

April 07, 2018

## Entrada Consulting Group

Sample Delivery Group: L981607  
Samples Received: 03/30/2018  
Project Number: HCWTF  
Description: HCWTF

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.



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
MW-1 L981607-01	6
MW-3 L981607-02	8
HC L981607-03	10
BC L981607-04	12
Qc: Quality Control Summary	14
Gravimetric Analysis by Method 2540 C-2011	14
Wet Chemistry by Method 2320 B-2011	16
Wet Chemistry by Method 9040C	17
Wet Chemistry by Method 9050A	18
Wet Chemistry by Method 9056A	19
Metals (ICP) by Method 6010B	23
Volatile Organic Compounds (GC) by Method 8015D/GRO	24
Volatile Organic Compounds (GC/MS) by Method 8260B	25
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	26
Gl: Glossary of Terms	27
Al: Accreditations & Locations	28
Sc: Sample Chain of Custody	29



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## MW-1 L981607-01 GW

Collected by Robert Stockton  
Collected date/time 03/29/18 13:10  
Received date/time 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1093021	1	04/04/18 13:34	04/04/18 14:03	EG
Wet Chemistry by Method 2320 B-2011	WG1092918	1	04/05/18 07:58	04/05/18 07:58	MCG
Wet Chemistry by Method 9040C	WG1091609	1	03/30/18 15:25	03/30/18 15:25	EEM
Wet Chemistry by Method 9050A	WG1091673	1	03/30/18 14:59	03/30/18 14:59	MA
Wet Chemistry by Method 9056A	WG1091590	1	03/30/18 20:37	03/30/18 20:37	MAJ
Wet Chemistry by Method 9056A	WG1092074	1	04/01/18 13:45	04/01/18 13:45	MAJ
Metals (ICP) by Method 6010B	WG1091814	1	04/02/18 10:03	04/02/18 13:42	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1091507	1	03/30/18 15:44	03/30/18 15:44	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1091751	1	03/31/18 04:46	03/31/18 04:46	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1091946	1	03/31/18 17:43	04/01/18 10:15	TH

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## MW-3 L981607-02 GW

Collected by Robert Stockton  
Collected date/time 03/29/18 14:00  
Received date/time 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1093021	1	04/04/18 13:34	04/04/18 14:03	EG
Wet Chemistry by Method 2320 B-2011	WG1092918	1	04/05/18 08:10	04/05/18 08:10	MCG
Wet Chemistry by Method 9040C	WG1091609	1	03/30/18 15:25	03/30/18 15:25	EEM
Wet Chemistry by Method 9050A	WG1091673	1	03/30/18 14:59	03/30/18 14:59	MA
Wet Chemistry by Method 9056A	WG1091590	1	03/30/18 20:49	03/30/18 20:49	MAJ
Wet Chemistry by Method 9056A	WG1092074	1	04/01/18 14:12	04/01/18 14:12	MAJ
Metals (ICP) by Method 6010B	WG1091814	1	04/02/18 10:03	04/02/18 13:52	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1091507	1	03/30/18 16:07	03/30/18 16:07	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1091751	1	03/31/18 05:06	03/31/18 05:06	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1091946	1	03/31/18 17:43	04/01/18 10:36	TH

## HC L981607-03 GW

Collected by Robert Stockton  
Collected date/time 03/29/18 12:50  
Received date/time 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1093023	1	04/04/18 14:05	04/04/18 14:37	EG
Wet Chemistry by Method 2320 B-2011	WG1092918	1	04/05/18 08:17	04/05/18 08:17	MCG
Wet Chemistry by Method 9040C	WG1091609	1	03/30/18 15:25	03/30/18 15:25	EEM
Wet Chemistry by Method 9050A	WG1091673	1	03/30/18 14:59	03/30/18 14:59	MA
Wet Chemistry by Method 9056A	WG1091590	1	03/30/18 21:02	03/30/18 21:02	MAJ
Wet Chemistry by Method 9056A	WG1092074	1	04/01/18 14:25	04/01/18 14:25	MAJ
Wet Chemistry by Method 9056A	WG1092074	5	04/01/18 14:39	04/01/18 14:39	MAJ
Metals (ICP) by Method 6010B	WG1091814	1	04/02/18 10:03	04/02/18 13:55	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1091507	1	03/30/18 16:31	03/30/18 16:31	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1091751	1	03/31/18 05:26	03/31/18 05:26	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1091946	1	03/31/18 17:43	04/01/18 10:56	TH

## BC L981607-04 GW

Collected by Robert Stockton  
Collected date/time 03/29/18 14:30  
Received date/time 03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1093023	1	04/04/18 14:05	04/04/18 14:37	EG
Wet Chemistry by Method 2320 B-2011	WG1092918	1	04/05/18 08:24	04/05/18 08:24	MCG
Wet Chemistry by Method 9040C	WG1091609	1	03/30/18 15:25	03/30/18 15:25	EEM
Wet Chemistry by Method 9050A	WG1091673	1	03/30/18 14:59	03/30/18 14:59	MA
Wet Chemistry by Method 9056A	WG1091590	1	03/30/18 21:14	03/30/18 21:14	MAJ
Wet Chemistry by Method 9056A	WG1092074	1	04/01/18 14:52	04/01/18 14:52	MAJ
Metals (ICP) by Method 6010B	WG1091814	1	04/02/18 10:03	04/02/18 13:58	ST

ACCOUNT:

Entrada Consulting Group

PROJECT:

HCWTF

SDG:

L981607

DATE/TIME:

04/07/18 10:18

PAGE:

3 of 30

# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BC L981607-04 GW

Collected by  
Robert Stockton

Collected date/time  
03/29/18 14:30

Received date/time  
03/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1091507	1	03/30/18 16:55	03/30/18 16:55	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1091751	1	03/31/18 05:46	03/31/18 05:46	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1091946	1	03/31/18 17:43	04/01/18 11:16	TH

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

ACCOUNT:

Entrada Consulting Group

PROJECT:

HCWTF

SDG:

L981607

DATE/TIME:

04/07/18 10:18

PAGE:

4 of 30



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. Where applicable, 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

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	385		10.0	1	04/04/2018 14:03	<a href="#">WG1093021</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	314		20.0	1	04/05/2018 07:58	<a href="#">WG1092918</a>

## Sample Narrative:

L981607-01 WG1092918: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.73	<a href="#">T8</a>	1	03/30/2018 15:25	<a href="#">WG1091609</a>

## Sample Narrative:

L981607-01 WG1091609: 7.73 at 13.9C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	663		10.0	1	03/30/2018 14:59	<a href="#">WG1091673</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	03/30/2018 20:37	<a href="#">WG1091590</a>
Chloride	13.7		1.00	1	03/30/2018 20:37	<a href="#">WG1091590</a>
Fluoride	0.242		0.100	1	04/01/2018 13:45	<a href="#">WG1092074</a>
Nitrate as (N)	1.99		0.100	1	03/30/2018 20:37	<a href="#">WG1091590</a>
Nitrite as (N)	ND		0.100	1	03/30/2018 20:37	<a href="#">WG1091590</a>
Sulfate	22.7		5.00	1	03/30/2018 20:37	<a href="#">WG1091590</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	82.4		1.00	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Iron,Dissolved	ND		0.100	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Magnesium,Dissolved	13.2		1.00	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Manganese,Dissolved	ND		0.0100	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Potassium,Dissolved	1.95	<a href="#">B</a>	1.00	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Selenium,Dissolved	ND		0.0100	1	04/02/2018 13:42	<a href="#">WG1091814</a>
Sodium,Dissolved	58.1		1.00	1	04/02/2018 13:42	<a href="#">WG1091814</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/30/2018 15:44	<a href="#">WG1091507</a>
(S) a,a,a-Trifluorotoluene(FID)	108		77.0-122		03/30/2018 15:44	<a href="#">WG1091507</a>



## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/31/2018 04:46	<a href="#">WG1091751</a>
Toluene	ND		0.00100	1	03/31/2018 04:46	<a href="#">WG1091751</a>
Ethylbenzene	ND		0.00100	1	03/31/2018 04:46	<a href="#">WG1091751</a>
Total Xylenes	ND		0.00300	1	03/31/2018 04:46	<a href="#">WG1091751</a>
(S) Toluene-d8	113		80.0-120		03/31/2018 04:46	<a href="#">WG1091751</a>
(S) Dibromofluoromethane	95.9		76.0-123		03/31/2018 04:46	<a href="#">WG1091751</a>
(S) a,a,a-Trifluorotoluene	99.0		80.0-120		03/31/2018 04:46	<a href="#">WG1091751</a>
(S) 4-Bromofluorobenzene	103		80.0-120		03/31/2018 04:46	<a href="#">WG1091751</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	04/01/2018 10:15	<a href="#">WG1091946</a>
(S) o-Terphenyl	110		31.0-160		04/01/2018 10:15	<a href="#">WG1091946</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	438		10.0	1	04/04/2018 14:03	<a href="#">WG1093021</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	317		20.0	1	04/05/2018 08:10	<a href="#">WG1092918</a>

## Sample Narrative:

L981607-02 WG1092918: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.64	<a href="#">T8</a>	1	03/30/2018 15:25	<a href="#">WG1091609</a>

## Sample Narrative:

L981607-02 WG1091609: 7.64 at 12.9C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	688		10.0	1	03/30/2018 14:59	<a href="#">WG1091673</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	03/30/2018 20:49	<a href="#">WG1091590</a>
Chloride	13.6		1.00	1	03/30/2018 20:49	<a href="#">WG1091590</a>
Fluoride	0.238		0.100	1	04/01/2018 14:12	<a href="#">WG1092074</a>
Nitrate as (N)	1.83		0.100	1	03/30/2018 20:49	<a href="#">WG1091590</a>
Nitrite as (N)	ND		0.100	1	03/30/2018 20:49	<a href="#">WG1091590</a>
Sulfate	24.4		5.00	1	03/30/2018 20:49	<a href="#">WG1091590</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	91.2		1.00	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Iron,Dissolved	ND		0.100	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Magnesium,Dissolved	14.9		1.00	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Manganese,Dissolved	ND		0.0100	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Potassium,Dissolved	1.65	<a href="#">B</a>	1.00	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Selenium,Dissolved	ND		0.0100	1	04/02/2018 13:52	<a href="#">WG1091814</a>
Sodium,Dissolved	52.1		1.00	1	04/02/2018 13:52	<a href="#">WG1091814</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/30/2018 16:07	<a href="#">WG1091507</a>
(S) a,a,a-Trifluorotoluene(FID)	108		77.0-122		03/30/2018 16:07	<a href="#">WG1091507</a>





## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/31/2018 05:06	<a href="#">WG1091751</a>
Toluene	ND		0.00100	1	03/31/2018 05:06	<a href="#">WG1091751</a>
Ethylbenzene	ND		0.00100	1	03/31/2018 05:06	<a href="#">WG1091751</a>
Total Xylenes	ND		0.00300	1	03/31/2018 05:06	<a href="#">WG1091751</a>
(S) Toluene-d8	116		80.0-120		03/31/2018 05:06	<a href="#">WG1091751</a>
(S) Dibromofluoromethane	94.0		76.0-123		03/31/2018 05:06	<a href="#">WG1091751</a>
(S) a,a,a-Trifluorotoluene	99.3		80.0-120		03/31/2018 05:06	<a href="#">WG1091751</a>
(S) 4-Bromofluorobenzene	104		80.0-120		03/31/2018 05:06	<a href="#">WG1091751</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	04/01/2018 10:36	<a href="#">WG1091946</a>
(S) o-Terphenyl	103		31.0-160		04/01/2018 10:36	<a href="#">WG1091946</a>

1  
Cp2  
Tc3  
Ss4  
Cn5  
Sr6  
Qc7  
Gl8  
Al9  
Sc



Collected date/time: 03/29/18 12:50

L981607

## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	493		10.0	1	04/04/2018 14:37	<a href="#">WG1093023</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	272		20.0	1	04/05/2018 08:17	<a href="#">WG1092918</a>

### Sample Narrative:

L981607-03 WG1092918: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9040C

	Result	<u>Qualifier</u>	Dilution	Analysis	<u>Batch</u>
Analyte	su			date / time	
pH	8.29	T8	1	03/30/2018 15:25	WG1091609

### Sample Narrative:

L981607-03 WG1091609: 8.29 at 12.6C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	810		10.0	1	03/30/2018 14:59	<a href="#">WG1091673</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	03/30/2018 21:02	<a href="#">WG1091590</a>
Chloride	24.9		1.00	1	03/30/2018 21:02	<a href="#">WG1091590</a>
Fluoride	0.248		0.100	1	04/01/2018 14:25	<a href="#">WG1092074</a>
Nitrate as (N)	ND		0.100	1	03/30/2018 21:02	<a href="#">WG1091590</a>
Nitrite as (N)	ND		0.100	1	03/30/2018 21:02	<a href="#">WG1091590</a>
Sulfate	128		25.0	5	04/01/2018 14:39	<a href="#">WG1092074</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	76.4		1.00	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Iron,Dissolved	ND		0.100	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Magnesium,Dissolved	18.2		1.00	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Manganese,Dissolved	ND		0.0100	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Potassium,Dissolved	3.86	<u>B</u>	1.00	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Selenium,Dissolved	ND		0.0100	1	04/02/2018 13:55	<a href="#">WG1091814</a>
Sodium,Dissolved	84.0		1.00	1	04/02/2018 13:55	<a href="#">WG1091814</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/30/2018 16:31	<a href="#">WG1091507</a>
(S) a,a,a-Trifluorotoluene(FID)	108		77.0-122		03/30/2018 16:31	<a href="#">WG1091507</a>



Collected date/time: 03/29/18 12:50

L981607

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/31/2018 05:26	<a href="#">WG1091751</a>
Toluene	ND		0.00100	1	03/31/2018 05:26	<a href="#">WG1091751</a>
Ethylbenzene	ND		0.00100	1	03/31/2018 05:26	<a href="#">WG1091751</a>
Total Xylenes	ND		0.00300	1	03/31/2018 05:26	<a href="#">WG1091751</a>
(S) Toluene-d8	115		80.0-120		03/31/2018 05:26	<a href="#">WG1091751</a>
(S) Dibromofluoromethane	94.6		76.0-123		03/31/2018 05:26	<a href="#">WG1091751</a>
(S) a,a,a-Trifluorotoluene	99.2		80.0-120		03/31/2018 05:26	<a href="#">WG1091751</a>
(S) 4-Bromofluorobenzene	101		80.0-120		03/31/2018 05:26	<a href="#">WG1091751</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	04/01/2018 10:56	<a href="#">WG1091946</a>
(S) o-Terphenyl	104		31.0-160		04/01/2018 10:56	<a href="#">WG1091946</a>

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

Collected date/time: 03/29/18 14:30

L981607

## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	207		10.0	1	04/04/2018 14:37	<a href="#">WG1093023</a>

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	175		20.0	1	04/05/2018 08:24	<a href="#">WG1092918</a>

### Sample Narrative:

L981607-04 WG1092918: Endpoint pH 4.5 Headspace

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
pH	8.29	<a href="#">T8</a>	1	03/30/2018 15:25	<a href="#">WG1091609</a>	

### Sample Narrative:

L981607-04 WG1091609: 8.29 at 13.4C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	367		10.0	1	03/30/2018 14:59	<a href="#">WG1091673</a>

## Wet Chemistry by Method 9056A

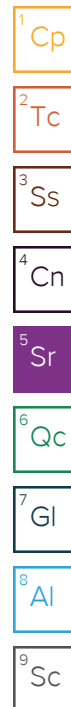
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	03/30/2018 21:14	<a href="#">WG1091590</a>
Chloride	4.45		1.00	1	03/30/2018 21:14	<a href="#">WG1091590</a>
Fluoride	0.102		0.100	1	04/01/2018 14:52	<a href="#">WG1092074</a>
Nitrate as (N)	ND		0.100	1	03/30/2018 21:14	<a href="#">WG1091590</a>
Nitrite as (N)	ND		0.100	1	03/30/2018 21:14	<a href="#">WG1091590</a>
Sulfate	21.6		5.00	1	03/30/2018 21:14	<a href="#">WG1091590</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	51.4		1.00	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Iron,Dissolved	0.112	<a href="#">B</a>	0.100	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Magnesium,Dissolved	10.0		1.00	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Manganese,Dissolved	ND		0.0100	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Potassium,Dissolved	2.40	<a href="#">B</a>	1.00	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Selenium,Dissolved	ND		0.0100	1	04/02/2018 13:58	<a href="#">WG1091814</a>
Sodium,Dissolved	15.8		1.00	1	04/02/2018 13:58	<a href="#">WG1091814</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	03/30/2018 16:55	<a href="#">WG1091507</a>
(S) a,a,a-Trifluorotoluene(FID)	108		77.0-122		03/30/2018 16:55	<a href="#">WG1091507</a>





Collected date/time: 03/29/18 14:30

L981607

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/31/2018 05:46	<a href="#">WG1091751</a>
Toluene	ND		0.00100	1	03/31/2018 05:46	<a href="#">WG1091751</a>
Ethylbenzene	ND		0.00100	1	03/31/2018 05:46	<a href="#">WG1091751</a>
Total Xylenes	ND		0.00300	1	03/31/2018 05:46	<a href="#">WG1091751</a>
<i>(S) Toluene-d8</i>	115		80.0-120		03/31/2018 05:46	<a href="#">WG1091751</a>
<i>(S) Dibromofluoromethane</i>	97.8		76.0-123		03/31/2018 05:46	<a href="#">WG1091751</a>
<i>(S) a,a,a-Trifluorotoluene</i>	99.3		80.0-120		03/31/2018 05:46	<a href="#">WG1091751</a>
<i>(S) 4-Bromofluorobenzene</i>	102		80.0-120		03/31/2018 05:46	<a href="#">WG1091751</a>

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.120		0.100	1	04/01/2018 11:16	<a href="#">WG1091946</a>
<i>(S) o-Terphenyl</i>	109		31.0-160		04/01/2018 11:16	<a href="#">WG1091946</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3299446-1 04/04/18 14:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L981574-03 Original Sample (OS) • Duplicate (DUP)

(OS) L981574-03 04/04/18 14:03 • (DUP) R3299446-4 04/04/18 14:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	7230	6890	1	4.82		5

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

(LCS) R3299446-2 04/04/18 14:03 • (LCSD) R3299446-3 04/04/18 14:03

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8540	8590	97.0	97.6	85.0-115			0.584	5



Method Blank (MB)

(MB) R3299449-1 04/04/18 14:37

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	3.00	⬇	2.82	10.0

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L981836-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981836-01 04/04/18 14:37 • (DUP) R3299449-4 04/04/18 14:37

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	1940	1930	1	0.259		5

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

(LCS) R3299449-2 04/04/18 14:37 • (LCSD) R3299449-3 04/04/18 14:37

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8670	8580	98.5	97.5	85.0-115			1.04	5



L981607-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981607-01 04/05/18 07:58 • (DUP) R3299288-1 04/05/18 08:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	314	313	1	0.0881		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5



L981649-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981649-01 04/05/18 09:31 • (DUP) R3299288-3 04/05/18 09:38

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	1380	1410	1	2.20		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

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

(LCS) R3299288-2 04/05/18 08:31 • (LCSD) R3299288-4 04/05/18 09:52

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	109	110	109	110	85.0-115			0.927	20

Sample Narrative:

LCS: Endpoint pH 4.5

LCSD: Endpoint pH 4.5





L981372-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981372-01 03/30/18 15:25 • (DUP) R3297888-3 03/30/18 15:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.68	7.70	1	0.260		1

Sample Narrative:

OS: 7.68 at 12.1C

DUP: 7.7 at 12C



L981615-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981615-01 03/30/18 15:25 • (DUP) R3297888-4 03/30/18 15:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.49	7.50	1	0.133		1

Sample Narrative:

OS: 7.49 at 14.4C

DUP: 7.5 at 14.5C

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

(LCS) R3297888-1 03/30/18 15:25 • (LCSD) R3297888-2 03/30/18 15:25

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	10.0	10.0	100	100	99.0-101			0.0999	1

Sample Narrative:

LCS: 10.01 at 19.4C

LCSD: 10.02 at 19.4C



Method Blank (MB)

(MB) R3297864-1 03/30/18 14:59

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	umhos/cm		umhos/cm	umhos/cm
Specific Conductance	U		10.0	10.0

L981525-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981525-01 03/30/18 14:59 • (DUP) R3297864-4 03/30/18 14:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	4160	4150	1	0.241		20

L981620-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981620-01 03/30/18 14:59 • (DUP) R3297864-5 03/30/18 14:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	541	539	1	0.370		20

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

(LCS) R3297864-2 03/30/18 14:59 • (LCSD) R3297864-3 03/30/18 14:59

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	umhos/cm	umhos/cm	umhos/cm	%	%	%			%	%
Specific Conductance	559	565	563	101	101	85.0-115			0.355	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3298014-1 03/30/18 12:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.0790	1.00
Chloride	U		0.0519	1.00
Nitrate	U		0.0227	0.100
Nitrite	U		0.0277	0.100
Sulfate	U		0.0774	5.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L981594-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981594-01 03/30/18 16:28 • (DUP) R3298014-4 03/30/18 16:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	0.000	1	0.000		15
Chloride	0.694	0.519	1	28.9	J P1	15
Nitrate	U	0.000	1	0.000		15
Nitrite	U	0.000	1	0.000		15
Sulfate	3.46	1.99	1	54.0	J P1	15

L981601-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981601-01 03/30/18 19:22 • (DUP) R3298014-7 03/30/18 19:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	0.000	1	0.000		15
Chloride	34.8	35.8	1	2.71		15
Nitrate	0.168	0.195	1	15.0		15
Nitrite	U	0.000	1	0.000		15

L981767-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981767-01 03/30/18 19:22 • (DUP) R3298014-9 03/30/18 19:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	U	0.000	1	0.000		15
Chloride	34.8	35.8	1	2.71		15
Nitrate	0.168	0.195	1	15.0		15
Nitrite	U	0.000	1	0.000		15



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

(LCS) R3298014-2 03/30/18 13:03 • (LCSD) R3298014-3 03/30/18 13:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromide	40.0	39.8	40.0	99.4	100	80.0-120			0.636	15
Chloride	40.0	39.9	39.9	99.9	99.8	80.0-120			0.0573	15
Nitrate	8.00	8.23	8.26	103	103	80.0-120			0.410	15
Nitrite	8.00	8.06	8.07	101	101	80.0-120			0.0372	15
Sulfate	40.0	40.8	41.1	102	103	80.0-120			0.834	15

L981594-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981594-04 03/30/18 17:18 • (MS) R3298014-5 03/30/18 17:30 • (MSD) R3298014-6 03/30/18 18:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	50.0	U	ND	ND	0.000	0.000	1	80.0-120	J6	J6	0.000	15
Nitrite	5.00	U	3.97	5.00	79.3	100	1	80.0-120	J6	J3	23.0	15

L981601-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L981601-01 03/30/18 19:22 • (MS) R3298014-8 03/30/18 19:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	U	48.5	97.1	1	80.0-120	
Chloride	50.0	34.8	84.9	100	1	80.0-120	
Nitrate	5.00	0.168	5.12	99.0	1	80.0-120	
Nitrite	5.00	U	5.18	104	1	80.0-120	

L981767-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L981767-01 03/30/18 19:22 • (MS) R3298014-10 03/30/18 19:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	U	48.5	97.1	1	80.0-120	
Chloride	50.0	34.8	84.9	100	1	80.0-120	
Nitrate	5.00	0.168	5.12	99.0	1	80.0-120	
Nitrite	5.00	U	5.18	104	1	80.0-120	

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R3298329-1 04/01/18 10:37

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

L981607-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981607-01 04/01/18 13:45 • (DUP) R3298329-6 04/01/18 13:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Fluoride	0.242	0.276	1	13.4		15
Sulfate	22.1	21.9	1	0.501		15

L981925-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981925-01 04/01/18 17:46 • (DUP) R3298329-7 04/01/18 18:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Fluoride	0.568	0.560	1	1.47		15
Sulfate	25.0	25.1	1	0.431		15

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

(LCS) R3298329-2 04/01/18 10:51 • (LCSD) R3298329-3 04/01/18 11:04

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Fluoride	8.00	8.00	7.99	100	99.9	80.0-120			0.101	15
Sulfate	40.0	40.0	39.9	100	99.8	80.0-120			0.221	15

L981594-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981594-04 04/01/18 12:11 • (MS) R3298329-4 04/01/18 12:38 • (MSD) R3298329-5 04/01/18 12:51

	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	%	%		%			%	%
Fluoride	5.00	2.05	6.48	7.54	88.7	110	1	80.0-120		J3	15.1	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L981925-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L981925-01 04/01/18 17:46 • (MS) R3298329-8 04/01/18 18:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Fluoride	5.00	0.568	5.53	99.3	1	80.0-120	
Sulfate	50.0	25.0	71.6	93.1	1	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3298426-1 04/02/18 13:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	0.0146	U	0.0141	0.100
Magnesium,Dissolved	0.0208	U	0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	0.734	U	0.102	1.00
Selenium,Dissolved	U		0.00740	0.0100
Sodium,Dissolved	0.294	U	0.0985	1.00

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) R3298426-2 04/02/18 13:15 • (LCSD) R3298426-3 04/02/18 13:18

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 %
Calcium,Dissolved	10.0	9.78	9.81	97.8	98.1	80.0-120			0.339	20
Iron,Dissolved	10.0	9.67	9.72	96.7	97.2	80.0-120			0.508	20
Magnesium,Dissolved	10.0	10.2	10.2	102	102	80.0-120			0.0341	20
Manganese,Dissolved	1.00	0.953	0.958	95.3	95.8	80.0-120			0.537	20
Potassium,Dissolved	10.0	9.94	9.94	99.4	99.4	80.0-120			0.00121	20
Selenium,Dissolved	1.00	0.995	0.996	99.5	99.6	80.0-120			0.0789	20
Sodium,Dissolved	10.0	9.76	9.76	97.6	97.6	80.0-120			0.0816	20

L981620-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981620-02 04/02/18 13:22 • (MS) R3298426-5 04/02/18 13:28 • (MSD) R3298426-6 04/02/18 13:31

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 %
Calcium,Dissolved	10.0	49.5	59.2	59.2	97.2	97.0	1	75.0-125			0.0227	20
Iron,Dissolved	10.0	ND	9.61	9.67	95.9	96.5	1	75.0-125			0.608	20
Magnesium,Dissolved	10.0	18.8	28.5	28.5	97.4	96.9	1	75.0-125			0.176	20
Manganese,Dissolved	1.00	ND	0.946	0.953	94.4	95.1	1	75.0-125			0.739	20
Potassium,Dissolved	10.0	2.50	12.1	12.1	95.7	96.0	1	75.0-125			0.286	20
Selenium,Dissolved	1.00	ND	1.02	1.01	102	101	1	75.0-125			0.549	20
Sodium,Dissolved	10.0	22.2	32.8	32.9	106	107	1	75.0-125			0.238	20



Method Blank (MB)

(MB) R3298341-3 03/30/18 12:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-122

Laboratory Control Sample (LCS)

(LCS) R3298341-2 03/30/18 11:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.40	98.3	71.0-136	
(S) a,a,a-Trifluorotoluene(FID)			95.1	77.0-122	

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc





Method Blank (MB)

(MB) R3298780-2 03/30/18 23:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	111			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) a,a,a-Trifluorotoluene	99.4			80.0-120
(S) 4-Bromofluorobenzene	104			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3298780-1 03/30/18 22:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0250	0.0229	91.6	69.0-123	
Ethylbenzene	0.0250	0.0261	104	77.0-120	
Toluene	0.0250	0.0267	107	77.0-120	
Xylenes, Total	0.0750	0.0793	106	77.0-120	
(S) Toluene-d8			113	80.0-120	
(S) Dibromofluoromethane			95.9	76.0-123	
(S) a,a,a-Trifluorotoluene			99.0	80.0-120	
(S) 4-Bromofluorobenzene			101	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3298370-1 04/01/18 09:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	110			31.0-160

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) R3298370-2 04/01/18 09:35 • (LCSD) R3298370-3 04/01/18 09:55

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) High Fraction	1.50	1.63	1.63	109	109	50.0-150			0.311	20
(S) o-Terphenyl				120	121	31.0-160				



## 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.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

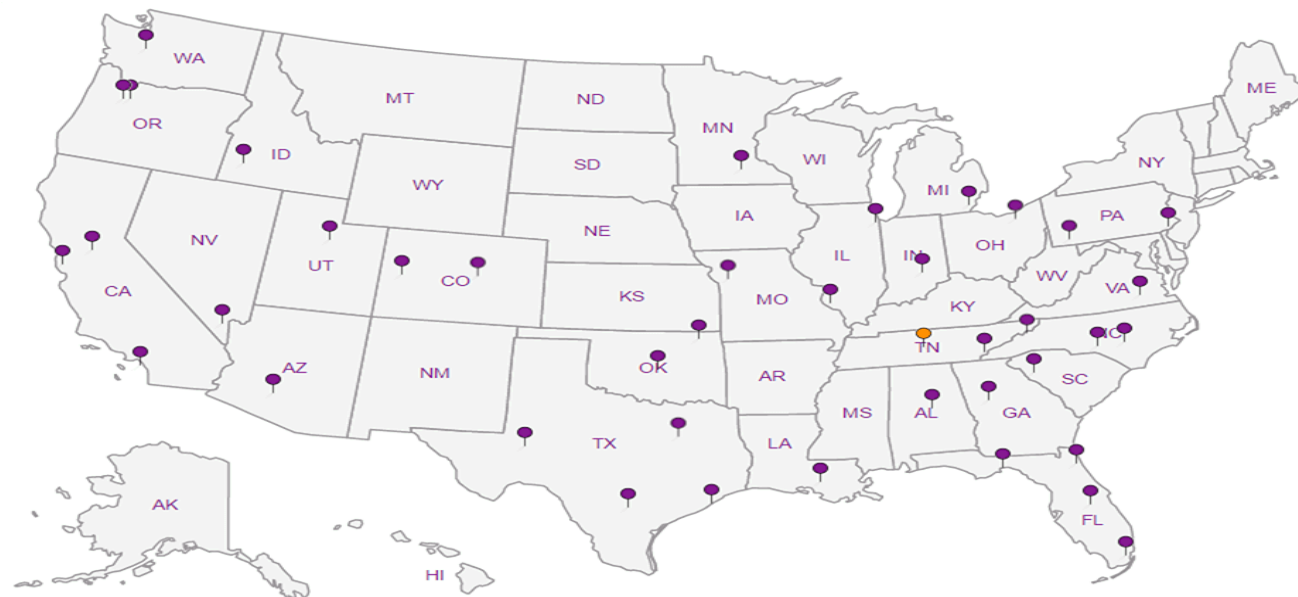
\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Alabama	40660	Nebraska	NE-05-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

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.





## ESC LAB SCIENCES Cooler Receipt Form

Client: <u>ENTONGTCO</u>	SDG#	<u>6981607</u>		
Cooler Received/Opened On: <u>3/30/18</u>	Temperature:	<u>2.2</u>		
Received By: <u>Kelsey Rish</u>				
Signature: <u>[Signature]</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?				



July 11, 2018

## Entrada Consulting Group

Sample Delivery Group: L1005963  
Samples Received: 06/30/2018  
Project Number:  
Description: HCWTF  
Site: HCWTF  
Report To: Robert Stockton  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Jason Romer  
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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
HCWTF-BC L1005963-01	5
HCWTF-MW-1 L1005963-02	7
HCWTF-MW-3 L1005963-03	9
Qc: Quality Control Summary	11
Gravimetric Analysis by Method 2540 C-2011	11
Wet Chemistry by Method 2320 B-2011	12
Wet Chemistry by Method 9050A	13
Wet Chemistry by Method 9056A	14
Metals (ICP) by Method 6010B	16
Volatile Organic Compounds (GC) by Method 8015D/GRO	17
Volatile Organic Compounds (GC/MS) by Method 8260B	18
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	19
Gl: Glossary of Terms	20
Al: Accreditations & Locations	21
Sc: Sample Chain of Custody	22







## HCWTF-BC L1005963-01 GW

Collected by Robert Stockton  
Collected date/time 06/29/18 14:40  
Received date/time 06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1134054	1	07/06/18 13:07	07/06/18 13:44	JER
Wet Chemistry by Method 2320 B-2011	WG1135330	1	07/09/18 20:19	07/09/18 20:19	MCG
Wet Chemistry by Method 9050A	WG1132378	1	06/30/18 21:16	06/30/18 21:16	MZ
Wet Chemistry by Method 9056A	WG1132317	1	06/30/18 23:46	06/30/18 23:46	DR
Metals (ICP) by Method 6010B	WG1132463	1	07/09/18 18:43	07/10/18 09:21	TRB
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1134477	1	07/06/18 13:27	07/06/18 13:27	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1132567	1	07/02/18 13:27	07/02/18 13:27	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1132993	1	07/03/18 21:09	07/05/18 00:52	SHG

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc

## HCWTF-MW-1 L1005963-02 GW

Collected by Robert Stockton  
Collected date/time 06/29/18 12:40  
Received date/time 06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1134054	1	07/06/18 13:07	07/06/18 13:44	JER
Wet Chemistry by Method 2320 B-2011	WG1135330	1	07/09/18 20:29	07/09/18 20:29	MCG
Wet Chemistry by Method 9050A	WG1132378	1	06/30/18 21:16	06/30/18 21:16	MZ
Wet Chemistry by Method 9056A	WG1132317	1	07/01/18 00:02	07/01/18 00:02	DR
Metals (ICP) by Method 6010B	WG1132463	1	07/09/18 18:43	07/10/18 09:23	TRB
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1134477	1	07/06/18 13:50	07/06/18 13:50	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1132567	1	07/02/18 13:46	07/02/18 13:46	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1132993	1	07/03/18 21:09	07/05/18 01:09	SHG

<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## HCWTF-MW-3 L1005963-03 GW

Collected by Robert Stockton  
Collected date/time 06/29/18 13:25  
Received date/time 06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1134054	1	07/06/18 13:07	07/06/18 13:44	JER
Wet Chemistry by Method 2320 B-2011	WG1135330	1	07/09/18 20:38	07/09/18 20:38	MCG
Wet Chemistry by Method 9050A	WG1132378	1	06/30/18 21:16	06/30/18 21:16	MZ
Wet Chemistry by Method 9056A	WG1132317	1	07/01/18 01:19	07/01/18 01:19	DR
Metals (ICP) by Method 6010B	WG1132463	1	07/09/18 18:43	07/10/18 08:20	TRB
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1134477	1	07/06/18 14:12	07/06/18 14:12	LRL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1132567	1	07/02/18 14:05	07/02/18 14:05	ACE
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1132993	1	07/03/18 21:09	07/05/18 01:26	SHG



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. Where applicable, 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.

Jason Romer  
Technical Service Representative

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	281		10.0	1	07/06/2018 13:44	<a href="#">WG1134054</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	233		20.0	1	07/09/2018 20:19	<a href="#">WG1135330</a>

## Sample Narrative:

L1005963-01 WG1135330: Endpoint pH 4.5

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	493		10.0	1	06/30/2018 21:16	<a href="#">WG1132378</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	06/30/2018 23:46	<a href="#">WG1132317</a>
Chloride	9.25		1.00	1	06/30/2018 23:46	<a href="#">WG1132317</a>
Fluoride	0.210		0.100	1	06/30/2018 23:46	<a href="#">WG1132317</a>
Nitrate as (N)	ND		0.100	1	06/30/2018 23:46	<a href="#">WG1132317</a>
Nitrite as (N)	ND		0.100	1	06/30/2018 23:46	<a href="#">WG1132317</a>
Sulfate	ND		5.00	1	06/30/2018 23:46	<a href="#">WG1132317</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	67.3		1.00	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Iron,Dissolved	ND		0.100	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Magnesium,Dissolved	13.9		1.00	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Manganese,Dissolved	ND		0.0100	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Potassium,Dissolved	2.36		1.00	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Selenium,Dissolved	ND		0.0100	1	07/10/2018 09:21	<a href="#">WG1132463</a>
Sodium,Dissolved	20.6		1.00	1	07/10/2018 09:21	<a href="#">WG1132463</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/06/2018 13:27	<a href="#">WG1134477</a>
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-122		07/06/2018 13:27	<a href="#">WG1134477</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/02/2018 13:27	<a href="#">WG1132567</a>
Toluene	ND		0.00100	1	07/02/2018 13:27	<a href="#">WG1132567</a>
Ethylbenzene	ND		0.00100	1	07/02/2018 13:27	<a href="#">WG1132567</a>
Total Xylenes	ND		0.00300	1	07/02/2018 13:27	<a href="#">WG1132567</a>
(S) Toluene-d8	98.1		80.0-120		07/02/2018 13:27	<a href="#">WG1132567</a>
(S) Dibromofluoromethane	99.4		76.0-123		07/02/2018 13:27	<a href="#">WG1132567</a>
(S) a,a,a-Trifluorotoluene	107		80.0-120		07/02/2018 13:27	<a href="#">WG1132567</a>
(S) 4-Bromofluorobenzene	95.1		80.0-120		07/02/2018 13:27	<a href="#">WG1132567</a>



Collected date/time: 06/29/18 14:40

L1005963

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	07/05/2018 00:52	<a href="#">WG1132993</a>
(S) o-Terphenyl	101		31.0-160		07/05/2018 00:52	<a href="#">WG1132993</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	370		10.0	1	07/06/2018 13:44	<a href="#">WG1134054</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	242		20.0	1	07/09/2018 20:29	<a href="#">WG1135330</a>

## Sample Narrative:

L1005963-02 WG1135330: Endpoint pH 4.5

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	629		10.0	1	06/30/2018 21:16	<a href="#">WG1132378</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	07/01/2018 00:02	<a href="#">WG1132317</a>
Chloride	21.2		1.00	1	07/01/2018 00:02	<a href="#">WG1132317</a>
Fluoride	0.271		0.100	1	07/01/2018 00:02	<a href="#">WG1132317</a>
Nitrate as (N)	0.765		0.100	1	07/01/2018 00:02	<a href="#">WG1132317</a>
Nitrite as (N)	ND		0.100	1	07/01/2018 00:02	<a href="#">WG1132317</a>
Sulfate	47.5		5.00	1	07/01/2018 00:02	<a href="#">WG1132317</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	73.6		1.00	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Iron,Dissolved	ND		0.100	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Magnesium,Dissolved	14.3		1.00	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Manganese,Dissolved	ND		0.0100	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Potassium,Dissolved	2.36		1.00	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Selenium,Dissolved	ND		0.0100	1	07/10/2018 09:23	<a href="#">WG1132463</a>
Sodium,Dissolved	48.6		1.00	1	07/10/2018 09:23	<a href="#">WG1132463</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/06/2018 13:50	<a href="#">WG1134477</a>
(S) a,a,a-Trifluorotoluene(FID)	98.3		77.0-122		07/06/2018 13:50	<a href="#">WG1134477</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/02/2018 13:46	<a href="#">WG1132567</a>
Toluene	ND		0.00100	1	07/02/2018 13:46	<a href="#">WG1132567</a>
Ethylbenzene	ND		0.00100	1	07/02/2018 13:46	<a href="#">WG1132567</a>
Total Xylenes	ND		0.00300	1	07/02/2018 13:46	<a href="#">WG1132567</a>
(S) Toluene-d8	100		80.0-120		07/02/2018 13:46	<a href="#">WG1132567</a>
(S) Dibromofluoromethane	101		76.0-123		07/02/2018 13:46	<a href="#">WG1132567</a>
(S) a,a,a-Trifluorotoluene	106		80.0-120		07/02/2018 13:46	<a href="#">WG1132567</a>
(S) 4-Bromofluorobenzene	96.9		80.0-120		07/02/2018 13:46	<a href="#">WG1132567</a>



Collected date/time: 06/29/18 12:40

L1005963

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
TPH (GC/FID) High Fraction	ND		0.100	1	07/05/2018 01:09	<a href="#">WG1132993</a>
(S) o-Terphenyl	106		31.0-160		07/05/2018 01:09	<a href="#">WG1132993</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



## Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	434		10.0	1	07/06/2018 13:44	<a href="#">WG1134054</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	343		20.0	1	07/09/2018 20:38	<a href="#">WG1135330</a>

## Sample Narrative:

L1005963-03 WG1135330: Endpoint pH 4.5

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	756		10.0	1	06/30/2018 21:16	<a href="#">WG1132378</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	07/01/2018 01:19	<a href="#">WG1132317</a>
Chloride	11.1		1.00	1	07/01/2018 01:19	<a href="#">WG1132317</a>
Fluoride	0.257		0.100	1	07/01/2018 01:19	<a href="#">WG1132317</a>
Nitrate as (N)	2.94		0.100	1	07/01/2018 01:19	<a href="#">WG1132317</a>
Nitrite as (N)	ND		0.100	1	07/01/2018 01:19	<a href="#">WG1132317</a>
Sulfate	22.3		5.00	1	07/01/2018 01:19	<a href="#">WG1132317</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	96.5	<a href="#">Q1</a>	1.00	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Iron,Dissolved	ND		0.100	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Magnesium,Dissolved	15.7	<a href="#">Q1</a>	1.00	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Manganese,Dissolved	ND		0.0100	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Potassium,Dissolved	1.90		1.00	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Selenium,Dissolved	ND		0.0100	1	07/10/2018 08:20	<a href="#">WG1132463</a>
Sodium,Dissolved	59.2	<a href="#">Q1</a>	1.00	1	07/10/2018 08:20	<a href="#">WG1132463</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	07/06/2018 14:12	<a href="#">WG1134477</a>
(S) a,a,a-Trifluorotoluene(FID)	98.4		77.0-122		07/06/2018 14:12	<a href="#">WG1134477</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/02/2018 14:05	<a href="#">WG1132567</a>
Toluene	ND		0.00100	1	07/02/2018 14:05	<a href="#">WG1132567</a>
Ethylbenzene	ND		0.00100	1	07/02/2018 14:05	<a href="#">WG1132567</a>
Total Xylenes	ND		0.00300	1	07/02/2018 14:05	<a href="#">WG1132567</a>
(S) Toluene-d8	99.9		80.0-120		07/02/2018 14:05	<a href="#">WG1132567</a>
(S) Dibromofluoromethane	98.4		76.0-123		07/02/2018 14:05	<a href="#">WG1132567</a>
(S) a,a,a-Trifluorotoluene	107		80.0-120		07/02/2018 14:05	<a href="#">WG1132567</a>
(S) 4-Bromofluorobenzene	94.6		80.0-120		07/02/2018 14:05	<a href="#">WG1132567</a>



Collected date/time: 06/29/18 13:25

L1005963

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
TPH (GC/FID) High Fraction	ND		0.100	1	07/05/2018 01:26	<a href="#">WG1132993</a>
(S) o-Terphenyl	105		31.0-160		07/05/2018 01:26	<a href="#">WG1132993</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



Method Blank (MB)

(MB) R3324458-1 07/06/18 13:44

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1005958-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1005958-04 07/06/18 13:44 • (DUP) R3324458-4 07/06/18 13:44

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	536	533	1	0.561		5

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

(LCS) R3324458-2 07/06/18 13:44 • (LCSD) R3324458-3 07/06/18 13:44

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8560	8870	97.3	101	85.0-115			3.56	5



L1005958-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1005958-01 07/09/18 19:23 • (DUP) R3324304-5 07/09/18 19:32

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	392	391	1	0.301		20

Sample Narrative:

OS: Endpoint pH 4.5  
DUP: Endpoint pH 4.5

L1006324-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1006324-01 07/09/18 21:46 • (DUP) R3324304-8 07/09/18 21:54

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	307	307	1	0.177		20

Sample Narrative:

OS: Endpoint pH 4.5  
DUP: Endpoint pH 4.5

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

(LCS) R3324304-6 07/09/18 19:59 • (LCSD) R3324304-7 07/09/18 21:35

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	102	102	102	102	85.0-115			0.0698	20

Sample Narrative:

LCS: Endpoint pH 4.5  
LCSD: Endpoint pH 4.5



Method Blank (MB)

(MB) R3322254-1 06/30/18 21:16

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1005704-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1005704-26 06/30/18 21:16 • (DUP) R3322254-4 06/30/18 21:16

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2190	2190	1	0.000		20

L1005969-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1005969-01 06/30/18 21:16 • (DUP) R3322254-5 06/30/18 21:16

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	472	470	1	0.425		20

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

(LCS) R3322254-2 06/30/18 21:16 • (LCSD) R3322254-3 06/30/18 21:16

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	559	566	569	101	102	85.0-115			0.529	20



Method Blank (MB)

(MB) R3322335-1 06/30/18 15:10

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Bromide	U		0.0790	1.00
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Nitrate	U		0.0227	0.100
Nitrite	U		0.0277	0.100
Sulfate	U		0.0774	5.00

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1005974-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1005974-05 06/30/18 17:36 • (DUP) R3322335-4 06/30/18 17:52

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Bromide	ND	0.000	1	0.000		15
Chloride	73.9	74.0	1	0.267		15
Fluoride	3.18	3.19	1	0.317		15
Nitrate	0.714	0.730	1	2.19		15
Nitrite	ND	0.000	1	0.000		15

L1005963-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1005963-02 07/01/18 00:02 • (DUP) R3322335-7 07/01/18 00:48

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Bromide	ND	0.000	1	0.000		15
Chloride	21.2	21.2	1	0.136		15
Fluoride	0.271	0.265	1	2.17		15
Nitrate	0.765	0.780	1	1.86		15
Nitrite	ND	0.000	1	0.000		15
Sulfate	47.5	47.5	1	0.0322		15

L1005974-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1005974-05 07/01/18 09:43 • (DUP) R3322335-9 07/01/18 09:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfate	93.7	94.1	5	0.398		15



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

(LCS) R3322335-2 06/30/18 15:25 • (LCSD) R3322335-3 06/30/18 15:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromide	40.0	39.2	39.3	98.1	98.2	80.0-120			0.143	15
Chloride	40.0	39.1	39.0	97.6	97.6	80.0-120			0.0525	15
Fluoride	8.00	8.11	8.11	101	101	80.0-120			0.0358	15
Nitrate	8.00	8.24	8.25	103	103	80.0-120			0.0788	15
Nitrite	8.00	7.99	8.00	99.9	100	80.0-120			0.124	15
Sulfate	40.0	39.7	39.7	99.2	99.2	80.0-120			0.0345	15

L1005974-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005974-05 06/30/18 17:36 • (MS) R3322335-5 06/30/18 18:38 • (MSD) R3322335-6 06/30/18 18:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	50.0	ND	47.7	47.8	95.4	95.7	1	80.0-120			0.306	15
Chloride	50.0	73.9	121	120	93.3	93.1	1	80.0-120	E	E	0.121	15
Fluoride	5.00	3.18	8.05	8.11	97.5	98.7	1	80.0-120			0.726	15
Nitrate	5.00	0.714	5.69	5.73	99.6	100	1	80.0-120			0.657	15
Nitrite	5.00	ND	4.93	4.91	98.6	98.2	1	80.0-120			0.380	15

L1005963-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1005963-02 07/01/18 00:02 • (MS) R3322335-8 07/01/18 01:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	ND	49.8	99.5	1	80.0-120	
Chloride	50.0	21.2	72.2	102	1	80.0-120	
Fluoride	5.00	0.271	5.31	101	1	80.0-120	
Nitrate	5.00	0.765	5.92	103	1	80.0-120	
Nitrite	5.00	ND	5.14	103	1	80.0-120	
Sulfate	50.0	47.5	98.6	102	1	80.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3324372-1 07/10/18 08:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	U		0.0141	0.100
Magnesium,Dissolved	U		0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	U		0.102	1.00
Selenium,Dissolved	U		0.00740	0.0100
Sodium,Dissolved	U		0.0985	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3324372-2 07/10/18 08:15 • (LCSD) R3324372-3 07/10/18 08:18

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 %
Calcium,Dissolved	10.0	9.98	9.77	99.8	97.7	80.0-120			2.08	20
Iron,Dissolved	10.0	9.96	9.75	99.6	97.5	80.0-120			2.15	20
Magnesium,Dissolved	10.0	10.1	9.94	101	99.4	80.0-120			1.21	20
Manganese,Dissolved	1.00	0.990	0.977	99.0	97.7	80.0-120			1.27	20
Potassium,Dissolved	10.0	9.81	9.58	98.1	95.8	80.0-120			2.36	20
Selenium,Dissolved	1.00	1.02	0.998	102	99.8	80.0-120			1.86	20
Sodium,Dissolved	10.0	10.1	9.80	101	98.0	80.0-120			2.63	20

L1005963-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005963-03 07/10/18 08:20 • (MS) R3324372-5 07/10/18 08:25 • (MSD) R3324372-6 07/10/18 08:28

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 %
Calcium,Dissolved	10.0	96.5	105	105	83.1	85.9	1	75.0-125			0.266	20
Iron,Dissolved	10.0	ND	9.88	9.92	98.8	99.2	1	75.0-125			0.396	20
Magnesium,Dissolved	10.0	15.7	25.5	25.5	97.3	97.4	1	75.0-125			0.0277	20
Manganese,Dissolved	1.00	ND	0.989	0.991	98.9	99.1	1	75.0-125			0.230	20
Potassium,Dissolved	10.0	1.90	11.5	11.7	96.5	98.0	1	75.0-125			1.32	20
Selenium,Dissolved	1.00	ND	1.04	1.03	104	103	1	75.0-125			1.02	20
Sodium,Dissolved	10.0	59.2	68.3	68.0	91.1	87.7	1	75.0-125			0.494	20



Method Blank (MB)

(MB) R3323801-4 07/06/18 12:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	98.0			77.0-122

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

(LCS) R3323801-1 07/06/18 10:36 • (LCSD) R3323801-2 07/06/18 10:58

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	5.45	5.57	99.1	101	71.0-136			2.11	20
(S) a,a,a-Trifluorotoluene(FID)				111	111	77.0-122				

L1005958-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1005958-04 07/06/18 13:05 • (MS) R3323801-5 07/06/18 21:40 • (MSD) R3323801-6 07/06/18 22:02

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	1.90	1.95	34.5	35.5	1	18.0-160			2.81	20
(S) a,a,a-Trifluorotoluene(FID)					98.7	99.6		77.0-122				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



Method Blank (MB)

(MB) R3322938-4 07/02/18 10:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	97.7			80.0-120
(S) Dibromofluoromethane	98.5			76.0-123
(S) a,a,a-Trifluorotoluene	106			80.0-120
(S) 4-Bromofluorobenzene	96.5			80.0-120

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

(LCS) R3322938-1 07/02/18 09:33 • (LCSD) R3322938-2 07/02/18 09:53

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	0.0250	0.0260	0.0258	104	103	69.0-123			0.949	20
Ethylbenzene	0.0250	0.0249	0.0253	99.6	101	77.0-120			1.68	20
Toluene	0.0250	0.0243	0.0244	97.1	97.4	77.0-120			0.370	20
Xylenes, Total	0.0750	0.0746	0.0755	99.5	101	77.0-120			1.20	20
(S) Toluene-d8				96.4	96.3	80.0-120				
(S) Dibromofluoromethane				98.6	98.5	76.0-123				
(S) a,a,a-Trifluorotoluene				104	106	80.0-120				
(S) 4-Bromofluorobenzene				93.5	93.0	80.0-120				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





Method Blank (MB)

(MB) R3323086-1 07/04/18 15:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	104			31.0-160

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

(LCS) R3323086-2 07/04/18 15:27 • (LCSD) R3323086-3 07/04/18 15:44

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) High Fraction	1.50	1.69	1.75	113	117	50.0-150			3.53	20
(S) o-Terphenyl				108	107	31.0-160				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



## 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, the sample preparation volume or weight values differ from the standard, 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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

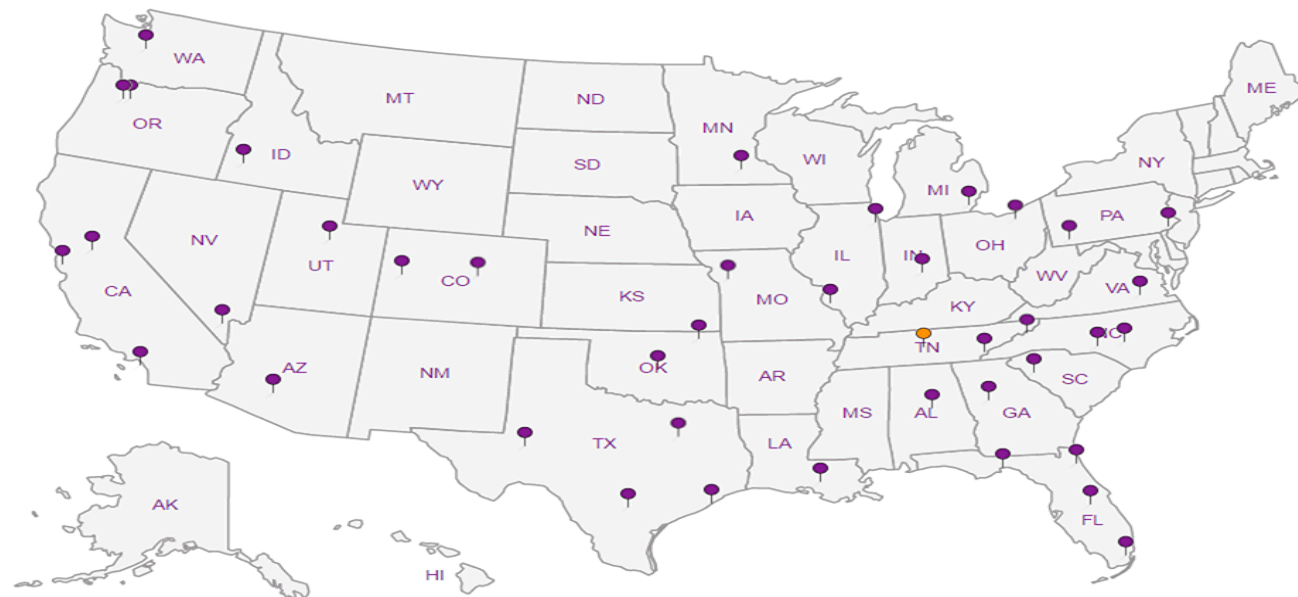
## Third Party Federal Accreditations





A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

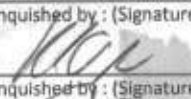
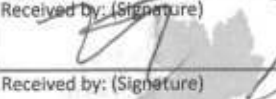
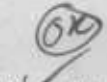
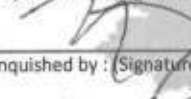
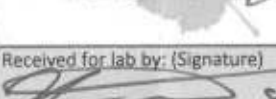
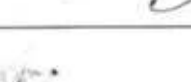

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.




Company Name/Address: <b>Olsson Associates</b> <i>Entrada Consulting Group</i> 240 Mesa Avenue Grand Junction, CO 81501				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 			
Report to: <b>Robert Stockton</b>				Email To: <i>entrada@olssonassociates.com</i> <b>rstockton@olssonassociates.com</b>				<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>V8260BTEX (2 - 40ml vials w/ HCL)</p> <p>GRO (2 - 40ml vials w/ HCL)</p> <p>DROLVI (2 - 40ml vials w/ HCL)</p> <p>Dissolved metals (500 ml HDPE, no pres)***</p> <p>Br, Cl, F, NO<sub>2</sub>, NO<sub>3</sub>, SO<sub>4</sub> (500 ml, no pres)</p> <p>SPCON, pH, (500 ml HDPE, no pres)</p> <p>Total Alkalinity (500 ml HDPE, no pres)</p> <p>Chlorides, Sulfates</p> <p style="text-align: center;">TDJ</p> </div> <div style="width: 45%; text-align: center;"> <p>*** - Ca, Fe, Mg, Mn, K, Se, Na</p> </div> </div>													
Project Description: <b>HCWTF</b>				City/State Collected: <b>CO</b>																	
Phone: <b>(970) 640-0568</b> Fax:				Client Project #														Lab Project #			
Collected by (print): <b>Robert Stockton</b>				Site/Facility ID # <b>HCWTF</b>														P.O. #			
Collected by (signature):  Immediately Packed on Ice N <u>  </u> Y <u>  </u> <input checked="" type="checkbox"/>				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day .....200% <input type="checkbox"/> Next Day .....100% <input type="checkbox"/> Two Day .....50% <input type="checkbox"/> Three Day .....25%														Date Results Needed Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes No. of Cntrs			
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time															
HCWTF-BC		Grab	GW		6/29/18	1440	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-01			
HCWTF-MW-1		Grab	GW		6/29/18	1240	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	02			
HCWTF-MW-3		Grab	GW		6/29/18	1325	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	03			
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		
		Grab	GW																		

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

Remarks: 7474 0928 5423

Relinquished by: (Signature) 		Date: 6/29/18 Time: 1730	Received by: (Signature) 		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) <div style="text-align: center;">  </div>		
Relinquished by: (Signature) 		Date: 6/29/18 Time: 1800	Received by: (Signature) 		Temp: 8.00°C Bottles Received: 27		COC Seal Intact: <u>  </u> Y <u>  </u> N <u>  </u> NA	
Relinquished by: (Signature) 		Date: _____ Time: _____	Received for lab by: (Signature) 		Date: 6/30/18 Time: 8:45		pH Checked: _____ NCF: _____	

## ESC LAB SCIENCES Cooler Receipt Form

Client:	ENTC6NGJLO	SDG#	L1605963	
Cooler Received/Opened On:	6/20 /18	Temperature:	0.6	
Received By: Kevin Turner				
Signature: 				
<b>Receipt Check List</b>	<b>NP</b>	<b>Yes</b>	<b>No</b>	
COC Seal Present / Intact?	/			
COC Signed / Accurate?		/		
Bottles arrive intact?		/		
Correct bottles used?		/		
Sufficient volume sent?		/		
If Applicable				
VOA Zero headspace?		/		
Preservation Correct / Checked?				

August 27, 2018

## Entrada Consulting Group

Sample Delivery Group: L1018631  
Samples Received: 08/17/2018  
Project Number:  
Description: Pond 4 Monitoring Wells

Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Chris Ward  
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
MW3 L1018631-01	5
MW1 L1018631-02	7
Qc: Quality Control Summary	9
Wet Chemistry by Method 2320 B-2011	9
Wet Chemistry by Method 9040C	10
Wet Chemistry by Method 9050A	11
Wet Chemistry by Method 9056A	12
Metals (ICP) by Method 6010B	13
Volatile Organic Compounds (GC) by Method 8015D/GRO	14
Volatile Organic Compounds (GC/MS) by Method 8260B	15
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	16
Gl: Glossary of Terms	17
Al: Accreditations & Locations	18
Sc: Sample Chain of Custody	19





# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## MW3 L1018631-01 GW

Collected by  
Tim Dobransky

Collected date/time  
08/16/18 10:40

Received date/time  
08/17/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1156365	1	08/23/18 15:43	08/23/18 15:43	GB
Wet Chemistry by Method 9040C	WG1154862	1	08/20/18 15:41	08/20/18 15:41	ITB
Wet Chemistry by Method 9050A	WG1153998	1	08/17/18 20:39	08/17/18 20:39	MZ
Wet Chemistry by Method 9056A	WG1153832	1	08/18/18 08:51	08/18/18 08:51	MAJ
Metals (ICP) by Method 6010B	WG1153982	1	08/18/18 08:45	08/18/18 12:16	WBD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1154425	1	08/19/18 10:02	08/19/18 10:02	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1154140	1	08/18/18 13:49	08/18/18 13:49	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1154024	1	08/18/18 01:16	08/19/18 13:24	SHG

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## MW1 L1018631-02 GW

Collected by  
Tim Dobransky

Collected date/time  
08/16/18 11:30

Received date/time  
08/17/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1156365	1	08/23/18 15:50	08/23/18 15:50	GB
Wet Chemistry by Method 9040C	WG1154862	1	08/20/18 15:41	08/20/18 15:41	ITB
Wet Chemistry by Method 9050A	WG1153998	1	08/17/18 20:39	08/17/18 20:39	MZ
Wet Chemistry by Method 9056A	WG1153832	1	08/18/18 09:28	08/18/18 09:28	MAJ
Metals (ICP) by Method 6010B	WG1153982	1	08/18/18 08:45	08/18/18 12:19	WBD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1154425	1	08/19/18 10:25	08/19/18 10:25	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1154140	1	08/18/18 14:09	08/18/18 14:09	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1154024	3	08/18/18 01:16	08/18/18 12:15	SHG





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. Where applicable, 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.

Chris Ward  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	253		20.0	1	08/23/2018 15:43	<a href="#">WG1156365</a>

## Sample Narrative:

L1018631-01 WG1156365: Endpoint pH 4.5 HEADSPACE

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.77	<a href="#">T8</a>	1	08/20/2018 15:41	<a href="#">WG1154862</a>

## Sample Narrative:

L1018631-01 WG1154862: 7.77 at 12.4C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	631		10.0	1	08/17/2018 20:39	<a href="#">WG1153998</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	08/18/2018 08:51	<a href="#">WG1153832</a>
Chloride	21.8		1.00	1	08/18/2018 08:51	<a href="#">WG1153832</a>
Fluoride	0.264		0.100	1	08/18/2018 08:51	<a href="#">WG1153832</a>
Nitrate as (N)	0.868		0.100	1	08/18/2018 08:51	<a href="#">WG1153832</a>
Nitrite as (N)	ND		0.100	1	08/18/2018 08:51	<a href="#">WG1153832</a>
Sulfate	46.6		5.00	1	08/18/2018 08:51	<a href="#">WG1153832</a>

## Metals (ICP) by Method 6010B

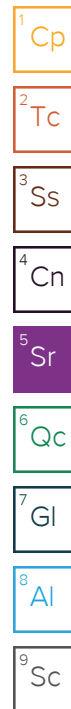
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	74.6		1.00	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Iron,Dissolved	ND		0.100	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Magnesium,Dissolved	14.7		1.00	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Manganese,Dissolved	ND		0.0100	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Potassium,Dissolved	2.62		1.00	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Selenium,Dissolved	0.0106		0.0100	1	08/18/2018 12:16	<a href="#">WG1153982</a>
Sodium,Dissolved	48.1		1.00	1	08/18/2018 12:16	<a href="#">WG1153982</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	08/19/2018 10:02	<a href="#">WG1154425</a>
(S) a,a,a-Trifluorotoluene(FID)	98.6		77.0-122		08/19/2018 10:02	<a href="#">WG1154425</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	08/18/2018 13:49	<a href="#">WG1154140</a>
Toluene	ND		0.00100	1	08/18/2018 13:49	<a href="#">WG1154140</a>
Ethylbenzene	ND		0.00100	1	08/18/2018 13:49	<a href="#">WG1154140</a>
Total Xylenes	ND		0.00300	1	08/18/2018 13:49	<a href="#">WG1154140</a>
(S) Toluene-d8	100		80.0-120		08/18/2018 13:49	<a href="#">WG1154140</a>





Collected date/time: 08/16/18 10:40

L1018631

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
(S) Dibromofluoromethane	94.7		76.0-123		08/18/2018 13:49	<a href="#">WG1154140</a>
(S) a,a,a-Trifluorotoluene	102		80.0-120		08/18/2018 13:49	<a href="#">WG1154140</a>
(S) 4-Bromofluorobenzene	99.8		80.0-120		08/18/2018 13:49	<a href="#">WG1154140</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
TPH (GC/FID) High Fraction	ND		0.100	1	08/19/2018 13:24	<a href="#">WG1154024</a>
(S) o-Terphenyl	97.5		31.0-160		08/19/2018 13:24	<a href="#">WG1154024</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	351		20.0	1	08/23/2018 15:50	<a href="#">WG1156365</a>

## Sample Narrative:

L1018631-02 WG1156365: Endpoint pH 4.5 HEADSPACE

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.69	<a href="#">T8</a>	1	08/20/2018 15:41	<a href="#">WG1154862</a>

## Sample Narrative:

L1018631-02 WG1154862: 7.69 at 13.3C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	741		10.0	1	08/17/2018 20:39	<a href="#">WG1153998</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	08/18/2018 09:28	<a href="#">WG1153832</a>
Chloride	11.8		1.00	1	08/18/2018 09:28	<a href="#">WG1153832</a>
Fluoride	0.276		0.100	1	08/18/2018 09:28	<a href="#">WG1153832</a>
Nitrate as (N)	2.82		0.100	1	08/18/2018 09:28	<a href="#">WG1153832</a>
Nitrite as (N)	ND		0.100	1	08/18/2018 09:28	<a href="#">WG1153832</a>
Sulfate	22.2		5.00	1	08/18/2018 09:28	<a href="#">WG1153832</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	75.8		1.00	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Iron,Dissolved	ND		0.100	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Magnesium,Dissolved	11.0		1.00	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Manganese,Dissolved	ND		0.0100	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Potassium,Dissolved	2.71		1.00	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Selenium,Dissolved	ND		0.0100	1	08/18/2018 12:19	<a href="#">WG1153982</a>
Sodium,Dissolved	84.9		1.00	1	08/18/2018 12:19	<a href="#">WG1153982</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	08/19/2018 10:25	<a href="#">WG1154425</a>
(S) a,a,a-Trifluorotoluene(FID)	98.5		77.0-122		08/19/2018 10:25	<a href="#">WG1154425</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	08/18/2018 14:09	<a href="#">WG1154140</a>
Toluene	ND		0.00100	1	08/18/2018 14:09	<a href="#">WG1154140</a>
Ethylbenzene	ND		0.00100	1	08/18/2018 14:09	<a href="#">WG1154140</a>
Total Xylenes	ND		0.00300	1	08/18/2018 14:09	<a href="#">WG1154140</a>
(S) Toluene-d8	98.7		80.0-120		08/18/2018 14:09	<a href="#">WG1154140</a>

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



Collected date/time: 08/16/18 11:30

L1018631

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
(S) Dibromofluoromethane	94.2		76.0-123		08/18/2018 14:09	<a href="#">WG1154140</a>
(S) a,a,a-Trifluorotoluene	98.9		80.0-120		08/18/2018 14:09	<a href="#">WG1154140</a>
(S) 4-Bromofluorobenzene	99.8		80.0-120		08/18/2018 14:09	<a href="#">WG1154140</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
TPH (GC/FID) High Fraction	ND		0.300	3	08/18/2018 12:15	<a href="#">WG1154024</a>
(S) o-Terphenyl	86.5		31.0-160		08/18/2018 12:15	<a href="#">WG1154024</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3336257-1 08/23/18 14:01

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	3.61	⬇	2.71	20.0

Sample Narrative:  
BLANK: Endpoint pH 4.5

L1017906-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1017906-01 08/23/18 14:12 • (DUP) R3336257-2 08/23/18 14:21

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	120	120	1	0.0186		20

Sample Narrative:  
OS: Endpoint pH 4.5 HEADSPACE  
DUP: Endpoint pH 4.5

L1018805-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1018805-01 08/23/18 15:57 • (DUP) R3336257-4 08/23/18 16:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	314	314	1	0.0470		20

Sample Narrative:  
OS: Endpoint pH 4.5 HEADSPACE  
DUP: Endpoint pH 4.5

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

(LCS) R3336257-3 08/23/18 15:33 • (LCSD) R3336257-5 08/23/18 16:50

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	115	103	115	103	85.0-115			11.0	20

Sample Narrative:  
LCS: Endpoint pH 4.5  
LCSD: Endpoint pH 4.5

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1018504-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1018504-01 08/20/18 15:41 • (DUP) R3335066-3 08/20/18 15:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.08	8.07	1	0.124		1

Sample Narrative:  
OS: 8.08 at 12.8C  
DUP: 8.07 at 12.4C

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

L1018961-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1018961-03 08/20/18 15:41 • (DUP) R3335066-4 08/20/18 15:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	5.84	5.83	1	0.171		1

Sample Narrative:  
OS: 5.84 at 19.1C  
DUP: 5.83 at 19.2C

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

(LCS) R3335066-1 08/20/18 15:41 • (LCSD) R3335066-2 08/20/18 15:41

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	9.99	10.0	99.9	100	99.0-101			0.200	1

Sample Narrative:  
LCS: 9.99 at 19.1C  
LCSD: 10.01 at 19.1C



Method Blank (MB)

(MB) R3334663-1 08/17/18 20:39

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1018193-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1018193-01 08/17/18 20:39 • (DUP) R3334663-4 08/17/18 20:39

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	647	640	1	1.09		20

L1018631-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1018631-02 08/17/18 20:39 • (DUP) R3334663-5 08/17/18 20:39

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	741	749	1	1.07		20

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

(LCS) R3334663-2 08/17/18 20:39 • (LCSD) R3334663-3 08/17/18 20:39

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	877	872	879	99.4	100	85.0-115			0.800	20





Method Blank (MB)

(MB) R3335110-1 08/17/18 10:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.0790	1.00
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Nitrate	U		0.0227	0.100
Nitrite	U		0.0277	0.100
Sulfate	U		0.0774	5.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

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

(LCS) R3335110-2 08/17/18 11:14 • (LCSD) R3335110-3 08/17/18 11:32

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 %
Bromide	40.0	39.6	39.7	99.0	99.2	80.0-120			0.219	15
Chloride	40.0	39.0	39.1	97.5	97.6	80.0-120			0.193	15
Fluoride	8.00	7.88	7.90	98.5	98.8	80.0-120			0.331	15
Nitrate	8.00	8.04	8.06	101	101	80.0-120			0.184	15
Nitrite	8.00	7.90	7.93	98.8	99.1	80.0-120			0.286	15
Sulfate	40.0	39.8	39.9	99.6	99.7	80.0-120			0.123	15

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3334765-1 08/18/18 11:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	U		0.0141	0.100
Magnesium,Dissolved	U		0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	0.203	U	0.102	1.00
Selenium,Dissolved	U		0.00740	0.0100
Sodium,Dissolved	0.145	U	0.0985	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3334765-2 08/18/18 11:37 • (LCSD) R3334765-3 08/18/18 11:40

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 %
Calcium,Dissolved	10.0	10.2	10.1	102	101	80.0-120			1.37	20
Iron,Dissolved	10.0	10.1	9.97	101	99.7	80.0-120			0.959	20
Magnesium,Dissolved	10.0	10.4	10.3	104	103	80.0-120			0.656	20
Manganese,Dissolved	1.00	0.996	0.986	99.6	98.6	80.0-120			0.967	20
Potassium,Dissolved	10.0	10.2	9.99	102	99.9	80.0-120			1.58	20
Selenium,Dissolved	1.00	0.985	0.984	98.5	98.4	80.0-120			0.0666	20
Sodium,Dissolved	10.0	10.2	10.1	102	101	80.0-120			0.998	20

L1018551-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1018551-04 08/18/18 11:42 • (MS) R3334765-5 08/18/18 11:47 • (MSD) R3334765-6 08/18/18 11:50

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 %
Calcium,Dissolved	10.0	U	9.92	10.1	99.2	101	1	75.0-125			1.87	20
Iron,Dissolved	10.0	U	9.83	10.0	98.3	100	1	75.0-125			1.97	20
Magnesium,Dissolved	10.0	U	10.3	10.5	103	105	1	75.0-125			1.32	20
Manganese,Dissolved	1.00	U	0.970	0.986	97.0	98.6	1	75.0-125			1.66	20
Potassium,Dissolved	10.0	0.204	9.82	10.0	96.2	98.4	1	75.0-125			2.25	20
Selenium,Dissolved	1.00	U	0.973	0.981	97.3	98.1	1	75.0-125			0.875	20
Sodium,Dissolved	10.0	0.314	10.1	10.3	98.2	99.7	1	75.0-125			1.48	20

Method Blank (MB)

(MB) R3335465-3 08/19/18 05:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	98.3			77.0-122

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

(LCS) R3335465-1 08/19/18 03:52 • (LCSD) R3335465-2 08/19/18 04:39

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	6.23	6.03	113	110	71.0-136			3.28	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	77.0-122				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3335139-3 08/18/18 10:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	94.5			76.0-123
(S) a,a,a-Trifluorotoluene	101			80.0-120
(S) 4-Bromofluorobenzene	101			80.0-120

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3335139-1 08/18/18 09:22 • (LCSD) R3335139-2 08/18/18 09:42

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	0.0250	0.0251	0.0252	101	101	69.0-123			0.404	20
Ethylbenzene	0.0250	0.0264	0.0269	106	108	77.0-120			1.88	20
Toluene	0.0250	0.0259	0.0262	104	105	77.0-120			1.27	20
Xylenes, Total	0.0750	0.0786	0.0797	105	106	77.0-120			1.39	20
(S) Toluene-d8				98.2	100	80.0-120				
(S) Dibromofluoromethane				94.2	93.7	76.0-123				
(S) a,a,a-Trifluorotoluene				99.4	98.5	80.0-120				
(S) 4-Bromofluorobenzene				101	98.3	80.0-120				

L1018508-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1018508-01 08/18/18 12:49 • (MS) R3335139-4 08/18/18 18:23 • (MSD) R3335139-5 08/18/18 18:43

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	0.0250	U	0.0212	0.0181	84.6	72.6	1	34.0-147			15.4	20
Ethylbenzene	0.0250	U	0.0233	0.0200	93.2	80.0	1	42.0-147			15.3	20
Toluene	0.0250	U	0.0222	0.0190	88.7	75.9	1	42.0-141			15.6	20
Xylenes, Total	0.0750	U	0.0692	0.0591	92.3	78.8	1	41.0-148			15.7	20
(S) Toluene-d8					99.9	100		80.0-120				
(S) Dibromofluoromethane					97.4	96.5		76.0-123				
(S) a,a,a-Trifluorotoluene					98.7	98.7		80.0-120				
(S) 4-Bromofluorobenzene					98.3	98.5		80.0-120				



Method Blank (MB)

(MB) R3334799-1 08/18/18 09:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0481	⬇	0.0247	0.100
(S) o-Terphenyl	102			31.0-160

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

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

(LCS) R3334799-2 08/18/18 09:36 • (LCSD) R3334799-3 08/18/18 09:53

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) High Fraction	1.50	1.46	1.53	97.3	102	50.0-150			4.68	20
(S) o-Terphenyl				127	121	31.0-160				



## 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, the sample preparation volume or weight values differ from the standard, 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

J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

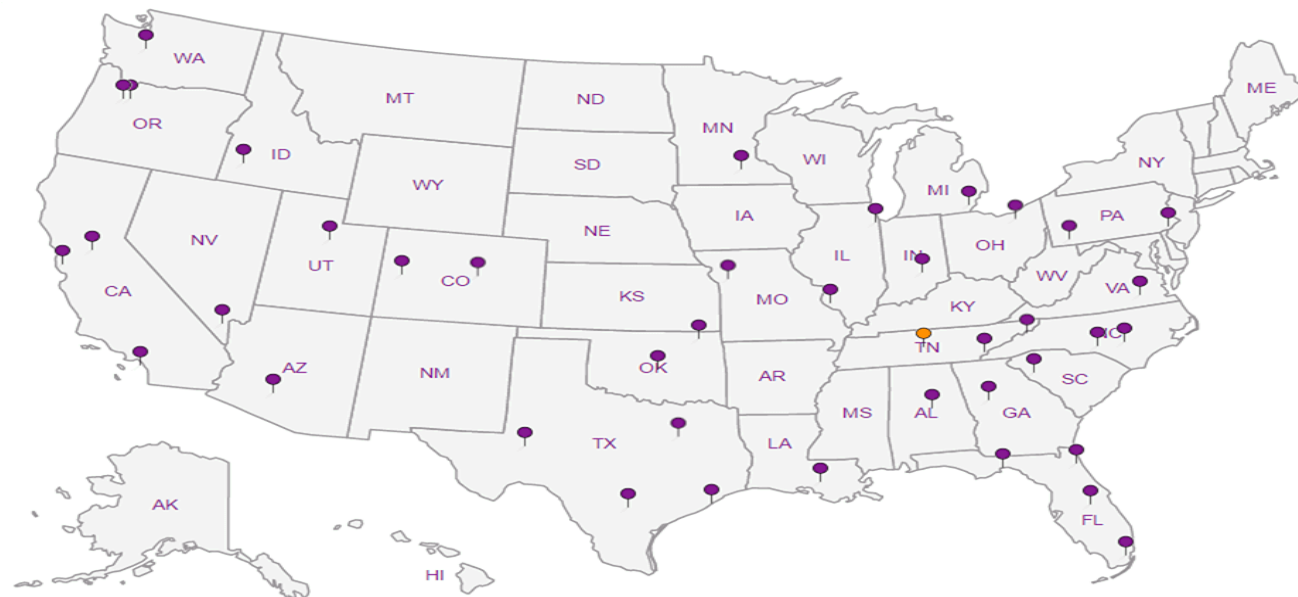
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.

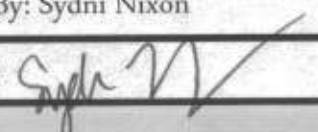






## Pace Analytical National Center for Testing & Innovation

### Cooler Receipt Form

Client:	SDG#	LID198631	
Cooler Received/Opened On: 8/17/18	Temperature:	2.2	
Received By: Sydni Nixon			
Signature: 			
<b>Receipt Check List</b>	<b>NP</b>	<b>Yes</b>	<b>No</b>
COC Seal Present / Intact?	/		
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?		/	
Preservation Correct / Checked?		/	

**Katie Ingram**



Login #:11018631	Client: ENTCONGICO	Date:08/17/18	Evaluated by:Myra "Katie" Ingram
------------------	--------------------	---------------	----------------------------------

**Non-Conformance (check applicable items)**

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	<input checked="" type="checkbox"/> Login Clarification Needed	<b>If Broken Container:</b>
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 / Courte
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.	<b>If no Chain of Custody:</b>
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:**

Received a 250mlHDPE-HNO3 with no designation on the chain. The client is requesting dissolved metals, but this container does not appear to be filtered

Client informed by:	<input checked="" type="checkbox"/> Call	Email	Voice Mail	Date: 8/17/18	Time: 1543
TSR Initials: CMW	Client Contact: Stuart Hall				

**Login Instructions:**

Please dispose of this container. It was sampled in error

## Entrada Consulting Group

Sample Delivery Group: L1028871

Samples Received: 09/26/2018

Project Number: 017-013

Description: HCWTF

Report To: Robert Stockton  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Chris Ward  
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	<sup>2</sup> Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	<sup>3</sup> Ss
MW-1 L1028871-01	5	
MW-3 L1028871-02	7	<sup>4</sup> Cn
Qc: Quality Control Summary	9	<sup>5</sup> Sr
Wet Chemistry by Method 2320 B-2011	9	
Wet Chemistry by Method 9040C	10	<sup>6</sup> Qc
Wet Chemistry by Method 9050A	11	
Wet Chemistry by Method 9056A	12	<sup>7</sup> Gl
Metals (ICP) by Method 6010B	14	<sup>8</sup> Al
Volatile Organic Compounds (GC) by Method 8015D/GRO	15	
Volatile Organic Compounds (GC/MS) by Method 8260B	16	<sup>9</sup> Sc
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	17	
Gl: Glossary of Terms	18	
Al: Accreditations & Locations	19	
Sc: Sample Chain of Custody	20	

# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## MW-1 L1028871-01 GW

Collected by Robert Stockton  
Collected date/time 09/25/18 13:30  
Received date/time 09/26/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1174424	1	10/02/18 13:00	10/02/18 13:00	GB
Wet Chemistry by Method 9040C	WG1172052	1	09/26/18 23:00	09/26/18 23:00	MAJ
Wet Chemistry by Method 9050A	WG1172466	1	09/29/18 10:57	09/29/18 10:57	MJA
Wet Chemistry by Method 9056A	WG1171723	1	09/26/18 18:22	09/26/18 18:22	ELN
Metals (ICP) by Method 6010B	WG1172319	1	09/28/18 11:40	10/01/18 10:42	CCE
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1173308	1	09/29/18 06:20	09/29/18 06:20	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1172705	1	09/27/18 23:12	09/27/18 23:12	ACG
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1172578	1	09/28/18 23:21	09/29/18 16:03	SHG

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## MW-3 L1028871-02 GW

Collected by Robert Stockton  
Collected date/time 09/25/18 16:30  
Received date/time 09/26/18 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1174424	1	10/02/18 13:16	10/02/18 13:16	GB
Wet Chemistry by Method 9040C	WG1172052	1	09/26/18 23:00	09/26/18 23:00	MAJ
Wet Chemistry by Method 9050A	WG1172466	1	09/29/18 10:57	09/29/18 10:57	MJA
Wet Chemistry by Method 9056A	WG1171723	1	09/26/18 18:40	09/26/18 18:40	ELN
Metals (ICP) by Method 6010B	WG1172319	1	09/28/18 11:40	10/01/18 10:45	CCE
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1173308	1	09/29/18 06:41	09/29/18 06:41	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1172705	1	09/27/18 23:32	09/27/18 23:32	ACG
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1172578	1	09/28/18 23:21	09/29/18 16:20	SHG



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. Where applicable, 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.

Chris Ward  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	329		20.0	1	10/02/2018 13:00	<a href="#">WG1174424</a>

## Sample Narrative:

L1028871-01 WG1174424: Endpoint pH 4.5 HEADSPACE

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.67	<a href="#">T8</a>	1	09/26/2018 23:00	<a href="#">WG1172052</a>

## Sample Narrative:

L1028871-01 WG1172052: 7.67 at 9.5C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	728		10.0	1	09/29/2018 10:57	<a href="#">WG1172466</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	09/26/2018 18:22	<a href="#">WG1171723</a>
Chloride	13.3		1.00	1	09/26/2018 18:22	<a href="#">WG1171723</a>
Fluoride	0.240		0.100	1	09/26/2018 18:22	<a href="#">WG1171723</a>
Nitrate as (N)	2.62		0.100	1	09/26/2018 18:22	<a href="#">WG1171723</a>
Nitrite as (N)	ND		0.100	1	09/26/2018 18:22	<a href="#">WG1171723</a>
Sulfate	22.3		5.00	1	09/26/2018 18:22	<a href="#">WG1171723</a>

## Metals (ICP) by Method 6010B

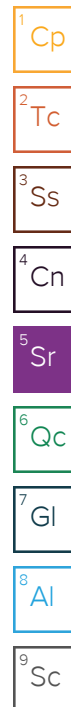
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	102		1.00	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Iron,Dissolved	ND		0.100	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Magnesium,Dissolved	17.1		1.00	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Manganese,Dissolved	ND		0.0100	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Potassium,Dissolved	1.45	<a href="#">B</a>	1.00	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Selenium,Dissolved	ND		0.0100	1	10/01/2018 10:42	<a href="#">WG1172319</a>
Sodium,Dissolved	43.7		1.00	1	10/01/2018 10:42	<a href="#">WG1172319</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/29/2018 06:20	<a href="#">WG1173308</a>
(S) a,a,a-Trifluorotoluene(FID)	99.9		78.0-120		09/29/2018 06:20	<a href="#">WG1173308</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/27/2018 23:12	<a href="#">WG1172705</a>
Toluene	ND		0.00100	1	09/27/2018 23:12	<a href="#">WG1172705</a>
Ethylbenzene	ND		0.00100	1	09/27/2018 23:12	<a href="#">WG1172705</a>
Total Xylenes	ND		0.00300	1	09/27/2018 23:12	<a href="#">WG1172705</a>
(S) Toluene-d8	110		80.0-120		09/27/2018 23:12	<a href="#">WG1172705</a>







Collected date/time: 09/25/18 13:30

L1028871

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
(S) Dibromofluoromethane	94.4		75.0-120		09/27/2018 23:12	<a href="#">WG1172705</a>
(S) a,a,a-Trifluorotoluene	117		80.0-120		09/27/2018 23:12	<a href="#">WG1172705</a>
(S) 4-Bromofluorobenzene	80.1		77.0-126		09/27/2018 23:12	<a href="#">WG1172705</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
TPH (GC/FID) High Fraction	ND		0.100	1	09/29/2018 16:03	<a href="#">WG1172578</a>
(S) o-Terphenyl	82.1		31.0-160		09/29/2018 16:03	<a href="#">WG1172578</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc





## Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Alkalinity	248		20.0	1	10/02/2018 13:16	<a href="#">WG1174424</a>

## Sample Narrative:

L1028871-02 WG1174424: Endpoint pH 4.5 HEADSPACE

## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.41	<a href="#">T8</a>	1	09/26/2018 23:00	<a href="#">WG1172052</a>

## Sample Narrative:

L1028871-02 WG1172052: 7.41 at 9.3C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	639		10.0	1	09/29/2018 10:57	<a href="#">WG1172466</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	09/26/2018 18:40	<a href="#">WG1171723</a>
Chloride	20.9		1.00	1	09/26/2018 18:40	<a href="#">WG1171723</a>
Fluoride	0.240		0.100	1	09/26/2018 18:40	<a href="#">WG1171723</a>
Nitrate as (N)	0.895		0.100	1	09/26/2018 18:40	<a href="#">WG1171723</a>
Nitrite as (N)	ND		0.100	1	09/26/2018 18:40	<a href="#">WG1171723</a>
Sulfate	43.5		5.00	1	09/26/2018 18:40	<a href="#">WG1171723</a>

## Metals (ICP) by Method 6010B

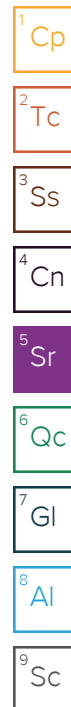
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	74.6		1.00	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Iron,Dissolved	ND		0.100	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Magnesium,Dissolved	14.4		1.00	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Manganese,Dissolved	ND		0.0100	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Potassium,Dissolved	2.66	<a href="#">B</a>	1.00	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Selenium,Dissolved	0.0108		0.0100	1	10/01/2018 10:45	<a href="#">WG1172319</a>
Sodium,Dissolved	46.4		1.00	1	10/01/2018 10:45	<a href="#">WG1172319</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	09/29/2018 06:41	<a href="#">WG1173308</a>
(S) a,a,a-Trifluorotoluene(FID)	98.1		78.0-120		09/29/2018 06:41	<a href="#">WG1173308</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/27/2018 23:32	<a href="#">WG1172705</a>
Toluene	ND		0.00100	1	09/27/2018 23:32	<a href="#">WG1172705</a>
Ethylbenzene	ND		0.00100	1	09/27/2018 23:32	<a href="#">WG1172705</a>
Total Xylenes	ND		0.00300	1	09/27/2018 23:32	<a href="#">WG1172705</a>
(S) Toluene-d8	109		80.0-120		09/27/2018 23:32	<a href="#">WG1172705</a>





Collected date/time: 09/25/18 16:30

L1028871

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
(S) Dibromofluoromethane	89.5		75.0-120		09/27/2018 23:32	<a href="#">WG1172705</a>
(S) a,a,a-Trifluorotoluene	102		80.0-120		09/27/2018 23:32	<a href="#">WG1172705</a>
(S) 4-Bromofluorobenzene	103		77.0-126		09/27/2018 23:32	<a href="#">WG1172705</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	09/29/2018 16:20	<a href="#">WG1172578</a>
(S) o-Terphenyl	81.1		31.0-160		09/29/2018 16:20	<a href="#">WG1172578</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3346931-1 10/02/18 12:53

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	U		2.71	20.0

Sample Narrative:  
BLANK: Endpoint pH 4.5

L1028871-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1028871-01 10/02/18 13:00 • (DUP) R3346931-2 10/02/18 13:08

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	329	327	1	0.490		20

Sample Narrative:  
OS: Endpoint pH 4.5 HEADSPACE  
DUP: Endpoint pH 4.5

L1029199-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1029199-01 10/02/18 15:47 • (DUP) R3346931-5 10/02/18 15:54

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	272	270	1	0.545		20

Sample Narrative:  
OS: Endpoint pH 4.5 HEADSPACE  
DUP: Endpoint pH 4.5

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

(LCS) R3346931-3 10/02/18 14:06 • (LCSD) R3346931-4 10/02/18 15:29

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	98.6	99.4	98.6	99.4	85.0-115			0.774	20

Sample Narrative:  
LCS: Endpoint pH 4.5  
LCSD: Endpoint pH 4.5

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1028651-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1028651-01 09/26/18 23:00 • (DUP) R3345493-3 09/26/18 23:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.23	7.25	1	0.276		1

Sample Narrative:

OS: 7.23 at 10C

DUP: 7.25 at 10C

L1028954-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1028954-05 09/26/18 23:00 • (DUP) R3345493-4 09/26/18 23:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.80	7.80	1	0.000		1

Sample Narrative:

OS: 7.8 at 9C

DUP: 7.8 at 9.2C

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

(LCS) R3345493-1 09/26/18 23:00 • (LCSD) R3345493-2 09/26/18 23:00

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	9.99	9.99	99.9	99.9	99.0-101			0.000	1

Sample Narrative:

LCS: 9.99 at 18.1C

LCSD: 9.99 at 18.2C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3346231-1 09/29/18 10:57

Analyte	MB Result umhos/cm	MB Qualifier	MB MDL umhos/cm	MB RDL umhos/cm
Specific Conductance	U		10.0	10.0

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1028871-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1028871-02 09/29/18 10:57 • (DUP) R3346231-4 09/29/18 10:57

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	639	639	1	0.000		20

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

(LCS) R3346231-2 09/29/18 10:57 • (LCSD) R3346231-3 09/29/18 10:57

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCSD Result umhos/cm	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Specific Conductance	1090	1100	1100	101	101	85.0-115			0.0910	20



Method Blank (MB)

(MB) R3345622-1 09/26/18 12:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	U		0.0790	1.00
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Nitrate	U		0.0227	0.100
Nitrite	U		0.0277	0.100
Sulfate	U		0.0774	5.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

L1028846-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1028846-02 09/26/18 15:02 • (DUP) R3345622-4 09/26/18 15:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	0.000	1	0.000		15
Chloride	6.74	6.76	1	0.336		15
Fluoride	ND	0.0726	1	0.000		15
Nitrate	0.727	0.679	1	6.87		15
Nitrite	ND	0.000	1	0.000		15
Sulfate	7.23	7.64	1	5.57		15

L1028863-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1028863-01 09/26/18 17:27 • (DUP) R3345622-7 09/26/18 17:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	ND	0.454	1	0.000		15
Chloride	43.8	44.0	1	0.274		15
Fluoride	0.311	0.310	1	0.387		15
Nitrate	7.86	7.87	1	0.168		15
Nitrite	ND	0.000	1	0.000		15
Sulfate	9.72	9.73	1	0.129		15



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

(LCS) R3345622-2 09/26/18 12:25 • (LCSD) R3345622-3 09/26/18 12:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromide	40.0	39.3	39.4	98.3	98.5	80.0-120			0.225	15
Chloride	40.0	39.5	39.5	98.7	98.8	80.0-120			0.165	15
Fluoride	8.00	7.92	7.94	99.0	99.2	80.0-120			0.213	15
Nitrate	8.00	7.96	7.97	99.5	99.6	80.0-120			0.0916	15
Nitrite	8.00	7.92	7.94	99.0	99.2	80.0-120			0.211	15
Sulfate	40.0	39.6	39.7	99.0	99.2	80.0-120			0.185	15

L1028846-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028846-02 09/26/18 15:02 • (MS) R3345622-5 09/26/18 15:38 • (MSD) R3345622-6 09/26/18 15:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	50.0	ND	47.7	47.8	95.4	95.6	1	80.0-120			0.222	15
Chloride	50.0	6.74	56.2	56.1	99.0	98.8	1	80.0-120			0.173	15
Fluoride	5.00	ND	5.09	5.09	100	100	1	80.0-120			0.0334	15
Nitrate	5.00	0.727	5.54	5.54	96.2	96.3	1	80.0-120			0.0361	15
Nitrite	5.00	ND	5.06	5.07	101	101	1	80.0-120			0.0770	15
Sulfate	50.0	7.23	56.5	56.5	98.6	98.5	1	80.0-120			0.0931	15

L1028863-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1028863-01 09/26/18 17:27 • (MS) R3345622-8 09/26/18 18:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	ND	48.0	95.1	1	80.0-120	
Chloride	50.0	43.8	92.4	97.0	1	80.0-120	
Fluoride	5.00	0.311	5.35	101	1	80.0-120	
Nitrate	5.00	7.86	12.7	95.9	1	80.0-120	E
Nitrite	5.00	ND	5.09	102	1	80.0-120	
Sulfate	50.0	9.72	58.8	98.1	1	80.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3346600-1 10/01/18 10:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	U		0.0141	0.100
Magnesium,Dissolved	0.0153	U	0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	0.502	U	0.102	1.00
Selenium,Dissolved	U		0.00740	0.0100
Sodium,Dissolved	0.596	U	0.0985	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3346600-2 10/01/18 10:12 • (LCSD) R3346600-3 10/01/18 10:15

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 %
Calcium,Dissolved	10.0	10.2	10.1	102	101	80.0-120			0.705	20
Iron,Dissolved	10.0	10.0	9.99	100	99.9	80.0-120			0.347	20
Magnesium,Dissolved	10.0	10.2	10.1	102	101	80.0-120			0.929	20
Manganese,Dissolved	1.00	0.983	0.975	98.3	97.5	80.0-120			0.813	20
Potassium,Dissolved	10.0	9.90	9.93	99.0	99.3	80.0-120			0.377	20
Selenium,Dissolved	1.00	0.994	1.00	99.4	100	80.0-120			1.06	20
Sodium,Dissolved	10.0	10.2	10.4	102	104	80.0-120			1.43	20

L1028875-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028875-04 10/01/18 10:18 • (MS) R3346600-5 10/01/18 10:23 • (MSD) R3346600-6 10/01/18 10:25

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 %
Calcium,Dissolved	10.0	31.6	41.4	41.1	97.9	95.6	1	75.0-125			0.569	20
Iron,Dissolved	10.0	ND	9.88	9.86	98.2	98.0	1	75.0-125			0.192	20
Magnesium,Dissolved	10.0	8.23	18.0	17.9	98.1	97.2	1	75.0-125			0.511	20
Manganese,Dissolved	1.00	0.0219	0.977	0.993	95.5	97.1	1	75.0-125			1.61	20
Potassium,Dissolved	10.0	3.49	12.7	13.3	92.2	98.2	1	75.0-125			4.64	20
Selenium,Dissolved	1.00	ND	0.988	0.988	98.8	98.8	1	75.0-125			0.0100	20
Sodium,Dissolved	10.0	16.6	26.9	26.9	103	104	1	75.0-125			0.0772	20



Method Blank (MB)

(MB) R3346935-3 09/29/18 05:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.9			78.0-120

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

(LCS) R3346935-1 09/29/18 04:41 • (LCSD) R3346935-2 09/29/18 05:02

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	5.44	5.27	98.9	95.9	72.0-127			3.11	20
(S) a,a,a-Trifluorotoluene(FID)				110	110	78.0-120				

L1028871-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028871-01 09/29/18 06:20 • (MS) R3346935-4 09/29/18 13:18 • (MSD) R3346935-5 09/29/18 13:39

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	4.24	5.15	77.1	93.6	1	10.0-160			19.3	22
(S) a,a,a-Trifluorotoluene(FID)					107	111		78.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3346564-3 09/27/18 21:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	111			80.0-120
(S) Dibromofluoromethane	91.9			75.0-120
(S) a,a,a-Trifluorotoluene	101			80.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3346564-1 09/27/18 19:50 • (LCSD) R3346564-2 09/27/18 20:10

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	0.0250	0.0214	0.0213	85.5	85.2	70.0-123			0.365	20
Ethylbenzene	0.0250	0.0261	0.0264	104	106	79.0-123			1.23	20
Toluene	0.0250	0.0245	0.0256	98.0	103	79.0-120			4.61	20
Xylenes, Total	0.0750	0.0777	0.0802	104	107	79.0-123			3.17	20
(S) Toluene-d8				107	107	80.0-120				
(S) Dibromofluoromethane				88.7	90.4	75.0-120				
(S) a,a,a-Trifluorotoluene				99.1	102	80.0-120				
(S) 4-Bromofluorobenzene				110	105	77.0-126				



### Method Blank (MB)

(MB) R3346342-1 09/29/18 12:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	74.5			31.0-160

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

(LCS) R3346342-2 09/29/18 12:52 • (LCSD) R3346342-3 09/29/18 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.37	1.38	91.3	92.0	50.0-150			0.727	20
(S) o-Terphenyl				116	119	31.0-160				

<sup>1</sup>Cp ${}^2\text{Tc}$  ${}^3S_S$  ${}^4\text{Cn}$  ${}^5\text{Sr}$  ${}^6\text{Qc}$ 

GI

 ${}^8\text{Al}$ <sup>9</sup>Sc



## 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, the sample preparation volume or weight values differ from the standard, 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.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
T8	Sample(s) received past/too close to holding time expiration.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

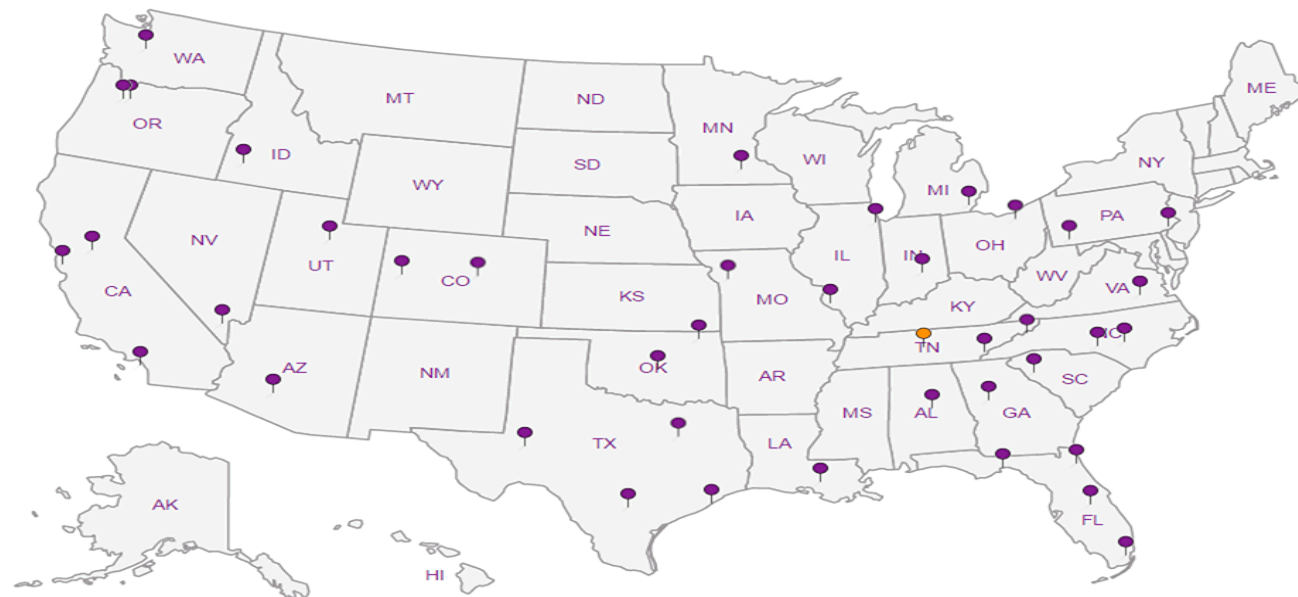
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.



Company Name/Address: <b>Entrada Consulting Group</b> 240 Mesa Avenue Grand Junction, CO 81501				Billing Information:  				Analysis / Container / Preservative										Chain of Custody Page 1 of 1  <b>ESC</b> L.A.B S.C.I.E.N.C.E.S <hr/> YOUR LAB OF CHOICE 13065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 					
Report to: <b>Robert Stockton</b>				Email To: <b>rstockton@entradainc.com</b>				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">V8260BTEX (2 - 40ml vials w/ HCL)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GRO (2 - 40ml vials w/ HCL)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">DROLVI (2 - 40ml vials w/ HCL)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Dissolved metals (500 ml HDPE, no pres)***</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Br, Cl, F, NO<sub>2</sub>, NO<sub>3</sub>, SO<sub>4</sub> (500 ml, no pres)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">SPCON, pH, (500 ml HDPE, no pres)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Alkalinity (500 ml HDPE, no pres)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chlorides, Sulfates</div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-top: 10px;">*** - Ca, Fe, Mg, Mn, K, Se, Na</div>															
Project Description: <b>HCWTF</b>				City/State Collected: <b>CO</b>																			
Phone: <b>(970) 640-0568</b> Fax:				Client Project # <b>017-013</b>																			
Collected by (print): <b>Robert Stockton</b>				Site/Facility ID # <b>017-013 HCWTF</b>																			
Collected by (Signature): 				P.O. # <b>017-013</b>														L# <b>1028871</b> <div style="border: 1px solid black; padding: 5px; text-align: center; font-weight: bold; margin: 5px 0;">A154</div> Acctnum: Template: Prelogin: TSR: Cooler: Shipped Via: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Rem./Contaminant</th> <th>Sample # (lab only)</th> </tr> <tr> <td></td> <td style="text-align: center;">-01</td> </tr> <tr> <td></td> <td style="text-align: center;">02</td> </tr> </table>					
Rem./Contaminant	Sample # (lab only)																						
	-01																						
	02																						
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day .....200% <input type="checkbox"/> Next Day .....100% <input type="checkbox"/> Two Day .....50% <input type="checkbox"/> Three Day .....25%																			
Date Results Needed Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes				No. of Cntrs																			

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEX (2 - 40ml vials w/ HCL)	GRO (2 - 40ml vials w/ HCL)	DROLVI (2 - 40ml vials w/ HCL)	Dissolved metals (500 ml HDPE, no pres)***	Br, Cl, F, NO <sub>2</sub> , NO <sub>3</sub> , SO <sub>4</sub> (500 ml, no pres)	SPCON, pH, (500 ml HDPE, no pres)	Total Alkalinity (500 ml HDPE, no pres)	Chlorides, Sulfates	*** - Ca, Fe, Mg, Mn, K, Se, Na	Rem./Contaminant	Sample # (lab only)
MW-1	Grab	GW		9/25/18	1330	9	X	X	X	X	X	X	X	X			-01
MW-3	Grab	GW		9/25/18	1630	9	X	X	X	X	X	X	X	X			02
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															
	Grab	GW															

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

RAD SCREEN: <0.5 mR/hr pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Remarks: 				Hold #							
Relinquished by: (Signature) 		Date: <b>9/25/18</b>		Time: <b>1600</b>		Received by: (Signature) 		Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____		Condition: (lab use only)	
Relinquished by: (Signature) 		Date: <b>9/25/18</b>		Time: <b>1830</b>		Received by: (Signature) 		Temp: <b>19.4</b> °C Bottles Received: <b>18</b>		COC Seal Intact: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA	
Relinquished by: (Signature) 		Date:		Time:		Received for lab by: (Signature) <b>Flamero</b>		Date: <b>9/26/18</b> Time: <b>0900</b>		pH Checked: NCF:	

# Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: <u>ENTWINGCO</u>	SDG#	<u>61028871</u>		
Cooler Received/Opened On: 09/26/18	Temperature:	<u>1.9</u>		
Received By: Keteishia Cameron				
Signature: <u>K Cameron</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 10, 2018

## Entrada Consulting Group

Sample Delivery Group: L1048912  
Samples Received: 12/01/2018  
Project Number:  
Description: HCWTF  
Site: HCWTF  
Report To: Robert Stockton  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:



Chris Ward  
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
MW-1 L1048912-01	6
MW-3 L1048912-02	7
MW-5 L1048912-03	8
MW-6 L1048912-04	9
MW-7 L1048912-05	10
MW-8 L1048912-06	11
Qc: Quality Control Summary	12
Wet Chemistry by Method 9040C	12
Wet Chemistry by Method 9050A	13
Wet Chemistry by Method 9056A	14
Metals (ICP) by Method 6010B	16
Volatile Organic Compounds (GC) by Method 8015D/GRO	17
Volatile Organic Compounds (GC/MS) by Method 8260B	19
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	21
Gl: Glossary of Terms	23
Al: Accreditations & Locations	24
Sc: Sample Chain of Custody	25



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## MW-1 L1048912-01 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

<sup>1</sup> Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/04/18 22:30	12/04/18 22:30	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 14:55	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1206845	1	12/07/18 21:42	12/07/18 21:42	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204722	1	12/03/18 15:25	12/03/18 15:25	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1205276	1	12/04/18 10:32	12/06/18 12:53	TH

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

## MW-3 L1048912-02 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

<sup>6</sup> Qc

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/04/18 22:41	12/04/18 22:41	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 14:58	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1206845	1	12/07/18 22:04	12/07/18 22:04	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204722	1	12/03/18 15:45	12/03/18 15:45	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1205276	1	12/04/18 10:32	12/06/18 13:11	TH

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## MW-5 L1048912-03 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/04/18 22:52	12/04/18 22:52	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 19:47	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1206845	1	12/07/18 22:27	12/07/18 22:27	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204722	1	12/03/18 16:06	12/03/18 16:06	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1205276	2	12/04/18 10:32	12/06/18 13:28	TH

## MW-6 L1048912-04 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/04/18 23:03	12/04/18 23:03	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 19:50	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1206845	1	12/07/18 22:50	12/07/18 22:50	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204722	1	12/03/18 17:40	12/03/18 17:40	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1205276	2	12/04/18 10:32	12/06/18 13:46	TH

## MW-7 L1048912-05 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/04/18 23:35	12/04/18 23:35	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 19:53	ST

ACCOUNT:

Entrada Consulting Group

PROJECT:

SDG:

L1048912

DATE/TIME:

12/10/18 16:52

PAGE:

3 of 26



## MW-7 L1048912-05 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1206845	1	12/07/18 23:13	12/07/18 23:13	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204558	1	12/03/18 05:45	12/03/18 05:45	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1205276	2	12/04/18 10:32	12/06/18 14:03	TH

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## MW-8 L1048912-06 GW

Collected by Robert Stockton  
Collected date/time 11/30/18 00:00  
Received date/time 12/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9040C	WG1205705	1	12/05/18 14:13	12/05/18 14:13	KBW
Wet Chemistry by Method 9050A	WG1204684	1	12/02/18 11:10	12/02/18 11:10	KK
Wet Chemistry by Method 9056A	WG1204881	1	12/05/18 00:08	12/05/18 00:08	ELN
Metals (ICP) by Method 6010B	WG1205359	1	12/05/18 09:15	12/05/18 19:56	ST
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1208006	1	12/10/18 08:39	12/10/18 08:39	JAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1204558	1	12/03/18 06:04	12/03/18 06:04	TJJ
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1206891	1.03	12/06/18 22:38	12/07/18 16:29	MTJ



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. Where applicable, 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.

Chris Ward  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.61	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-01 WG1205705: 7.61 at 14.4C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	37600		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	11.7		1.00	1	12/04/2018 22:30	<a href="#">WG1204881</a>
Sulfate	21.1		5.00	1	12/04/2018 22:30	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	68.4		1.00	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Magnesium,Dissolved	10.8		1.00	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Manganese,Dissolved	ND		0.0100	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Potassium,Dissolved	2.28		1.00	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Selenium,Dissolved	ND		0.0100	1	12/05/2018 14:55	<a href="#">WG1205359</a>
Sodium,Dissolved	62.7		1.00	1	12/05/2018 14:55	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

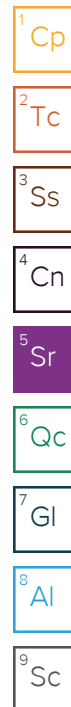
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/07/2018 21:42	<a href="#">WG1206845</a>
(S) a,a,a-Trifluorotoluene(FID)	97.1		78.0-120		12/07/2018 21:42	<a href="#">WG1206845</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 15:25	<a href="#">WG1204722</a>
Toluene	ND		0.00100	1	12/03/2018 15:25	<a href="#">WG1204722</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 15:25	<a href="#">WG1204722</a>
Total Xylenes	ND		0.00300	1	12/03/2018 15:25	<a href="#">WG1204722</a>
(S) Toluene-d8	98.6		80.0-120		12/03/2018 15:25	<a href="#">WG1204722</a>
(S) Dibromofluoromethane	96.7		75.0-120		12/03/2018 15:25	<a href="#">WG1204722</a>
(S) a,a,a-Trifluorotoluene	102		80.0-120		12/03/2018 15:25	<a href="#">WG1204722</a>
(S) 4-Bromofluorobenzene	104		77.0-126		12/03/2018 15:25	<a href="#">WG1204722</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	12/06/2018 12:53	<a href="#">WG1205276</a>
(S) o-Terphenyl	94.2		31.0-160		12/06/2018 12:53	<a href="#">WG1205276</a>





## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.41	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-02 WG1205705: 7.41 at 14.4C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	649		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	19.8		1.00	1	12/04/2018 22:41	<a href="#">WG1204881</a>
Sulfate	44.2		5.00	1	12/04/2018 22:41	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	73.1		1.00	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Magnesium,Dissolved	14.0		1.00	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Manganese,Dissolved	ND		0.0100	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Potassium,Dissolved	2.37		1.00	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Selenium,Dissolved	0.0110		0.0100	1	12/05/2018 14:58	<a href="#">WG1205359</a>
Sodium,Dissolved	46.5		1.00	1	12/05/2018 14:58	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

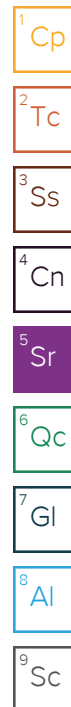
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/07/2018 22:04	<a href="#">WG1206845</a>
(S) a,a,a-Trifluorotoluene(FID)	97.0		78.0-120		12/07/2018 22:04	<a href="#">WG1206845</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 15:45	<a href="#">WG1204722</a>
Toluene	ND		0.00100	1	12/03/2018 15:45	<a href="#">WG1204722</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 15:45	<a href="#">WG1204722</a>
Total Xylenes	ND		0.00300	1	12/03/2018 15:45	<a href="#">WG1204722</a>
(S) Toluene-d8	99.3		80.0-120		12/03/2018 15:45	<a href="#">WG1204722</a>
(S) Dibromofluoromethane	96.9		75.0-120		12/03/2018 15:45	<a href="#">WG1204722</a>
(S) a,a,a-Trifluorotoluene	103		80.0-120		12/03/2018 15:45	<a href="#">WG1204722</a>
(S) 4-Bromofluorobenzene	109		77.0-126		12/03/2018 15:45	<a href="#">WG1204722</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	12/06/2018 13:11	<a href="#">WG1205276</a>
(S) o-Terphenyl	93.2		31.0-160		12/06/2018 13:11	<a href="#">WG1205276</a>





## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.40	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-03 WG1205705: 7.4 at 14.5C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	642		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	7.58		1.00	1	12/04/2018 22:52	<a href="#">WG1204881</a>
Sulfate	17.9		5.00	1	12/04/2018 22:52	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	91.0		1.00	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Magnesium,Dissolved	18.5		1.00	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Manganese,Dissolved	0.0198		0.0100	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Potassium,Dissolved	1.59		1.00	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Selenium,Dissolved	ND		0.0100	1	12/05/2018 19:47	<a href="#">WG1205359</a>
Sodium,Dissolved	25.8		1.00	1	12/05/2018 19:47	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

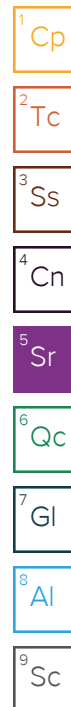
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/07/2018 22:27	<a href="#">WG1206845</a>
(S) a,a,a-Trifluorotoluene(FID)	97.3		78.0-120		12/07/2018 22:27	<a href="#">WG1206845</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 16:06	<a href="#">WG1204722</a>
Toluene	ND		0.00100	1	12/03/2018 16:06	<a href="#">WG1204722</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 16:06	<a href="#">WG1204722</a>
Total Xylenes	ND		0.00300	1	12/03/2018 16:06	<a href="#">WG1204722</a>
(S) Toluene-d8	102		80.0-120		12/03/2018 16:06	<a href="#">WG1204722</a>
(S) Dibromofluoromethane	95.7		75.0-120		12/03/2018 16:06	<a href="#">WG1204722</a>
(S) a,a,a-Trifluorotoluene	105		80.0-120		12/03/2018 16:06	<a href="#">WG1204722</a>
(S) 4-Bromofluorobenzene	105		77.0-126		12/03/2018 16:06	<a href="#">WG1204722</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.200	2	12/06/2018 13:28	<a href="#">WG1205276</a>
(S) o-Terphenyl	69.0		31.0-160		12/06/2018 13:28	<a href="#">WG1205276</a>





## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.07	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-04 WG1205705: 7.07 at 15.9C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	639		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	12.7		1.00	1	12/04/2018 23:03	<a href="#">WG1204881</a>
Sulfate	29.2		5.00	1	12/04/2018 23:03	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	91.2		1.00	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Magnesium,Dissolved	18.1		1.00	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Manganese,Dissolved	1.03		0.0100	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Potassium,Dissolved	4.39		1.00	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Selenium,Dissolved	ND		0.0100	1	12/05/2018 19:50	<a href="#">WG1205359</a>
Sodium,Dissolved	48.3		1.00	1	12/05/2018 19:50	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

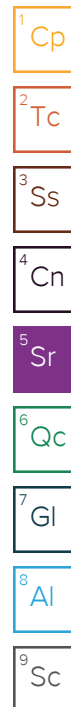
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/07/2018 22:50	<a href="#">WG1206845</a>
(S) a,a,a-Trifluorotoluene(FID)	97.5		78.0-120		12/07/2018 22:50	<a href="#">WG1206845</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 17:40	<a href="#">WG1204722</a>
Toluene	ND		0.00100	1	12/03/2018 17:40	<a href="#">WG1204722</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 17:40	<a href="#">WG1204722</a>
Total Xylenes	ND		0.00300	1	12/03/2018 17:40	<a href="#">WG1204722</a>
(S) Toluene-d8	100		80.0-120		12/03/2018 17:40	<a href="#">WG1204722</a>
(S) Dibromofluoromethane	94.9		75.0-120		12/03/2018 17:40	<a href="#">WG1204722</a>
(S) a,a,a-Trifluorotoluene	104		80.0-120		12/03/2018 17:40	<a href="#">WG1204722</a>
(S) 4-Bromofluorobenzene	107		77.0-126		12/03/2018 17:40	<a href="#">WG1204722</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.200	2	12/06/2018 13:46	<a href="#">WG1205276</a>
(S) o-Terphenyl	76.5		31.0-160		12/06/2018 13:46	<a href="#">WG1205276</a>







## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.29	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-05 WG1205705: 7.29 at 16.5C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	735		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	8.67		1.00	1	12/04/2018 23:35	<a href="#">WG1204881</a>
Sulfate	35.9		5.00	1	12/04/2018 23:35	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	86.8		1.00	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Magnesium,Dissolved	16.8		1.00	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Manganese,Dissolved	0.0489		0.0100	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Potassium,Dissolved	2.14		1.00	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Selenium,Dissolved	ND		0.0100	1	12/05/2018 19:53	<a href="#">WG1205359</a>
Sodium,Dissolved	24.0		1.00	1	12/05/2018 19:53	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

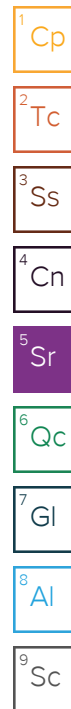
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/07/2018 23:13	<a href="#">WG1206845</a>
(S) a,a,a-Trifluorotoluene(FID)	97.3		78.0-120		12/07/2018 23:13	<a href="#">WG1206845</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 05:45	<a href="#">WG1204558</a>
Toluene	ND		0.00100	1	12/03/2018 05:45	<a href="#">WG1204558</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 05:45	<a href="#">WG1204558</a>
Total Xylenes	ND		0.00300	1	12/03/2018 05:45	<a href="#">WG1204558</a>
(S) Toluene-d8	103		80.0-120		12/03/2018 05:45	<a href="#">WG1204558</a>
(S) Dibromofluoromethane	99.1		75.0-120		12/03/2018 05:45	<a href="#">WG1204558</a>
(S) a,a,a-Trifluorotoluene	106		80.0-120		12/03/2018 05:45	<a href="#">WG1204558</a>
(S) 4-Bromofluorobenzene	102		77.0-126		12/03/2018 05:45	<a href="#">WG1204558</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.200	2	12/06/2018 14:03	<a href="#">WG1205276</a>
(S) o-Terphenyl	192	<u>J1</u>	31.0-160		12/06/2018 14:03	<a href="#">WG1205276</a>





## Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.44	<u>T8</u>	1	12/05/2018 14:13	<a href="#">WG1205705</a>

## Sample Narrative:

L1048912-06 WG1205705: 7.44 at 16.5C

## Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	610		10.0	1	12/02/2018 11:10	<a href="#">WG1204684</a>

## Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Chloride	9.68		1.00	1	12/05/2018 00:08	<a href="#">WG1204881</a>
Sulfate	26.0		5.00	1	12/05/2018 00:08	<a href="#">WG1204881</a>

## Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Calcium,Dissolved	77.5		1.00	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Iron,Dissolved	ND		0.100	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Magnesium,Dissolved	16.1		1.00	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Manganese,Dissolved	0.200		0.0100	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Potassium,Dissolved	3.21		1.00	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Selenium,Dissolved	ND		0.0100	1	12/05/2018 19:56	<a href="#">WG1205359</a>
Sodium,Dissolved	36.2		1.00	1	12/05/2018 19:56	<a href="#">WG1205359</a>

## Volatile Organic Compounds (GC) by Method 8015D/GRO

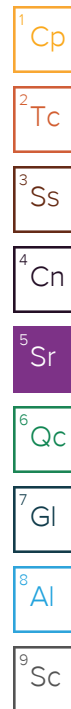
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	12/10/2018 08:39	<a href="#">WG1208006</a>
(S) a,a,a-Trifluorotoluene(FID)	105		78.0-120		12/10/2018 08:39	<a href="#">WG1208006</a>

## Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/03/2018 06:04	<a href="#">WG1204558</a>
Toluene	ND		0.00100	1	12/03/2018 06:04	<a href="#">WG1204558</a>
Ethylbenzene	ND		0.00100	1	12/03/2018 06:04	<a href="#">WG1204558</a>
Total Xylenes	ND		0.00300	1	12/03/2018 06:04	<a href="#">WG1204558</a>
(S) Toluene-d8	109		80.0-120		12/03/2018 06:04	<a href="#">WG1204558</a>
(S) Dibromofluoromethane	93.8		75.0-120		12/03/2018 06:04	<a href="#">WG1204558</a>
(S) a,a,a-Trifluorotoluene	109		80.0-120		12/03/2018 06:04	<a href="#">WG1204558</a>
(S) 4-Bromofluorobenzene	105		77.0-126		12/03/2018 06:04	<a href="#">WG1204558</a>

## Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.103	1.03	12/07/2018 16:29	<a href="#">WG1206891</a>
(S) o-Terphenyl	27.5	<u>J2</u>	31.0-160		12/07/2018 16:29	<a href="#">WG1206891</a>



L1048854-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1048854-02 12/05/18 14:13 • (DUP) R3365495-3 12/05/18 14:13

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.39	7.31	1	1.09	J3	1

Sample Narrative:

OS: 7.39 at 16.7C  
DUP: 7.31 at 17.1C

L1049333-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1049333-01 12/05/18 14:13 • (DUP) R3365495-4 12/05/18 14:13

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.04	8.06	1	0.248		1

Sample Narrative:

OS: 8.04 at 17.5C  
DUP: 8.06 at 17.5C

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

(LCS) R3365495-1 12/05/18 14:13 • (LCSD) R3365495-2 12/05/18 14:13

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	su	su	su	%	%	%			%	%
pH	10.0	9.97	9.97	99.7	99.7	99.0-101			0.000	1

Sample Narrative:

LCS: 9.97 at 16.6C  
LCSD: 9.97 at 17C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3364669-1 12/02/18 11:10

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	umhos/cm		umhos/cm	umhos/cm
Specific Conductance	U		10.0	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1048764-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1048764-01 12/02/18 11:10 • (DUP) R3364669-3 12/02/18 11:10

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	591	619	1	4.63		20

Laboratory Control Sample (LCS)

(LCS) R3364669-2 12/02/18 11:10

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	umhos/cm	umhos/cm	%	%	
Specific Conductance	877	864	98.5	90.0-110	



Method Blank (MB)

(MB) R3365401-1 12/04/18 18:27

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Sulfate	U		0.0774	5.00

L1048912-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1048912-05 12/04/18 23:35 • (DUP) R3365401-5 12/04/18 23:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	8.67	9.05	1	4.36		15
Sulfate	35.9	36.3	1	1.26		15

L1048864-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1048864-07 12/04/18 21:25 • (DUP) R3365401-7 12/05/18 10:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	16.3	16.4	1	0.250		15
Sulfate	28.5	28.5	1	0.133		15

Laboratory Control Sample (LCS)

(LCS) R3365401-2 12/04/18 18:37

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
Chloride	40.0	39.7	99.3	80.0-120	
Sulfate	40.0	39.7	99.3	80.0-120	

L1048864-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1048864-07 12/04/18 21:25 • (MS) R3365401-3 12/04/18 21:47 • (MSD) R3365401-4 12/04/18 21:58

	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	%	%		%			%	%
Chloride	50.0	16.3	63.6	64.3	94.5	95.9	1	80.0-120			1.07	15
Sulfate	50.0	28.5	73.7	73.3	90.4	89.5	1	80.0-120			0.582	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1048912-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1048912-05 12/04/18 23:35 • (MS) R3365401-6 12/04/18 23:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50.0	8.67	56.8	96.3	1	80.0-120	
Sulfate	50.0	35.9	80.3	88.8	1	80.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3365588-1 12/05/18 14:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	U		0.0141	0.100
Magnesium,Dissolved	0.0154	U	0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	U		0.102	1.00
Selenium,Dissolved	U		0.00740	0.0100
Sodium,Dissolved	0.212	U	0.0985	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

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

(LCS) R3365588-2 12/05/18 14:36 • (LCSD) R3365588-3 12/05/18 14:38

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 %
Calcium,Dissolved	10.0	9.27	9.27	92.7	92.7	80.0-120			0.0131	20
Iron,Dissolved	10.0	9.66	9.60	96.6	96.0	80.0-120			0.649	20
Magnesium,Dissolved	10.0	8.96	8.97	89.6	89.7	80.0-120			0.0233	20
Manganese,Dissolved	1.00	0.969	0.967	96.9	96.7	80.0-120			0.235	20
Potassium,Dissolved	10.0	9.28	9.24	92.8	92.4	80.0-120			0.405	20
Selenium,Dissolved	1.00	1.01	1.02	101	102	80.0-120			0.408	20
Sodium,Dissolved	10.0	9.67	9.66	96.7	96.6	80.0-120			0.0948	20

L1049342-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1049342-01 12/05/18 14:41 • (MS) R3365588-5 12/05/18 14:47 • (MSD) R3365588-6 12/05/18 14:49

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 %
Calcium,Dissolved	10.0	7.94	17.2	16.9	92.2	89.8	1	75.0-125			1.42	20
Iron,Dissolved	10.0	ND	9.85	9.64	98.5	96.4	1	75.0-125			2.18	20
Magnesium,Dissolved	10.0	3.69	12.6	12.4	89.4	86.9	1	75.0-125			2.02	20
Manganese,Dissolved	1.00	0.0116	0.975	0.960	96.4	94.9	1	75.0-125			1.53	20
Potassium,Dissolved	10.0	2.30	12.0	11.8	96.6	94.7	1	75.0-125			1.58	20
Selenium,Dissolved	1.00	ND	1.09	1.05	109	105	1	75.0-125			3.41	20
Sodium,Dissolved	10.0	461	462	462	15.6	8.73	1	75.0-125	U	U	0.149	20

Method Blank (MB)

(MB) R3366519-2 12/07/18 13:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0634	⬇	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	95.6			78.0-120

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) R3366519-3 12/07/18 11:57 • (LCSD) R3366519-1 12/07/18 11:15

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	4.87	4.74	88.5	86.2	72.0-127			2.68	20
(S) a,a,a-Trifluorotoluene(FID)				98.9	98.6	78.0-120				





Method Blank (MB)

(MB) R3366623-3 12/10/18 02:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0471	⬇	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			78.0-120

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

(LCS) R3366623-1 12/10/18 01:37 • (LCSD) R3366623-2 12/10/18 01:59

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	5.97	5.90	109	107	72.0-127			1.23	20
(S) a,a,a-Trifluorotoluene(FID)				110	110	78.0-120				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3364779-3 12/02/18 23:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	99.1			80.0-120
(S) Dibromofluoromethane	92.4			75.0-120
(S) a,a,a-Trifluorotoluene	112			80.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

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

(LCS) R3364779-1 12/02/18 22:30 • (LCSD) R3364779-2 12/02/18 22:50

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	0.0250	0.0203	0.0203	81.1	81.3	70.0-123			0.218	20
Ethylbenzene	0.0250	0.0225	0.0232	89.9	92.9	79.0-123			3.29	20
Toluene	0.0250	0.0221	0.0225	88.5	89.8	79.0-120			1.51	20
Xylenes, Total	0.0750	0.0702	0.0730	93.6	97.3	79.0-123			3.91	20
(S) Toluene-d8				98.8	105	80.0-120				
(S) Dibromofluoromethane				90.9	92.9	75.0-120				
(S) a,a,a-Trifluorotoluene				107	114	80.0-120				
(S) 4-Bromofluorobenzene				108	95.7	77.0-126				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Method Blank (MB)

(MB) R3365930-2 12/03/18 13:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	101			80.0-120
(S) Dibromofluoromethane	96.4			75.0-120
(S) a,a,a-Trifluorotoluene	102			80.0-120
(S) 4-Bromofluorobenzene	104			77.0-126

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

Laboratory Control Sample (LCS)

(LCS) R3365930-1 12/03/18 12:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0250	0.0225	90.1	70.0-123	
Ethylbenzene	0.0250	0.0205	82.2	79.0-123	
Toluene	0.0250	0.0217	86.9	79.0-120	
Xylenes, Total	0.0750	0.0618	82.4	79.0-123	
(S) Toluene-d8			95.2	80.0-120	
(S) Dibromofluoromethane			96.5	75.0-120	
(S) a,a,a-Trifluorotoluene			101	80.0-120	
(S) 4-Bromofluorobenzene			101	77.0-126	

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3365656-1 12/05/18 16:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0612	⬇	0.0247	0.100
(S) o-Terphenyl	92.5			31.0-160

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

(LCS) R3365656-2 12/05/18 16:47 • (LCSD) R3365656-3 12/05/18 17:04

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) High Fraction	1.50	1.61	1.56	107	104	50.0-150			3.15	20
(S) o-Terphenyl				94.5	92.0	31.0-160				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



Method Blank (MB)

(MB) R3366358-1 12/07/18 15:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.107		0.0247	0.100
(S) o-Terphenyl	85.5			31.0-160

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

(LCS) R3366358-2 12/07/18 15:45 • (LCSD) R3366358-3 12/07/18 16:07

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) High Fraction	1.50	1.27	1.28	84.7	85.3	50.0-150			0.784	20
(S) o-Terphenyl				98.0	93.0	31.0-160				

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



## 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, the sample preparation volume or weight values differ from the standard, 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

J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National 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.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

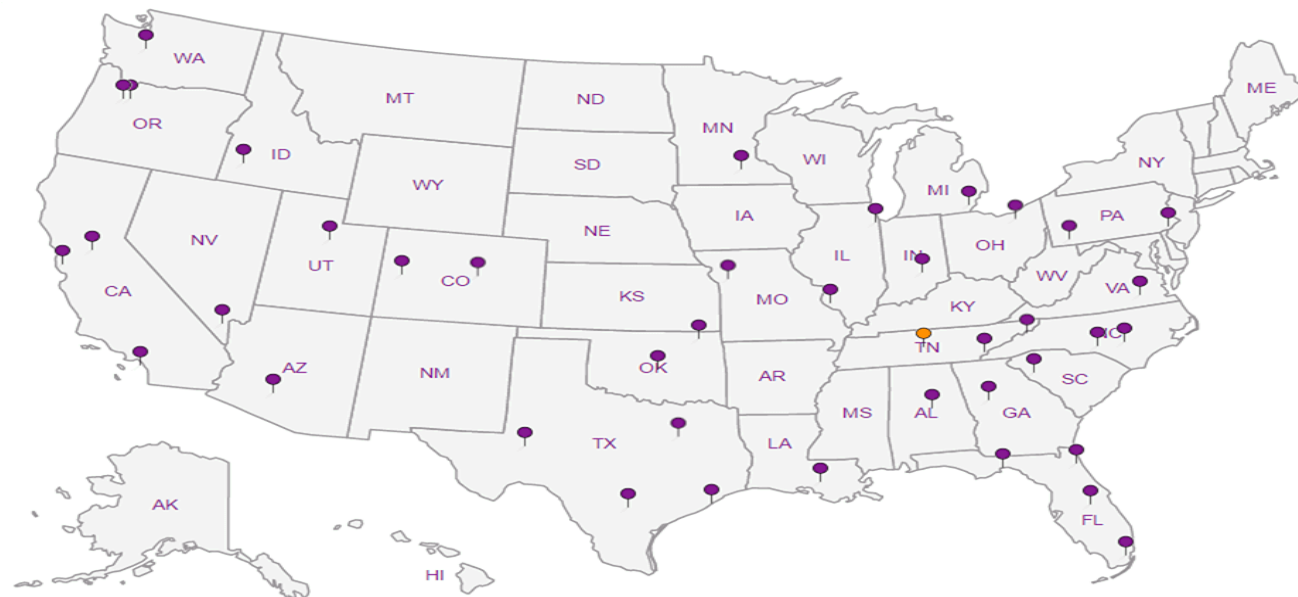
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National 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. Pace National performs all testing at our central laboratory.



Company Name/Address:

Billing Information:

**Entrada Consulting Group**330 Grand Avenue, Unit C  
Grand Junction, CO 81501

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:

Email To:

**Robert Stockton****rstockton@entradainc.com**

Project

Description:

HCLWTF

City/State

CO

Phone: (970) 640-0568

Client Project #

Lab Project #

Fax:

Collected by (print):

Site/Facility ID #

P.O. #

Robert Stockton

HCLWTF

Collected by (signature):

**Rush?** (Lab MUST Be Notified)

Date Results Needed

Immediately  
Packed on Ice N ☐ Y ☒
☐ Same Day .....200%  
☐ Next Day .....100%  
☐ Two Day .....50%  
☐ Three Day .....25%
Email? ☐ No ☒ YesFAX? ☒ No ☐ YesNo.  
of  
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	V8260BTEX (2 - 40ml vials w/ HCL)	GRO (2 - 40ml vials w/ HCL)	DROLVI (2 - 40ml vials w/ HCL)	Diss. metals (.5L HDPE, no pres, Ca, Fe, Mg, Mn, K, Se, Na)	SPCON, pH, (500 ml HDPE, no pres)	Chlorides, Sulfates	** - Ca, Fe, Mg, Mn, K, Se, Na
MW-1	Grab	GW		11/30/18	9	✓	✓	✓	✓	✓	✓	
MW-3	Grab	GW			9	✓	✓	✓	✓	✓	✓	
MW-5	Grab	GW			9	✓	✓	✓	✓	✓	✓	
MW-6	Grab	GW			9	✓	✓	✓	✓	✓	✓	
MW-7	Grab	GW			9	✓	✓	✓	✓	✓	✓	
MW-8	Grab	GW		11/30/18	9	✓	✓	✓	✓	✓	✓	

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

pH \_\_\_\_\_ Temp \_\_\_\_\_

RAD SCREEN: &lt;0.5 mR/hr

Remarks:

713625640039

Flow \_\_\_\_\_ Other \_\_\_\_\_

Hold #

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

☐ FedEx ☐ Courier ☐

Temp: °C Bottles Received:

COC Seal Intact: ☐ Y ☒ N ☒ NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

2.14-2.35 54

Date: Time:

pH Checked: NCF:

12/1/18 0845



# Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:		ENTCONGLO		SDG#	L1048912	
Cooler Received/Opened On: 12/ 1 /18				Temperature:	23	
Received By: Eric Struck						
Signature: <i>Eric Struck</i>						
<b>Receipt Check List</b>						
	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?						