

Acctnum:

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

Trach: 7474 0928 4840

pH _____ Temp _____

Flow _____ Other _____

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐ _____

Hold #

Condition: (lab use only)

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Temp: _____ °C Bottles Received:

Relinquished by (Signature)

Date:

Time:

Received for lab by (Signature)

Date: _____ Time: _____

COC Seal Intact: ☐ Y ☐ N ☒ NA

pH Checked:

NCF:

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐ _____

Hold #

Condition: (lab use only)

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Temp: _____ °C Bottles Received:

Relinquished by (Signature)

Date:

Time:

Received for lab by (Signature)

Date: _____ Time: _____

COC Seal Intact: ☐ Y ☐ N ☒ NA

pH Checked:

NCF:

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>ENTCONGSCU</u>	SDG#	<u>1939844</u>	
Cooler Received/Opened On: <u>9/28/17</u>	Temperature: <u>0.9</u>		
Received by : Chris Ward			
Signature: <u>Chris Ward</u>			
Receipt Check List			
	NP	Yes	No
COC Seal Present / Intact?	/		
COC Signed / Accurate?			
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable		/	
VOA Zero headspace?		/	
Preservation Correct / Checked?			

December 06, 2017

Entrada Consulting Group

Sample Delivery Group: L954297
Samples Received: 12/01/2017
Project Number: 017-0006
Description: 017-006
Site: ROCK SPRINGS
Report To: Robert Stockton
240 Mesa Avenue
Grand Junction, CO 81501

Entire Report Reviewed By:



Nancy McLain

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



POND L954297-01 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 11:55	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 16:35	12/01/17 16:35	DWR

¹ Cp

² Tc

³ Ss

DS L954297-02 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 11:40	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 16:57	12/01/17 16:57	DWR

⁴ Cn

⁵ Sr

SS L954297-03 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 12:17	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/05/17 12:38	12/05/17 12:38	LRL

⁶ Qc

⁷ Gl

MW-2 L954297-04 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 10:35	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 17:42	12/01/17 17:42	DWR

⁸ Al

⁹ Sc

MW-3 L954297-05 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 13:05	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 18:04	12/01/17 18:04	DWR

MW-4 L954297-06 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 10:55	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 18:26	12/01/17 18:26	DWR

MW-5 L954297-07 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 11:10	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 18:48	12/01/17 18:48	DWR
Volatile Organic Compounds (GC) by Method 8021	WG1048522	5	12/05/17 13:01	12/05/17 13:01	LRL

MW-7 L954297-08 GW

			Collected by Robert Stockton	Collected date/time 11/29/17 14:30	Received date/time 12/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 19:10	12/01/17 19:10	DWR

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-9 L954297-09 GW

Collected by
Robert Stockton

Collected date/time
11/29/17 14:00

Received date/time
12/01/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1048522	1	12/01/17 19:32	12/01/17 19:32	DWR

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

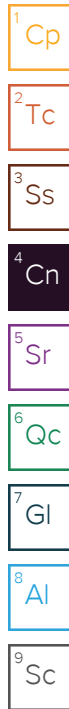
⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy McLain
Technical Service Representative





Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 16:35	WG1048522
Toluene	ND		0.00100	1	12/01/2017 16:35	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 16:35	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 16:35	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 16:35	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	91.5		77.0-122		12/01/2017 16:35	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.6		80.0-121		12/01/2017 16:35	WG1048522

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 16:57	WG1048522
Toluene	ND		0.00100	1	12/01/2017 16:57	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 16:57	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 16:57	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 16:57	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	92.0		77.0-122		12/01/2017 16:57	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.7		80.0-121		12/01/2017 16:57	WG1048522

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0254		0.000500	1	12/05/2017 12:38	WG1048522
Toluene	ND		0.00100	1	12/05/2017 12:38	WG1048522
Ethylbenzene	0.00159	<u>B</u>	0.000500	1	12/05/2017 12:38	WG1048522
Total Xylene	0.00558		0.00150	1	12/05/2017 12:38	WG1048522
TPH (GC/FID) Low Fraction	0.767		0.100	1	12/05/2017 12:38	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	99.6		77.0-122		12/05/2017 12:38	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	101		80.0-121		12/05/2017 12:38	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 17:42	WG1048522
Toluene	ND		0.00100	1	12/01/2017 17:42	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 17:42	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 17:42	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 17:42	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	92.1		77.0-122		12/01/2017 17:42	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.6		80.0-121		12/01/2017 17:42	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 18:04	WG1048522
Toluene	ND		0.00100	1	12/01/2017 18:04	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 18:04	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 18:04	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 18:04	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	92.0		77.0-122		12/01/2017 18:04	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.5		80.0-121		12/01/2017 18:04	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 18:26	WG1048522
Toluene	ND		0.00100	1	12/01/2017 18:26	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 18:26	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 18:26	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 18:26	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	91.6		77.0-122		12/01/2017 18:26	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.3		80.0-121		12/01/2017 18:26	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 18:48	WG1048522
Toluene	0.344		0.00500	5	12/05/2017 13:01	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 18:48	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 18:48	WG1048522
TPH (GC/FID) Low Fraction	0.530		0.100	1	12/01/2017 18:48	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	102		77.0-122		12/05/2017 13:01	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	91.3		77.0-122		12/01/2017 18:48	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.3		80.0-121		12/01/2017 18:48	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	101		80.0-121		12/05/2017 13:01	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/01/2017 19:10	WG1048522
Toluene	ND		0.00100	1	12/01/2017 19:10	WG1048522
Ethylbenzene	ND		0.000500	1	12/01/2017 19:10	WG1048522
Total Xylene	ND		0.00150	1	12/01/2017 19:10	WG1048522
TPH (GC/FID) Low Fraction	ND		0.100	1	12/01/2017 19:10	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	92.0		77.0-122		12/01/2017 19:10	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	98.3		80.0-121		12/01/2017 19:10	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0199		0.000500	1	12/01/2017 19:32	WG1048522
Toluene	0.00146		0.00100	1	12/01/2017 19:32	WG1048522
Ethylbenzene	0.00726		0.000500	1	12/01/2017 19:32	WG1048522
Total Xylene	0.191		0.00150	1	12/01/2017 19:32	WG1048522
TPH (GC/FID) Low Fraction	1.07		0.100	1	12/01/2017 19:32	WG1048522
(S) a,a,a-Trifluorotoluene(FID)	86.9		77.0-122		12/01/2017 19:32	WG1048522
(S) a,a,a-Trifluorotoluene(PID)	97.7		80.0-121		12/01/2017 19:32	WG1048522

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3269974-5 12/01/17 12:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	0.000202	⬇	0.000190	0.000500
Toluene	U		0.000412	0.00100
Ethylbenzene	0.000169	⬇	0.000160	0.000500
Total Xylene	U		0.000510	0.00150
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	91.8			77.0-122
(S) a,a,a-Trifluorotoluene(PID)	98.7			80.0-121

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3269974-1 12/01/17 10:10 • (LCSD) R3269974-2 12/01/17 10:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0489	0.0503	97.8	101	71.0-121			2.87	20
Toluene	0.0500	0.0503	0.0504	101	101	72.0-120			0.370	20
Ethylbenzene	0.0500	0.0514	0.0516	103	103	75.0-122			0.260	20
Total Xylene	0.150	0.152	0.152	101	101	74.0-124			0.000	20
(S) a,a,a-Trifluorotoluene(FID)				91.5	91.3	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				97.5	97.2	80.0-121				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3269974-3 12/01/17 10:54 • (LCSD) R3269974-4 12/01/17 11:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	4.91	4.81	89.3	87.4	71.0-136			2.12	20
(S) a,a,a-Trifluorotoluene(FID)				103	102	77.0-122				
(S) a,a,a-Trifluorotoluene(PID)				114	109	80.0-121				

L954297-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L954297-01 12/01/17 16:35 • (MS) R3269974-6 12/01/17 19:54 • (MSD) R3269974-7 12/01/17 20:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.0380	0.0446	76.1	89.2	1	29.0-146			16.0	20
Toluene	0.0500	ND	0.0377	0.0447	75.4	89.4	1	35.0-140			17.1	20
Ethylbenzene	0.0500	ND	0.0385	0.0463	77.1	92.6	1	39.0-143			18.3	20
Total Xylene	0.150	ND	0.117	0.140	78.1	93.1	1	42.0-142			17.6	20
(S) a,a,a-Trifluorotoluene(FID)					91.1	91.1		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					97.0	97.2		80.0-121				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L954297-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L954297-01 12/01/17 16:35 • (MS) R3269974-8 12/01/17 20:38 • (MSD) R3269974-9 12/01/17 21:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	4.63	5.24	84.2	95.3	1	18.0-160			12.4	20
(S) a,a,a-Trifluorotoluene(FID)					98.5	99.5		77.0-122				
(S) a,a,a-Trifluorotoluene(PID)					105	106		80.0-121				



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

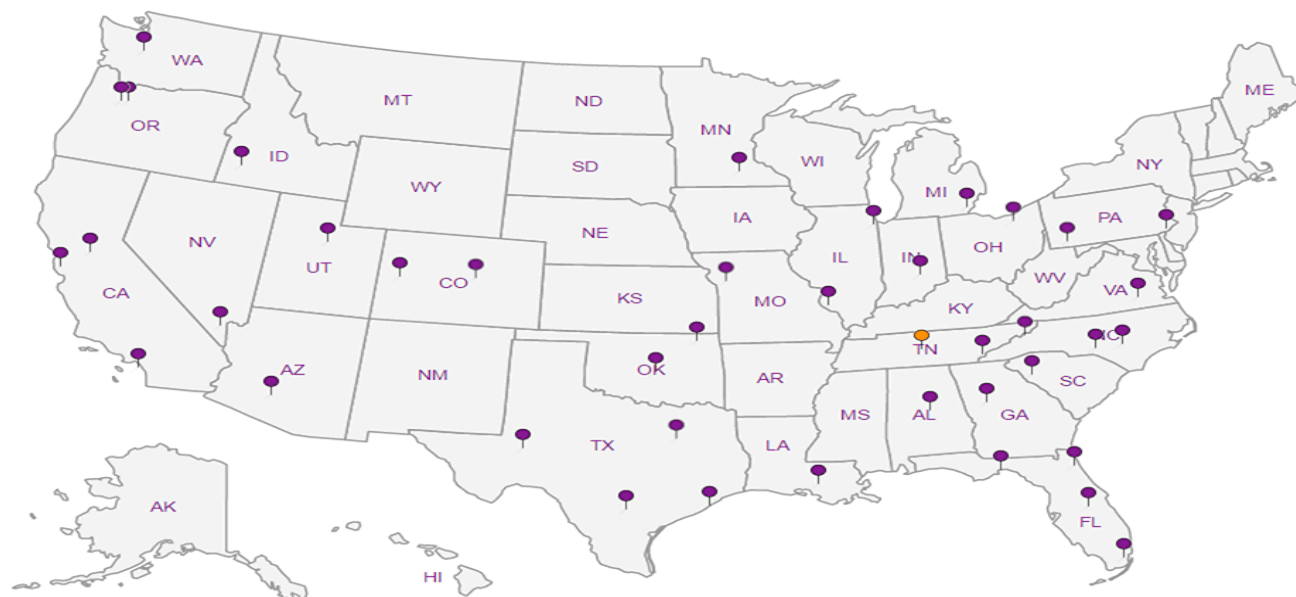
9 Sc

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	IN00003		

Our Locations



18 of 20

Company Name/Address:

Entrada Consulting Group**240 Mesa Avenue
Grand Junction, CO 81501**

Billing Information:

Report to:

Robert Stockton

Email To:

rstockton@entradainc.comProject
Description: **017-006**City/State
Collected: **Cascade Crk.**Phone: **(970) 640-0568**Client Project #
017-0006

Lab Project #

Fax:

Collected by (print):

Robert StocktonSite/Facility ID #
Rock Springs

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Email? ☐ No ☒ YesFAX? ☒ No ☐ Yes

Date Results Needed

Immediately
Packed on Ice N ☐ Y ☒No.
of
Cntrs

BTEX / GRO

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859

L# **L954297****E195**

Acctnum:

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem./Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	BTEX / GRO													
POND	Grab	GW		11/29/17	1155	4	X													-01
DS	Grab	GW		11/29/17	1140	4	X													02
SS	Grab	GW		11/29/17	1217	4	X													03
MW-2	Grab	GW		11/29/17	1035	4	X													04
MW-3	Grab	GW		11/29/17	1305	4	X													05
MW-4	Grab	GW		11/29/17	1055	4	X													06
MW-5	Grab	GW		11/29/17	1110	4	X													07
MW-6	Grab	GW		11/29/17	1115	4	X													08
MW-7	Grab	GW		11/29/17	1430	4	X													09
MW-9	Grab	GW		11/29/17	1400	4	X													

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

Remarks:

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐ _____

Temp: _____ °C Bottles Received:

2.1°C **36**

Date: _____ Time: _____

12/1/17 **8:45**

Hold #

Condition: (lab use only)

COC Seal Intact: ☐ Y ☐ N ☒ NA

pH Checked: _____ NCF: _____

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

ESC LAB SCIENCES Cooler Receipt Form

Client: <u>ENTLONGSCO</u>		SDG# <u>L954297</u>
Cooler Received/Opened On: 12/ <u>1</u> /17		Temperature: <u>2.1</u>
Received by : Christian Kacar		
Signature: <u><i>amv amv</i></u>		
Receipt Check List	NP	Yes
COC Seal Present / Intact?	/	
COC Signed / Accurate?		/
Bottles arrive intact?		/
Correct bottles used?		/
Sufficient volume sent?		/
If Applicable		
VOA Zero headspace?		/
Preservation Correct / Checked?		