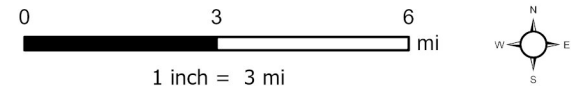


#### LEGEND

● Site Location



Project No: 019-060

Map By: NDB

Date: 9/4/2020

**HELLS GULCH 26-6 SPILL**  
LOCATION ID 311750  
LARAMIE ENERGY  
MESA COUNTY, COLORADO  
SEC 26 T8S R92W



330 Grand Avenue, Unit C  
Grand Junction, CO 81501  
970-549-1015

Figure

1





BEAR GULCH NORTH

BEAR GULCH NORTH

BEAR GULCH

HG 26-6 BG

HG 26-6-BGN

SS7  
HG 26-6 SP1  
SS8  
SS1  
SS9  
SS6  
SS3  
SS5  
SS2  
SS4

HG 26-6-BGE

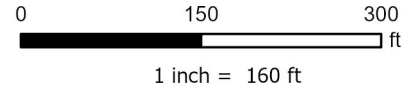
HG 26-6-CSE

HG 26-6-CSS

HG 26-6-BGS

**LEGEND**

● Sample Location    ● Background Sample Location




Project No: 019-086	<b>HELLS GULCH 26-6 SPILL</b> LOCATION ID 311750 LARAMIE ENERGY MESA COUNTY, COLORADO SEC 26 T8S R92W	 330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015	Figure
Map By: NDB			2
Date: 9/4/2020			

Table 1  
Hells Gulch 26-6 Spill Investigation  
Soil Summary

LABORATORY DATA SUMMARY												
Sample ID	HG 26-6 SP1	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab		
Sample Depth	0-2"	10-16"	10-16"	10-16"	12"	12"	28-32"	28-32"	24"	24"		
Sample Date	11/7/2019	12/9/2019	12/9/2019	12/9/2019	12/9/2019	12/9/2019	12/13/2019	12/13/2019	12/13/2020	12/13/2019		
Latitude N	39.33500	39.335003	39.334898	39.334900	39.334823	39.334922	39.33498	39.33504	39.33505	39.33500		
Longitude W	-107.63899	-107.638944	-107.638955	-107.639045	-107.63908	-107.63906	-107.63903	-107.63899	-107.63899	-107.63906		
Sample Description	Surface Sample for Spill Investigation and Characterization	Confirmation Sample Bottom	Confirmation Sample Bottom	Confirmation Sample Bottom	Confirmation Sample Sidewall	Confirmation Sample Sidewall	Confirmation Sample Bottom	Confirmation Sample Bottom	Confirmation Sample Sidewall	Confirmation Sample Sidewall		
Analytical Parameters												
TPH												
TPH Gasoline Range Organics	1.23	0.343	4.33	0.945	1.02	1.41	0.342	0.6	ND	0.321	500 mg/kg	mg/kg
TPH Diesel Range Organics	6.37	ND	ND	ND	ND	ND	ND	ND	ND	ND		
BTEX												
Benzene	0.0208	ND	ND	ND	0.0026	0.0015	0.00338	0.00192	0.000927	0.014	0.17	mg/kg
Toluene	0.0588	ND	ND	0.00818	0.0216	ND	ND	ND	ND	ND	85	mg/kg
Ethylbenzene	0.00421	ND	ND	0.00428	0.00933	ND	0.00173	0.00172	ND	0.00347	100	mg/kg
Total Xylene	0.0806	ND	0.00903	0.0868	0.169	0.0167	0.0333	0.013	ND	0.0301	175	mg/kg
Metals												
Arsenic	2.74	4.97	5.06	5.39	5.17	2.72	2.39	2.85	2.43	2.52	0.39	mg/kg
Barium	888	147	152	150	152	1170	155	161	168	142	15,000	mg/kg
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	mg/kg
Chromium	8.84	17.5	14.5	12.8	13.7	6.85	15.3	12.8	16.1	13.0	NA	mg/kg
Copper	9.33	10.9	11.2	10.60	11.00	9.57	12.7	10.8	11.8	13.0	3,100	mg/kg
Lead	5.88	11.2	11.5	11.50	11.60	5.72	11.50	11.30	11.20	11.50	400	mg/kg
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23	mg/kg
Nickel	14.5	16.9	16.6	16	16.2	9.99	17.7	15.5	17.1	16.8	1,600	mg/kg
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	390	mg/kg
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	390	mg/kg
Zinc	47.1	55.5	55.1	48.6	50.0	29.6	51.5	47.7	54.5	52.1	23,000	mg/kg
SAR Metals Analysis												
Sodium Adsorption Ratio	14.40	2.81	4.07	0.394	0.621	4.69	0.778	1.25	2.39	2.630	<12	ratio
Polynuclear Aromatic Hyrdrocarbons												
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000	mg/kg
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000	mg/kg
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	mg/kg
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	mg/kg
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	mg/kg
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	mg/kg
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	mg/kg
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	mg/kg
Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000	mg/kg
Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	mg/kg
Napthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23	mg/kg
Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,000	mg/kg
General Chemistry												
Chromium, Hexavalent	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23	mg/kg
Chromium, Trivalent	8.84	17.5	14.5	12.8	13.7	6.85	15.3	12.8	16.1	13	120,000	mg/kg
Specific Conductivity	2.08	0.242	0.26	0.229	0.492	0.250	0.551	0.275	0.489	1.17	<4 or 2 x the background	mmhos/cm
pH	8.34	8.72	8.91	7.45	7.39	8.80	7.97	8.54	8.37	7.95	6-9	su

mg/kg - milligrams per kilogram  
mg/L - milligrams per liter  
J - indicates an estimated value  
mmhos/cm - millimhos per centimeter  
mv - millivolts  
su - standard units  
NA - not applicable  
NT - parameter was not tested  
ND - not detected above method detection limit

Over COGCC Table 910-1 concentration levels but under BACKGROUND level.  
Over COGCC Table 910-1 concentration levels and not within BACKGROUND level.  
Over COGCC Table 910-1 concentration levels

Table 2  
Hells Gulch 26-6 Spill Investigation  
Background Arsenic Soil Summary

LABORATORY DATA SUMMARY													
Sample ID	HG 26-6 BG	HG 26-6-BGN	HG 26-6-BGN	HG 26-6-BGE	HG 26-6-BGE	HG 26-6-CSE	HG 26-6-CSE	HG 26-6-CSS	HG 26-6-CSS	HG 26-6-BGS	HG 26-6 BGS	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab		
Sample Depth	16-18"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"		
Sample Date	11/7/2019	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012	4/19/2012		
Latitude N	39.33417	39.335463	39.335463	39.334885	39.334885	39.334759	39.334759	39.334482	39.334482	39.334256	39.334256		
Longitude W	-107.64184	-107.638652	-107.638652	-107.637429	-107.637429	-107.637758	-107.637758	-107.638390	-107.638390	-107.638686	-107.638686		
Sample Description	Background Sample	Background Sample	Sample Re-run	Background Sample	Sample Re-run	Background Sample	Sample Re-run	Background Sample	Sample Re-run	Background Sample	Sample Re-run		
Analytical Parameters												COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Metals													
Arsenic	3.46	4.0	3.9	3.6	3.4	5.6	4.8	5.3	2.6	4.0	6.5	0.39	mg/kg

mg/kg - milligrams per kilogram



November 15, 2019

<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

## Entrada Consulting Group

Sample Delivery Group: L1159007  
Samples Received: 11/08/2019  
Project Number:  
Description: Hells Gulch 26-6  
Site: HG26-6  
Report To: Robert Stockton  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:

*Chris Ward*

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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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Cn: Case Narrative	4
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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## HG 26-6 L1159007-01 Solid

Collected by Robert Stockton  
Collected date/time 11/07/19 11:10  
Received date/time 11/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1376509	1	11/12/19 10:54	11/12/19 10:54	TRB	Mt. Juliet, TN
Calculated Results	WG1379516	1	11/13/19 07:30	11/14/19 18:25	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1378258	1	11/12/19 11:00	11/12/19 19:08	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1378591	1	11/11/19 17:22	11/11/19 19:42	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1378780	1	11/12/19 09:00	11/12/19 12:00	SL	Mt. Juliet, TN
Mercury by Method 7471A	WG1379134	1	11/12/19 13:33	11/12/19 19:47	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1379516	1	11/13/19 07:30	11/14/19 18:25	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1380341	1	11/09/19 14:47	11/15/19 00:42	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1379169	1	11/12/19 21:55	11/14/19 03:49	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1379175	1	11/12/19 16:28	11/13/19 08:44	SHG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## HG 26-6 L1159007-02 Solid

Collected by Robert Stockton  
Collected date/time 11/07/19 11:10  
Received date/time 11/08/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1376509	1	11/12/19 10:56	11/12/19 10:56	TRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1379516	1	11/13/19 07:30	11/14/19 18:27	EL	Mt. Juliet, TN



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





## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	14.4		1	11/12/2019 10:54	WG1376509

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	8.84		1.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	11/12/2019 19:08	<a href="#">WG1378258</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.34	<a href="#">T8</a>	1	11/11/2019 19:42	<a href="#">WG1378591</a>

## Sample Narrative:

L1159007-01 WG1378591: 8.34 at 21.3C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2080		10.0	1	11/12/2019 12:00	<a href="#">WG1378780</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	11/12/2019 19:47	<a href="#">WG1379134</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.74		2.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Barium	888		0.500	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Cadmium	ND		0.500	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Chromium	8.84		1.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Copper	9.33		2.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Lead	5.88		0.500	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Nickel	14.5		2.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Selenium	ND		2.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Silver	ND		1.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>
Zinc	47.1		5.00	1	11/14/2019 18:25	<a href="#">WG1379516</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0208		0.000500	1	11/15/2019 00:42	<a href="#">WG1380341</a>
Toluene	0.0588		0.00500	1	11/15/2019 00:42	<a href="#">WG1380341</a>
Ethylbenzene	0.00421		0.000500	1	11/15/2019 00:42	<a href="#">WG1380341</a>
Total Xylene	0.0806		0.00150	1	11/15/2019 00:42	<a href="#">WG1380341</a>
TPH (GC/FID) Low Fraction	1.23		0.100	1	11/15/2019 00:42	<a href="#">WG1380341</a>



## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	78.8		77.0-120		11/15/2019 00:42	<a href="#">WG1380341</a>
(S) a,a,a-Trifluorotoluene(PID)	83.9		72.0-128		11/15/2019 00:42	<a href="#">WG1380341</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	6.37		4.00	1	11/14/2019 03:49	<a href="#">WG1379169</a>
(S) o-Terphenyl	69.7		18.0-148		11/14/2019 03:49	<a href="#">WG1379169</a>

6 Qc

7 Gl

8 Al

9 Sc

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Acenaphthene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Acenaphthylene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Benzo(a)anthracene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Benzo(a)pyrene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Benzo(b)fluoranthene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Benzo(g,h,i)perylene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Benzo(k)fluoranthene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Chrysene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Dibenz(a,h)anthracene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Fluoranthene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Fluorene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Naphthalene	ND		0.0200	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Phenanthrene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
Pyrene	ND		0.00600	1	11/13/2019 08:44	<a href="#">WG1379175</a>
1-Methylnaphthalene	ND		0.0200	1	11/13/2019 08:44	<a href="#">WG1379175</a>
2-Methylnaphthalene	ND		0.0200	1	11/13/2019 08:44	<a href="#">WG1379175</a>
2-Chloronaphthalene	ND		0.0200	1	11/13/2019 08:44	<a href="#">WG1379175</a>
(S) p-Terphenyl-d14	82.0		23.0-120		11/13/2019 08:44	<a href="#">WG1379175</a>
(S) Nitrobenzene-d5	78.1		14.0-149		11/13/2019 08:44	<a href="#">WG1379175</a>
(S) 2-Fluorobiphenyl	77.4		34.0-125		11/13/2019 08:44	<a href="#">WG1379175</a>



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.404		1	11/12/2019 10:56	WG1376509

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.46		2.00	1	11/14/2019 18:27	<a href="#">WG1379516</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) R3471203-1 11/12/19 18:39

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

<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

L1158731-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1158731-04 11/12/19 18:41 • (DUP) R3471203-3 11/12/19 18:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	U	0.000	1	0.000		20

L1159240-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1159240-01 11/12/19 19:09 • (DUP) R3471203-8 11/12/19 19:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	3.12	3.06	1	1.83		20

Laboratory Control Sample (LCS)

(LCS) R3471203-2 11/12/19 18:39

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	23.6	98.3	80.0-120	

L1158915-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1158915-01 11/12/19 19:05 • (MS) R3471203-4 11/12/19 19:06 • (MSD) R3471203-5 11/12/19 19:06

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	20.0	11.2	14.7	13.1	17.5	9.65	1	75.0-125	J6	J6	11.3	20

Sample Narrative:

OS: Sample is a reducer

L1158915-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1158915-01 11/12/19 19:05 • (MS) R3471203-6 11/12/19 19:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	684	11.2	520	76.0	50	75.0-125	

Sample Narrative:  
OS: Sample is a reducer

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1159007-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1159007-01 11/11/19 19:42 • (DUP) R3470775-2 11/11/19 19:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.34	8.26	1	0.964		1

Sample Narrative:

OS: 8.34 at 21.3C

DUP: 8.26 at 21C

L1159166-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1159166-02 11/11/19 19:42 • (DUP) R3470775-3 11/11/19 19:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.61	7.69	1	1.05	J3	1

Sample Narrative:

OS: 7.61 at 19.4C

DUP: 7.69 at 19.5C

Laboratory Control Sample (LCS)

(LCS) R3470775-1 11/11/19 19:42

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	su	su	%	%	
pH	10.0	9.94	99.4	99.0-101	

Sample Narrative:

LCS: 9.94 at 18.3C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3471168-1 11/12/19 12:00

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

L1157004-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1157004-01 11/12/19 12:00 • (DUP) R3471168-3 11/12/19 12:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2830	2890	1	2.17		20

L1157741-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1157741-01 11/12/19 12:00 • (DUP) R3471168-4 11/12/19 12:00

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	11600	12200	1	5.03		20

Laboratory Control Sample (LCS)

(LCS) R3471168-2 11/12/19 12:00

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	475	472	99.4	85.0-115	



Method Blank (MB)

(MB) R3471225-1 11/12/19 18:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	0.00283	⬇	0.00280	0.0300

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

(LCS) R3471225-2 11/12/19 18:46 • (LCSD) R3471225-3 11/12/19 18:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.465	0.463	93.0	92.6	80.0-120			0.418	20

L1158921-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1158921-01 11/12/19 18:51 • (MS) R3471225-4 11/12/19 18:53 • (MSD) R3471225-5 11/12/19 18:56

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.0198	0.440	0.455	84.0	87.0	1	75.0-125			3.38	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3472192-1 11/14/19 18:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	U		0.590	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

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

(LCS) R3472192-2 11/14/19 18:06 • (LCSD) R3472192-3 11/14/19 18:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	95.5	93.4	95.5	93.4	80.0-120			2.23	20
Barium	100	103	102	103	102	80.0-120			1.25	20
Cadmium	100	97.2	96.3	97.2	96.3	80.0-120			0.971	20
Chromium	100	97.6	96.6	97.6	96.6	80.0-120			0.973	20
Copper	100	99.1	98.3	99.1	98.3	80.0-120			0.848	20
Lead	100	97.5	96.1	97.5	96.1	80.0-120			1.42	20
Nickel	100	98.7	97.3	98.7	97.3	80.0-120			1.41	20
Selenium	100	98.7	97.3	98.7	97.3	80.0-120			1.36	20
Silver	20.0	17.8	17.6	88.9	87.9	80.0-120			1.08	20
Zinc	100	96.5	95.5	96.5	95.5	80.0-120			1.07	20

L1159222-41 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159222-41 11/14/19 18:12 • (MS) R3472192-6 11/14/19 18:19 • (MSD) R3472192-7 11/14/19 18:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	0.695	83.0	91.5	82.3	90.8	1	75.0-125			9.75	20
Barium	100	4.34	96.8	106	92.5	102	1	75.0-125			9.02	20
Cadmium	100	U	85.3	93.7	85.3	93.7	1	75.0-125			9.32	20
Chromium	100	3.78	88.9	96.0	85.1	92.2	1	75.0-125			7.73	20
Copper	100	1.95	89.3	97.7	87.3	95.8	1	75.0-125			9.06	20
Lead	100	3.20	89.0	100	85.8	96.8	1	75.0-125			11.6	20
Nickel	100	0.837	86.8	94.8	86.0	94.0	1	75.0-125			8.77	20





[L1159007-01,02](#)

L1159222-41 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159222-41 11/14/19 18:12 • (MS) R3472192-6 11/14/19 18:19 • (MSD) R3472192-7 11/14/19 18:22

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Selenium	100	U	86.3	95.1	86.3	95.1	1	75.0-125			9.71	20
Silver	20.0	U	15.7	17.1	78.5	85.4	1	75.0-125			8.49	20
Zinc	100	7.62	93.3	104	85.7	96.8	1	75.0-125			11.3	20

<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) R3472478-3 11/14/19 16:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	0.000157	⬇	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0244	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	93.7			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	95.3			72.0-128

<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)

(LCS) R3472478-1 11/14/19 15:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0467	93.4	76.0-121	
Toluene	0.0500	0.0452	90.4	80.0-120	
Ethylbenzene	0.0500	0.0466	93.2	80.0-124	
Total Xylene	0.150	0.145	96.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			95.2	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			93.3	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3472478-2 11/14/19 16:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.17	94.0	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			102	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			98.6	72.0-128	



L1158320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1158320-01 11/14/19 20:35 • (MS) R3472478-4 11/15/19 02:46 • (MSD) R3472478-5 11/15/19 03:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	7.40	0.0837	7.38	7.28	98.6	97.2	148	10.0-155			1.36	32
Toluene	7.40	0.0843	7.18	7.05	95.9	94.1	148	10.0-160			1.83	34
Ethylbenzene	7.40	0.142	7.45	7.39	98.8	97.9	148	10.0-160			0.809	32
Total Xylene	22.2	0.167	23.0	22.6	103	101	148	10.0-160			1.75	32
(S) a,a,a-Trifluorotoluene(FID)					92.5	92.7		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					93.9	91.8		72.0-128				

L1158320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1158320-01 11/14/19 20:35 • (MS) R3472478-6 11/15/19 03:27 • (MSD) R3472478-7 11/15/19 03:48

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	814	U	890	872	103	101	148	10.0-151			2.04	28
(S) a,a,a-Trifluorotoluene(FID)					108	107		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					104	104		72.0-128				

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



Method Blank (MB)

(MB) R3471321-1 11/13/19 01:28

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	68.3			18.0-148

<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)

(LCS) R3471321-2 11/13/19 01:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	48.3	96.6	50.0-150	
(S) o-Terphenyl			76.3	18.0-148	

L1159022-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159022-01 11/13/19 02:46 • (MS) R3471321-3 11/13/19 02:59 • (MSD) R3471321-4 11/13/19 03:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	50.0	ND	44.4	38.6	88.8	77.2	1	50.0-150			14.0	20
(S) o-Terphenyl					61.9	51.8		18.0-148				



Method Blank (MB)

(MB) R3471280-2 11/12/19 23:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	96.0			14.0-149
(S) 2-Fluorobiphenyl	93.9			34.0-125
(S) p-Terphenyl-d14	97.2			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3471280-1 11/12/19 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0791	98.9	50.0-126	
Acenaphthene	0.0800	0.0731	91.4	50.0-120	
Acenaphthylene	0.0800	0.0756	94.5	50.0-120	
Benzo(a)anthracene	0.0800	0.0671	83.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0634	79.3	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0622	77.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0609	76.1	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0782	97.8	49.0-125	
Chrysene	0.0800	0.0765	95.6	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0633	79.1	47.0-125	
Fluoranthene	0.0800	0.0781	97.6	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3471280-1 11/12/19 23:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0718	89.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0642	80.3	46.0-125	
Naphthalene	0.0800	0.0671	83.9	50.0-120	
Phenanthrene	0.0800	0.0726	90.8	47.0-120	
Pyrene	0.0800	0.0720	90.0	43.0-123	
1-Methylnaphthalene	0.0800	0.0686	85.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0669	83.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0684	85.5	50.0-120	
(S) Nitrobenzene-d5			94.8	14.0-149	
(S) 2-Fluorobiphenyl			90.3	34.0-125	
(S) p-Terphenyl-d14			93.8	23.0-120	

L1158891-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1158891-01 11/13/19 09:25 • (MS) R3471581-1 11/13/19 09:46 • (MSD) R3471581-2 11/13/19 10:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0702	0.0585	87.8	73.1	1	10.0-145			18.2	30
Acenaphthene	0.0800	ND	0.0667	0.0630	83.4	78.8	1	14.0-127			5.71	27
Acenaphthylene	0.0800	ND	0.0710	0.0671	88.8	83.9	1	21.0-124			5.65	25
Benzo(a)anthracene	0.0800	0.00988	0.114	0.0754	130	81.9	1	10.0-139		J3	40.8	30
Benzo(a)pyrene	0.0800	0.00761	0.0876	0.0688	100	76.5	1	10.0-141			24.0	31
Benzo(b)fluoranthene	0.0800	0.0175	0.119	0.0756	127	72.6	1	10.0-140		J3	44.6	36
Benzo(g,h,i)perylene	0.0800	0.0116	0.0976	0.0770	107	81.8	1	10.0-140			23.6	33
Benzo(k)fluoranthene	0.0800	ND	0.0851	0.0660	106	82.5	1	10.0-137			25.3	31
Chrysene	0.0800	0.0158	0.143	0.0805	159	80.9	1	10.0-145	J5	J3	55.9	30
Dibenz(a,h)anthracene	0.0800	ND	0.0750	0.0676	93.8	84.5	1	10.0-132			10.4	31
Fluoranthene	0.0800	0.0366	0.242	0.102	257	81.8	1	10.0-153	J5	J3	81.4	33
Fluorene	0.0800	ND	0.0684	0.0650	85.5	81.3	1	11.0-130			5.10	29
Indeno(1,2,3-cd)pyrene	0.0800	0.00916	0.0919	0.0739	103	80.9	1	10.0-137			21.7	32
Naphthalene	0.0800	ND	0.0643	0.0615	80.4	76.9	1	10.0-135			4.45	27
Phenanthrene	0.0800	0.0238	0.122	0.0789	123	68.9	1	10.0-144		J3	42.9	31
Pyrene	0.0800	0.0239	0.182	0.0786	198	68.4	1	10.0-148	J5	J3	79.4	35
1-Methylnaphthalene	0.0800	ND	0.0685	0.0661	85.6	82.6	1	10.0-142			3.57	28
2-Methylnaphthalene	0.0800	ND	0.0663	0.0640	82.9	80.0	1	10.0-137			3.53	28
2-Chloronaphthalene	0.0800	ND	0.0666	0.0629	83.3	78.6	1	29.0-120			5.71	24
(S) Nitrobenzene-d5					83.6	82.7		14.0-149				
(S) 2-Fluorobiphenyl					92.7	89.0		34.0-125				
(S) p-Terphenyl-d14					90.9	90.2		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## 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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### 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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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	T104704245-18-15
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



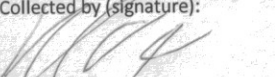
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<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>  <b>330 Grand Avenue, Suite C</b> <b>Grand Junction, CO 81501</b>				Billing Information:  				Analysis / Container / Preservative  										 Chain of Custody Page 1 of 1  YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859   L # <u>L1199061</u> <b>C185</b>		
Report to: <b>Robert Stockton</b>				Email To: <b>rstockton@entradainc.com</b>																
Project Description: <u>Hells Gulch 2G-6</u>				City/State Collected: <u>Collbran</u> , CO																
Phone: <b>(970) 640-0568</b> Fax:		Client Project #		Lab Project #																
Collected by (print): <b>Robert Stockton</b>		Site/Facility ID # <u>HG 2G-6</u>		P.O. #																
Collected by (signature): 		<b>Rush?</b> (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														
HG 26-6 SP1 0-2"	Grab	SS		11/7/2019	1110	4	X													
HG 26-6 BG 16-18"	Grab	SS		11/7/2019	1205	2		X												
	Grab	SS																		
	Grab	SS																		
	Grab	SS																		
	Grab	SS																		
	Grab	SS																		
	Grab	SS																		

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

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

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

Remarks:		Hold #	
Relinquished by: (Signature)	Date: <u>11/7/19</u>	Time: <u>1600</u>	Received by: (Signature)
Relinquished by: (Signature)	Date: <u>11/7/19</u>	Time: <u>1700</u>	Received by: (Signature)
Relinquished by: (Signature)	Date: <u>11/7/19</u>	Time: <u>1700</u>	Received by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ \_\_\_\_\_

Temp: \_\_\_\_\_ °C Bottles Received: 6

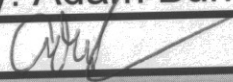
Date: 11/8/19 Time: 08:45

Condition: (lab use only) <u>OK</u>	
RAD SCREEN: <0.5 mR/hr	COC Seal Intact: <u>Y</u> <u>N</u> <u>NA</u>
pH Checked: _____	NCF: <u>X</u>

Fedex 450 1663 3960



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

Client:	ENTLONGSCO		L1159007	
Cooler Received/Opened On:	11/8/19	Temperature:	1.2	
Received By:	Adam Burns			
Signature:				
Receipt Check List		NP	Yes	No
COC Seal Present / Intact?		/		
COC Signed / Accurate?			/	
Bottles arrive intact?			/ JW	/
Correct bottles used?			/	
Sufficient volume sent?			/	
If Applicable				
VOA Zero headspace?				
Preservation Correct / Checked?				

**Troy Dunlap**



Login #: L1159007	Client: ENTCONGICO	Date: 11/08/19	Evaluated by: Jeremy
-------------------	--------------------	----------------	----------------------

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

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

**Login Comments: Received 1 of 4 8oz broken. Salvaged but possible cooler water contamination for HG 26-6 SP1 0-2".**

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials: CMW	Client Contact:				

**Please proceed without the possibly contaminated container. We should be fine with the 3 other 8ozs**

Notice: This communication and any attached files may contain privileged or other confidential information. If you have received this in error, please contact the sender immediately via reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

December 12, 2019

<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

## Laramie Energy - Grand Junction, CO

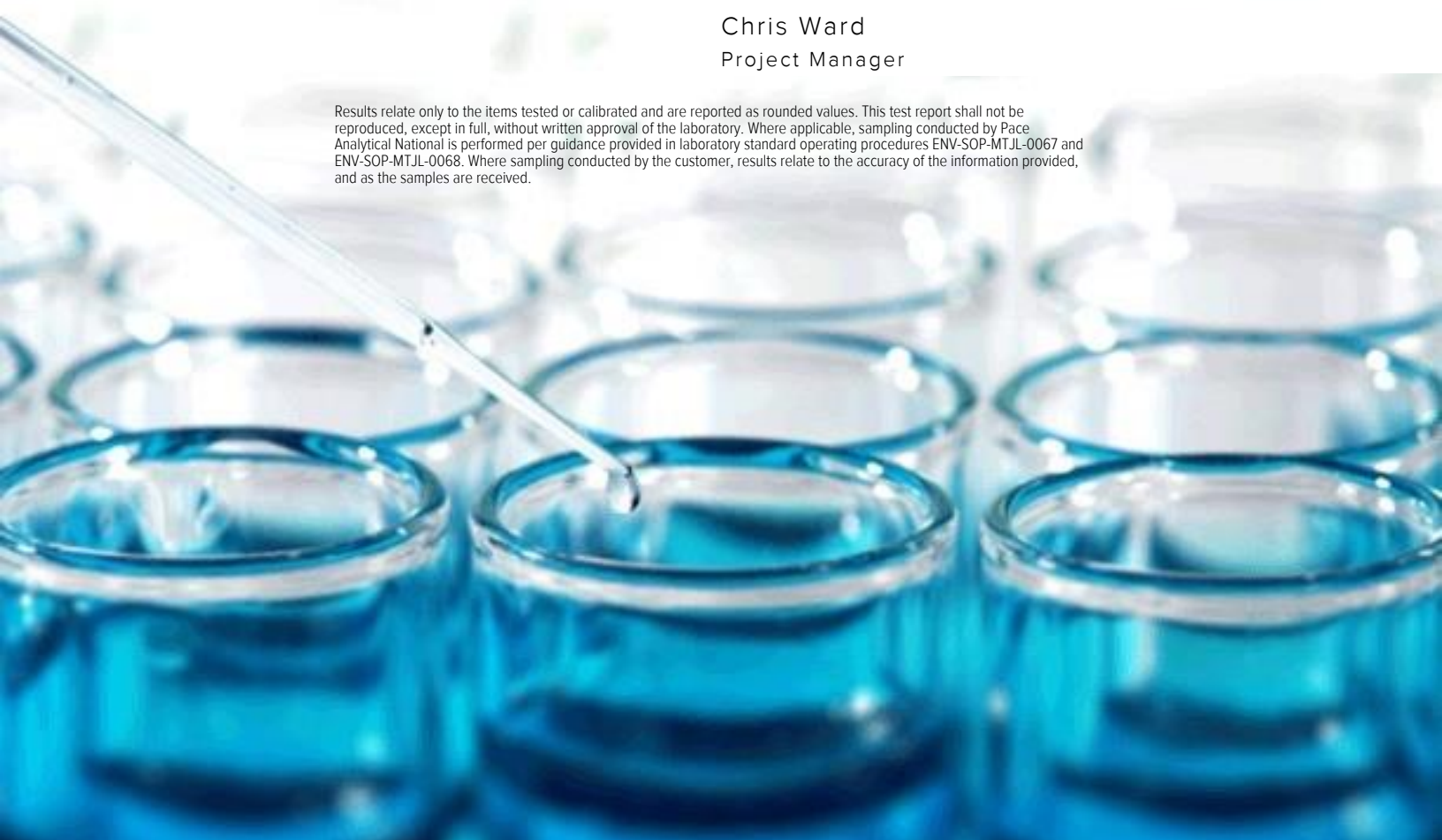
Sample Delivery Group: L1168890  
Samples Received: 12/10/2019  
Project Number:  
Description: Laramie Energy Hells Gulch 26-6  
  
Report To: Stuart Hall  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

Entire Report Reviewed By:

*Chris Ward*

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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## SS1 L1168890-01 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 11:45

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1394375	1	12/11/19 16:14	12/11/19 16:14	EL	Mt. Juliet, TN
Calculated Results	WG1394312	1	12/10/19 18:12	12/11/19 18:54	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1394486	1	12/11/19 08:06	12/11/19 18:54	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1394487	1	12/11/19 10:54	12/11/19 20:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1394663	1	12/11/19 14:56	12/11/19 16:34	MJA	Mt. Juliet, TN
Mercury by Method 7471A	WG1394301	1	12/10/19 17:37	12/10/19 20:23	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1394312	1	12/10/19 18:12	12/10/19 23:57	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1394249	1	12/10/19 15:39	12/11/19 13:58	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1394412	1	12/10/19 15:39	12/11/19 04:54	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1394333	1	12/10/19 20:40	12/11/19 06:32	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1394338	1	12/10/19 21:38	12/11/19 02:53	DMG	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## SS2 L1168890-02 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 11:50

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1394375	1	12/11/19 16:17	12/11/19 16:17	EL	Mt. Juliet, TN
Calculated Results	WG1394312	1	12/10/19 18:12	12/11/19 18:55	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1394486	1	12/11/19 08:06	12/11/19 18:55	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1394487	1	12/11/19 10:54	12/11/19 20:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1394663	1	12/11/19 14:56	12/11/19 16:34	MJA	Mt. Juliet, TN
Mercury by Method 7471A	WG1394301	1	12/10/19 17:37	12/10/19 20:25	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1394312	1	12/10/19 18:12	12/11/19 00:05	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1394249	1	12/10/19 15:39	12/11/19 14:18	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1394412	1	12/10/19 15:39	12/11/19 05:13	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1394333	1	12/10/19 20:40	12/11/19 06:45	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1394338	1	12/10/19 21:38	12/11/19 03:15	DMG	Mt. Juliet, TN

## SS3 L1168890-03 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 11:55

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1394375	1	12/11/19 16:19	12/11/19 16:19	EL	Mt. Juliet, TN
Calculated Results	WG1394312	1	12/10/19 18:12	12/11/19 18:55	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1394486	1	12/11/19 08:06	12/11/19 18:55	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1394487	1	12/11/19 10:54	12/11/19 20:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1394663	1	12/11/19 14:56	12/11/19 16:34	MJA	Mt. Juliet, TN
Mercury by Method 7471A	WG1394301	1	12/10/19 17:37	12/10/19 20:27	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1394312	1	12/10/19 18:12	12/11/19 00:08	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1394249	1	12/10/19 15:39	12/11/19 14:39	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1394412	1	12/10/19 15:39	12/11/19 05:31	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1394333	1	12/10/19 20:40	12/11/19 06:58	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1394338	1	12/10/19 21:38	12/11/19 03:37	DMG	Mt. Juliet, TN

## SS4 L1168890-04 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 12:00

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1394375	1	12/11/19 16:22	12/11/19 16:22	EL	Mt. Juliet, TN
Calculated Results	WG1394312	1	12/10/19 18:12	12/11/19 18:56	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1394486	1	12/11/19 08:06	12/11/19 18:56	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1394487	1	12/11/19 10:54	12/11/19 20:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1394663	1	12/11/19 14:56	12/11/19 16:34	MJA	Mt. Juliet, TN

ACCOUNT:

Laramie Energy - Grand Junction, CO

PROJECT:

SDG:

L1168890

DATE/TIME:

12/12/19 16:03

PAGE:

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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## SS4 L1168890-04 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 12:00

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1394301	1	12/10/19 17:37	12/10/19 19:54	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1394312	1	12/10/19 18:12	12/11/19 00:10	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1394249	1	12/10/19 15:39	12/11/19 14:59	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1394412	1	12/10/19 15:39	12/11/19 05:50	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1394333	1	12/10/19 20:40	12/11/19 07:11	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1394338	1	12/10/19 21:38	12/11/19 03:59	DMG	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

## SS5 L1168890-05 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/09/19 12:05

Received date/time  
12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1394375	1	12/11/19 16:25	12/11/19 16:25	EL	Mt. Juliet, TN
Calculated Results	WG1394312	1	12/10/19 18:12	12/11/19 18:56	JIC	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1394486	1	12/11/19 08:06	12/11/19 18:56	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1394487	1	12/11/19 10:54	12/11/19 20:00	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1394663	1	12/11/19 14:56	12/11/19 16:34	MJA	Mt. Juliet, TN
Mercury by Method 7471A	WG1394301	1	12/10/19 17:37	12/10/19 20:29	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1394312	1	12/10/19 18:12	12/11/19 00:13	TRB	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1394249	1	12/10/19 15:39	12/11/19 15:20	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1394412	1	12/10/19 15:39	12/11/19 06:09	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1394333	1	12/10/19 20:40	12/11/19 07:24	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1394338	1	12/10/19 21:38	12/11/19 04:21	DMG	Mt. Juliet, TN

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

ACCOUNT:

Laramie Energy - Grand Junction, CO

PROJECT:

SDG:

L1168890

DATE/TIME:

12/12/19 16:03

PAGE:

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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



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.81		1	12/11/2019 16:14	WG1394375

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	17.5		1.00	1	12/11/2019 18:54	<a href="#">WG1394312</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/11/2019 18:54	<a href="#">WG1394486</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.72	<a href="#">T8</a>	1	12/11/2019 20:00	<a href="#">WG1394487</a>

## Sample Narrative:

L1168890-01 WG1394487: 8.72 at 19C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	242		10.0	1	12/11/2019 16:34	<a href="#">WG1394663</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/10/2019 20:23	<a href="#">WG1394301</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.97		2.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Barium	147		0.500	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Cadmium	ND		0.500	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Chromium	17.5		1.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Copper	10.9		2.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Lead	11.2		0.500	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Nickel	16.9		2.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Selenium	ND		2.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Silver	ND		1.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>
Zinc	55.5		5.00	1	12/10/2019 23:57	<a href="#">WG1394312</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.343		0.100	1	12/11/2019 13:58	<a href="#">WG1394249</a>
(S) a,a,a-Trifluorotoluene(FID)	95.4		77.0-120		12/11/2019 13:58	<a href="#">WG1394249</a>

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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/11/2019 04:54	<a href="#">WG1394412</a>
Toluene	ND		0.00500	1	12/11/2019 04:54	<a href="#">WG1394412</a>
Ethylbenzene	ND		0.00250	1	12/11/2019 04:54	<a href="#">WG1394412</a>
Total Xylenes	ND		0.00650	1	12/11/2019 04:54	<a href="#">WG1394412</a>
Methyl tert-butyl ether	ND		0.00100	1	12/11/2019 04:54	<a href="#">WG1394412</a>
(S) Toluene-d8	101		75.0-131		12/11/2019 04:54	<a href="#">WG1394412</a>
(S) 4-Bromofluorobenzene	92.9		67.0-138		12/11/2019 04:54	<a href="#">WG1394412</a>
(S) 1,2-Dichloroethane-d4	104		70.0-130		12/11/2019 04:54	<a href="#">WG1394412</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/11/2019 06:32	<a href="#">WG1394333</a>
(S) o-Terphenyl	61.6		18.0-148		12/11/2019 06:32	<a href="#">WG1394333</a>

6 Qc

7 Gl

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Acenaphthene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Acenaphthylene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Benzo(a)anthracene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Benzo(a)pyrene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Chrysene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Fluoranthene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Fluorene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Naphthalene	ND		0.0200	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Phenanthrene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
Pyrene	ND		0.00600	1	12/11/2019 02:53	<a href="#">WG1394338</a>
1-Methylnaphthalene	ND		0.0200	1	12/11/2019 02:53	<a href="#">WG1394338</a>
2-Methylnaphthalene	ND		0.0200	1	12/11/2019 02:53	<a href="#">WG1394338</a>
2-Chloronaphthalene	ND		0.0200	1	12/11/2019 02:53	<a href="#">WG1394338</a>
(S) p-Terphenyl-d14	86.0		23.0-120		12/11/2019 02:53	<a href="#">WG1394338</a>
(S) Nitrobenzene-d5	59.5		14.0-149		12/11/2019 02:53	<a href="#">WG1394338</a>
(S) 2-Fluorobiphenyl	63.9		34.0-125		12/11/2019 02:53	<a href="#">WG1394338</a>

8 Al

9 Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.07		1	12/11/2019 16:17	WG1394375

<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

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	14.5		1.00	1	12/11/2019 18:55	<a href="#">WG1394312</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/11/2019 18:55	<a href="#">WG1394486</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.91	<a href="#">T8</a>	1	12/11/2019 20:00	<a href="#">WG1394487</a>

## Sample Narrative:

L1168890-02 WG1394487: 8.91 at 19C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	260		10.0	1	12/11/2019 16:34	<a href="#">WG1394663</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/10/2019 20:25	<a href="#">WG1394301</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.06		2.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Barium	152		0.500	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Cadmium	ND		0.500	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Chromium	14.5		1.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Copper	11.2		2.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Lead	11.5		0.500	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Nickel	16.6		2.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Selenium	ND		2.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Silver	ND		1.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>
Zinc	55.1		5.00	1	12/11/2019 00:05	<a href="#">WG1394312</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	4.33		0.100	1	12/11/2019 14:18	<a href="#">WG1394249</a>
(S) a,a,a-Trifluorotoluene(FID)	95.1		77.0-120		12/11/2019 14:18	<a href="#">WG1394249</a>





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/11/2019 05:13	<a href="#">WG1394412</a>
Toluene	ND		0.00500	1	12/11/2019 05:13	<a href="#">WG1394412</a>
Ethylbenzene	ND		0.00250	1	12/11/2019 05:13	<a href="#">WG1394412</a>
Total Xylenes	0.00903		0.00650	1	12/11/2019 05:13	<a href="#">WG1394412</a>
Methyl tert-butyl ether	ND		0.00100	1	12/11/2019 05:13	<a href="#">WG1394412</a>
(S) Toluene-d8	102		75.0-131		12/11/2019 05:13	<a href="#">WG1394412</a>
(S) 4-Bromofluorobenzene	88.4		67.0-138		12/11/2019 05:13	<a href="#">WG1394412</a>
(S) 1,2-Dichloroethane-d4	102		70.0-130		12/11/2019 05:13	<a href="#">WG1394412</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/11/2019 06:45	<a href="#">WG1394333</a>
(S) o-Terphenyl	61.9		18.0-148		12/11/2019 06:45	<a href="#">WG1394333</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Acenaphthene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Acenaphthylene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Benzo(a)anthracene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Benzo(a)pyrene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Chrysene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Fluoranthene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Fluorene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Naphthalene	ND		0.0200	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Phenanthrene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
Pyrene	ND		0.00600	1	12/11/2019 03:15	<a href="#">WG1394338</a>
1-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:15	<a href="#">WG1394338</a>
2-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:15	<a href="#">WG1394338</a>
2-Chloronaphthalene	ND		0.0200	1	12/11/2019 03:15	<a href="#">WG1394338</a>
(S) p-Terphenyl-d14	79.1		23.0-120		12/11/2019 03:15	<a href="#">WG1394338</a>
(S) Nitrobenzene-d5	65.7		14.0-149		12/11/2019 03:15	<a href="#">WG1394338</a>
(S) 2-Fluorobiphenyl	64.7		34.0-125		12/11/2019 03:15	<a href="#">WG1394338</a>



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.394		1	12/11/2019 16:19	WG1394375

<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

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	12.8		1.00	1	12/11/2019 18:55	<a href="#">WG1394312</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/11/2019 18:55	<a href="#">WG1394486</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.45	<a href="#">T8</a>	1	12/11/2019 20:00	<a href="#">WG1394487</a>

## Sample Narrative:

L1168890-03 WG1394487: 7.45 at 18.7C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	229		10.0	1	12/11/2019 16:34	<a href="#">WG1394663</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/10/2019 20:27	<a href="#">WG1394301</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.39		2.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Barium	150		0.500	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Cadmium	ND		0.500	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Chromium	12.8		1.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Copper	10.6		2.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Lead	11.5		0.500	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Nickel	16.0		2.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Selenium	ND		2.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Silver	ND		1.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>
Zinc	48.6		5.00	1	12/11/2019 00:08	<a href="#">WG1394312</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.945		0.100	1	12/11/2019 14:39	<a href="#">WG1394249</a>
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.9		77.0-120		12/11/2019 14:39	<a href="#">WG1394249</a>



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	12/11/2019 05:31	<a href="#">WG1394412</a>
Toluene	0.00818		0.00500	1	12/11/2019 05:31	<a href="#">WG1394412</a>
Ethylbenzene	0.00428		0.00250	1	12/11/2019 05:31	<a href="#">WG1394412</a>
Total Xylenes	0.0868		0.00650	1	12/11/2019 05:31	<a href="#">WG1394412</a>
Methyl tert-butyl ether	ND		0.00100	1	12/11/2019 05:31	<a href="#">WG1394412</a>
(S) Toluene-d8	100		75.0-131		12/11/2019 05:31	<a href="#">WG1394412</a>
(S) 4-Bromofluorobenzene	90.3		67.0-138		12/11/2019 05:31	<a href="#">WG1394412</a>
(S) 1,2-Dichloroethane-d4	101		70.0-130		12/11/2019 05:31	<a href="#">WG1394412</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/11/2019 06:58	<a href="#">WG1394333</a>
(S) o-Terphenyl	66.7		18.0-148		12/11/2019 06:58	<a href="#">WG1394333</a>

6 Qc

7 Gl

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Acenaphthene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Acenaphthylene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Benzo(a)anthracene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Benzo(a)pyrene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Chrysene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Fluoranthene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Fluorene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Naphthalene	ND		0.0200	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Phenanthrene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
Pyrene	ND		0.00600	1	12/11/2019 03:37	<a href="#">WG1394338</a>
1-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:37	<a href="#">WG1394338</a>
2-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:37	<a href="#">WG1394338</a>
2-Chloronaphthalene	ND		0.0200	1	12/11/2019 03:37	<a href="#">WG1394338</a>
(S) p-Terphenyl-d14	71.0		23.0-120		12/11/2019 03:37	<a href="#">WG1394338</a>
(S) Nitrobenzene-d5	54.9		14.0-149		12/11/2019 03:37	<a href="#">WG1394338</a>
(S) 2-Fluorobiphenyl	54.9		34.0-125		12/11/2019 03:37	<a href="#">WG1394338</a>

8 Al

9 Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.621		1	12/11/2019 16:22	WG1394375

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	13.7		1.00	1	12/11/2019 18:56	<a href="#">WG1394312</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/11/2019 18:56	<a href="#">WG1394486</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.39	<a href="#">T8</a>	1	12/11/2019 20:00	<a href="#">WG1394487</a>

## Sample Narrative:

L1168890-04 WG1394487: 7.39 at 18.7C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	492		10.0	1	12/11/2019 16:34	<a href="#">WG1394663</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/10/2019 19:54	<a href="#">WG1394301</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.17		2.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Barium	152		0.500	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Cadmium	ND		0.500	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Chromium	13.7		1.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Copper	11.0		2.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Lead	11.6		0.500	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Nickel	16.2		2.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Selenium	ND		2.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Silver	ND		1.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>
Zinc	50.0		5.00	1	12/11/2019 00:10	<a href="#">WG1394312</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.02		0.100	1	12/11/2019 14:59	<a href="#">WG1394249</a>
(S) a, a, a-Trifluorotoluene(FID)	103		77.0-120		12/11/2019 14:59	<a href="#">WG1394249</a>

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



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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00260		0.00100	1	12/11/2019 05:50	<a href="#">WG1394412</a>
Toluene	0.0216		0.00500	1	12/11/2019 05:50	<a href="#">WG1394412</a>
Ethylbenzene	0.00993		0.00250	1	12/11/2019 05:50	<a href="#">WG1394412</a>
Total Xylenes	0.169		0.00650	1	12/11/2019 05:50	<a href="#">WG1394412</a>
Methyl tert-butyl ether	ND		0.00100	1	12/11/2019 05:50	<a href="#">WG1394412</a>
(S) Toluene-d8	98.3		75.0-131		12/11/2019 05:50	<a href="#">WG1394412</a>
(S) 4-Bromofluorobenzene	91.4		67.0-138		12/11/2019 05:50	<a href="#">WG1394412</a>
(S) 1,2-Dichloroethane-d4	106		70.0-130		12/11/2019 05:50	<a href="#">WG1394412</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/11/2019 07:11	<a href="#">WG1394333</a>
(S) o-Terphenyl	66.7		18.0-148		12/11/2019 07:11	<a href="#">WG1394333</a>

6 Qc

7 Gl

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Acenaphthene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Acenaphthylene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Benzo(a)anthracene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Benzo(a)pyrene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Chrysene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Fluoranthene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Fluorene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Naphthalene	ND		0.0200	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Phenanthrene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
Pyrene	ND		0.00600	1	12/11/2019 03:59	<a href="#">WG1394338</a>
1-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:59	<a href="#">WG1394338</a>
2-Methylnaphthalene	ND		0.0200	1	12/11/2019 03:59	<a href="#">WG1394338</a>
2-Chloronaphthalene	ND		0.0200	1	12/11/2019 03:59	<a href="#">WG1394338</a>
(S) p-Terphenyl-d14	80.4		23.0-120		12/11/2019 03:59	<a href="#">WG1394338</a>
(S) Nitrobenzene-d5	64.6		14.0-149		12/11/2019 03:59	<a href="#">WG1394338</a>
(S) 2-Fluorobiphenyl	59.3		34.0-125		12/11/2019 03:59	<a href="#">WG1394338</a>

8 Al

9 Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	4.69		1	12/11/2019 16:25	WG1394375

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	6.85		1.00	1	12/11/2019 18:56	<a href="#">WG1394312</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/11/2019 18:56	<a href="#">WG1394486</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.80	<a href="#">T8</a>	1	12/11/2019 20:00	<a href="#">WG1394487</a>

## Sample Narrative:

L1168890-05 WG1394487: 8.8 at 18.6C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	250		10.0	1	12/11/2019 16:34	<a href="#">WG1394663</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/10/2019 20:29	<a href="#">WG1394301</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.72		2.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Barium	1170		0.500	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Cadmium	ND		0.500	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Chromium	6.85		1.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Copper	9.57		2.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Lead	5.72		0.500	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Nickel	9.99		2.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Selenium	ND		2.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Silver	ND		1.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>
Zinc	29.6		5.00	1	12/11/2019 00:13	<a href="#">WG1394312</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	1.41		0.100	1	12/11/2019 15:20	<a href="#">WG1394249</a>
(S) a,a,a-Trifluorotoluene(FID)	94.8		77.0-120		12/11/2019 15:20	<a href="#">WG1394249</a>





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00150		0.00100	1	12/11/2019 06:09	<a href="#">WG1394412</a>
Toluene	ND		0.00500	1	12/11/2019 06:09	<a href="#">WG1394412</a>
Ethylbenzene	ND		0.00250	1	12/11/2019 06:09	<a href="#">WG1394412</a>
Total Xylenes	0.0167		0.00650	1	12/11/2019 06:09	<a href="#">WG1394412</a>
Methyl tert-butyl ether	ND		0.00100	1	12/11/2019 06:09	<a href="#">WG1394412</a>
(S) Toluene-d8	103		75.0-131		12/11/2019 06:09	<a href="#">WG1394412</a>
(S) 4-Bromofluorobenzene	90.1		67.0-138		12/11/2019 06:09	<a href="#">WG1394412</a>
(S) 1,2-Dichloroethane-d4	99.1		70.0-130		12/11/2019 06:09	<a href="#">WG1394412</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/11/2019 07:24	<a href="#">WG1394333</a>
(S) o-Terphenyl	64.0		18.0-148		12/11/2019 07:24	<a href="#">WG1394333</a>

6 Qc

7 Gl

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Acenaphthene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Acenaphthylene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Benzo(a)anthracene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Benzo(a)pyrene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Chrysene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Fluoranthene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Fluorene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Naphthalene	ND		0.0200	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Phenanthrene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
Pyrene	ND		0.00600	1	12/11/2019 04:21	<a href="#">WG1394338</a>
1-Methylnaphthalene	ND		0.0200	1	12/11/2019 04:21	<a href="#">WG1394338</a>
2-Methylnaphthalene	ND		0.0200	1	12/11/2019 04:21	<a href="#">WG1394338</a>
2-Chloronaphthalene	ND		0.0200	1	12/11/2019 04:21	<a href="#">WG1394338</a>
(S) p-Terphenyl-d14	89.2		23.0-120		12/11/2019 04:21	<a href="#">WG1394338</a>
(S) Nitrobenzene-d5	52.4		14.0-149		12/11/2019 04:21	<a href="#">WG1394338</a>
(S) 2-Fluorobiphenyl	57.0		34.0-125		12/11/2019 04:21	<a href="#">WG1394338</a>

8 Al

9 Sc

Method Blank (MB)

(MB) R3481473-1 12/11/19 18:48

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

<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

L1168698-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1168698-06 12/11/19 18:53 • (DUP) R3481473-7 12/11/19 18:54

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	U	0.000	1	0.000		20

L1168894-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1168894-01 12/11/19 18:56 • (DUP) R3481473-8 12/11/19 18:57

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3481473-2 12/11/19 18:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	22.5	93.8	80.0-120	

L1168542-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168542-02 12/11/19 18:50 • (MS) R3481473-3 12/11/19 18:51 • (MSD) R3481473-4 12/11/19 18:51

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	14.5	14.2	72.6	70.9	1	75.0-125	J6	J6	2.29	20

L1168542-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1168542-02 12/11/19 18:50 • (MS) R3481473-5 12/11/19 18:52

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	664	ND	597	90.0	50	75.0-125	

L1167624-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1167624-01 12/11/19 20:00 • (DUP) R3481490-2 12/11/19 20:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.33	8.41	1	0.956		1

Sample Narrative:  
OS: 8.33 at 19.1C  
DUP: 8.41 at 22.7C

L1168894-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1168894-01 12/11/19 20:00 • (DUP) R3481490-3 12/11/19 20:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.52	8.53	1	0.117		1

Sample Narrative:  
OS: 8.52 at 18.5C  
DUP: 8.53 at 18.9C

Laboratory Control Sample (LCS)

(LCS) R3481490-1 12/11/19 20:00

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

Sample Narrative:  
LCS: 10.01 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) R3481436-1 12/11/19 16:34

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

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

L1168542-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1168542-01 12/11/19 16:34 • (DUP) R3481436-3 12/11/19 16:34

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	18800	18500	1	1.82		20

7Gl

8Al

L1168894-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1168894-04 12/11/19 16:34 • (DUP) R3481436-4 12/11/19 16:34

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	191	180	1	5.83		20

9Sc

Laboratory Control Sample (LCS)

(LCS) R3481436-2 12/11/19 16:34

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	475	471	99.2	85.0-115	



Method Blank (MB)

(MB) R3481043-1 12/10/19 19:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.00280	0.0300

<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) R3481043-2 12/10/19 19:50 • (LCSD) R3481043-3 12/10/19 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.552	0.548	110	110	80.0-120			0.606	20

L1168890-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168890-04 12/10/19 19:54 • (MS) R3481043-4 12/10/19 19:56 • (MSD) R3481043-5 12/10/19 19:58

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	ND	0.506	0.497	96.1	94.1	1	75.0-125			1.91	20



Method Blank (MB)

(MB) R3481075-1 12/10/19 23:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	U		0.590	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

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

(LCS) R3481075-2 12/10/19 23:37 • (LCSD) R3481075-3 12/10/19 23:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	90.4	91.6	90.4	91.6	80.0-120			1.38	20
Barium	100	98.3	99.3	98.3	99.3	80.0-120			1.02	20
Cadmium	100	92.2	92.8	92.2	92.8	80.0-120			0.715	20
Chromium	100	94.5	93.7	94.5	93.7	80.0-120			0.854	20
Copper	100	94.1	93.4	94.1	93.4	80.0-120			0.716	20
Lead	100	91.6	92.9	91.6	92.9	80.0-120			1.44	20
Nickel	100	92.9	94.3	92.9	94.3	80.0-120			1.51	20
Selenium	100	90.9	92.5	90.9	92.5	80.0-120			1.77	20
Silver	20.0	17.7	17.6	88.6	88.0	80.0-120			0.702	20
Zinc	100	91.8	93.5	91.8	93.5	80.0-120			1.82	20

L1168887-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168887-01 12/10/19 23:42 • (MS) R3481075-6 12/10/19 23:50 • (MSD) R3481075-7 12/10/19 23:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	U	87.1	91.7	87.1	91.7	1	75.0-125			5.07	20
Barium	100	3.01	99.6	104	96.6	101	1	75.0-125			4.70	20
Cadmium	100	U	90.3	94.3	90.3	94.3	1	75.0-125			4.24	20
Chromium	100	1.10	94.0	97.5	92.9	96.4	1	75.0-125			3.73	20
Copper	100	4.37	95.9	101	91.5	97.1	1	75.0-125			5.65	20
Lead	100	67.7	155	173	87.3	105	1	75.0-125			10.7	20
Nickel	100	U	93.0	97.3	93.0	97.3	1	75.0-125			4.51	20





L1168887-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168887-01 12/10/19 23:42 • (MS) R3481075-6 12/10/19 23:50 • (MSD) R3481075-7 12/10/19 23:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Selenium	100	U	89.0	93.3	89.0	93.3	1	75.0-125			4.72	20
Silver	20.0	U	17.3	17.9	86.4	89.7	1	75.0-125			3.75	20
Zinc	100	2.18	93.4	98.1	91.2	95.9	1	75.0-125			4.86	20

<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) R3481817-5 12/11/19 12:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0289	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	108			77.0-120

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) R3481817-3 12/11/19 11:56 • (LCSD) R3481817-4 12/11/19 12:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.52	5.14	100	93.5	72.0-127			7.13	20
(S) a,a,a-Trifluorotoluene(FID)				113	112	77.0-120				

L1168516-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168516-02 12/11/19 17:23 • (MS) R3481817-8 12/11/19 21:29 • (MSD) R3481817-9 12/11/19 21:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.180	4.33	3.91	75.5	67.8	1	10.0-151			10.2	28
(S) a,a,a-Trifluorotoluene(FID)					106	106		77.0-120				



Method Blank (MB)

(MB) R3481315-2 12/11/19 01:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Methyl tert-butyl ether	U		0.000295	0.00100
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	87.8			67.0-138
(S) 1,2-Dichloroethane-d4	96.0			70.0-130

<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)

(LCS) R3481315-1 12/10/19 23:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.148	118	70.0-123	
Ethylbenzene	0.125	0.111	88.8	74.0-126	
Methyl tert-butyl ether	0.125	0.138	110	66.0-132	
Toluene	0.125	0.124	99.2	75.0-121	
Xylenes, Total	0.375	0.335	89.3	72.0-127	
(S) Toluene-d8			99.7	75.0-131	
(S) 4-Bromofluorobenzene			88.4	67.0-138	
(S) 1,2-Dichloroethane-d4			102	70.0-130	

L1168890-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168890-05 12/11/19 06:09 • (MS) R3481315-3 12/11/19 08:39 • (MSD) R3481315-4 12/11/19 08:58

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.00150	0.164	0.177	130	140	1	10.0-149			7.62	37
Ethylbenzene	0.125	ND	0.131	0.134	105	107	1	10.0-160			2.26	38
Methyl tert-butyl ether	0.125	ND	0.126	0.129	101	103	1	11.0-147			2.35	35
Toluene	0.125	ND	0.148	0.153	118	122	1	10.0-156			3.32	38
Xylenes, Total	0.375	0.0167	0.516	0.556	133	144	1	10.0-160			7.46	38
(S) Toluene-d8					99.2	96.0		75.0-131				
(S) 4-Bromofluorobenzene					96.5	98.0		67.0-138				
(S) 1,2-Dichloroethane-d4					101	106		70.0-130				



Method Blank (MB)

(MB) R3481104-1 12/11/19 01:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	70.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3481104-2 12/11/19 01:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	44.7	89.4	50.0-150	
(S) o-Terphenyl			68.9	18.0-148	

L1168672-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168672-06 12/11/19 02:04 • (MS) R3481104-3 12/11/19 02:17 • (MSD) R3481104-4 12/11/19 02:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	50.0	U	41.4	42.3	82.8	84.6	1	50.0-150			2.15	20
(S) o-Terphenyl					57.5	58.6		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3481137-2 12/11/19 00:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	63.3			14.0-149
(S) 2-Fluorobiphenyl	75.9			34.0-125
(S) p-Terphenyl-d14	93.4			23.0-120

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R3481137-1 12/11/19 00:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0788	98.5	50.0-126	
Acenaphthene	0.0800	0.0609	76.1	50.0-120	
Acenaphthylene	0.0800	0.0627	78.4	50.0-120	
Benzo(a)anthracene	0.0800	0.0820	103	45.0-120	
Benzo(a)pyrene	0.0800	0.0720	90.0	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0758	94.8	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0822	103	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0800	100	49.0-125	
Chrysene	0.0800	0.0785	98.1	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0825	103	47.0-125	
Fluoranthene	0.0800	0.0787	98.4	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3481137-1 12/11/19 00:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluorene	0.0800	0.0692	86.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0842	105	46.0-125	
Naphthalene	0.0800	0.0532	66.5	50.0-120	
Phenanthrene	0.0800	0.0725	90.6	47.0-120	
Pyrene	0.0800	0.0780	97.5	43.0-123	
1-Methylnaphthalene	0.0800	0.0556	69.5	51.0-121	
2-Methylnaphthalene	0.0800	0.0536	67.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0585	73.1	50.0-120	
(S) Nitrobenzene-d5			82.3	14.0-149	
(S) 2-Fluorobiphenyl			90.2	34.0-125	
(S) p-Terphenyl-d14			108	23.0-120	

L1168558-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168558-05 12/11/19 14:36 • (MS) R3481276-1 12/11/19 14:57 • (MSD) R3481276-2 12/11/19 15:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0800	ND	0.0725	0.0683	90.6	85.4	1	10.0-145			5.97	30
Acenaphthene	0.0800	ND	0.0485	0.0482	60.6	60.3	1	14.0-127			0.620	27
Acenaphthylene	0.0800	ND	0.0441	0.0432	55.1	54.0	1	21.0-124			2.06	25
Benzo(a)anthracene	0.0800	ND	0.0638	0.0578	79.8	72.3	1	10.0-139			9.87	30
Benzo(a)pyrene	0.0800	0.00633	0.0626	0.0560	70.3	62.1	1	10.0-141			11.1	31
Benzo(b)fluoranthene	0.0800	0.00765	0.0646	0.0565	71.2	61.1	1	10.0-140			13.4	36
Benzo(g,h,i)perylene	0.0800	0.0170	0.0616	0.0547	55.8	47.1	1	10.0-140			11.9	33
Benzo(k)fluoranthene	0.0800	ND	0.0563	0.0513	70.4	64.1	1	10.0-137			9.29	31
Chrysene	0.0800	ND	0.0668	0.0622	83.5	77.8	1	10.0-145			7.13	30
Dibenz(a,h)anthracene	0.0800	ND	0.0576	0.0506	72.0	63.3	1	10.0-132			12.9	31
Fluoranthene	0.0800	0.0258	0.0594	0.0550	42.0	36.5	1	10.0-153			7.69	33
Fluorene	0.0800	ND	0.0533	0.0537	66.6	67.1	1	11.0-130			0.748	29
Indeno(1,2,3-cd)pyrene	0.0800	0.00730	0.0583	0.0515	63.8	55.3	1	10.0-137			12.4	32
Naphthalene	0.0800	0.0207	0.0764	0.0894	69.6	85.9	1	10.0-135			15.7	27
Phenanthrene	0.0800	ND	0.0904	0.0926	113	116	1	10.0-144			2.40	31
Pyrene	0.0800	0.114	0.101	0.0967	0.000	0.000	1	10.0-148	J6	J6	4.35	35
1-Methylnaphthalene	0.0800	0.0261	0.0983	0.112	90.3	107	1	10.0-142			13.0	28
2-Methylnaphthalene	0.0800	0.0290	0.0994	0.128	88.0	124	1	10.0-137			25.2	28
2-Chloronaphthalene	0.0800	ND	0.0381	0.0381	47.6	47.6	1	29.0-120			0.000	24
(S) Nitrobenzene-d5					175	151		14.0-149	J1	J1		
(S) 2-Fluorobiphenyl					46.0	48.0		34.0-125				
(S) p-Terphenyl-d14					83.2	78.9		23.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc





## 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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
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	T104704245-18-15
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.







## Entrada Consulting Group

Sample Delivery Group: L1170911  
Samples Received: 12/14/2019  
Project Number:  
Description: Laramie Hells Gulch 26-6 Spill Response  
  
Report To: Stuart Hall  
240 Mesa Avenue  
Grand Junction, CO 81501

Entire Report Reviewed By:

*Chris Ward*

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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



## SS6 L1170911-01 Solid

				Collected by Jessica Dilka	Collected date/time 12/13/19 11:55	Received date/time 12/14/19 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1397073	1	12/17/19 14:06	12/17/19 14:06	EL	Mt. Juliet, TN
Calculated Results	WG1397347	1	12/16/19 18:37	12/17/19 00:44	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1397045	1	12/16/19 11:00	12/16/19 18:58	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1397697	1	12/17/19 14:30	12/17/19 16:50	EEM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1396956	1	12/15/19 13:00	12/15/19 15:25	BAM	Mt. Juliet, TN
Mercury by Method 7471A	WG1397371	1	12/16/19 14:21	12/16/19 21:30	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1397347	1	12/16/19 18:37	12/17/19 00:44	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1397311	1	12/14/19 16:47	12/16/19 13:43	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1397421	1	12/16/19 21:41	12/17/19 19:00	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1397433	1	12/17/19 15:57	12/17/19 21:39	AAT	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

## SS7 L1170911-02 Solid

				Collected by Jessica Dilka	Collected date/time 12/13/19 12:00	Received date/time 12/14/19 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1397073	1	12/17/19 14:09	12/17/19 14:09	EL	Mt. Juliet, TN
Calculated Results	WG1397347	1	12/16/19 18:39	12/17/19 00:46	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1397045	1	12/16/19 11:00	12/16/19 18:59	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1397697	1	12/17/19 14:30	12/17/19 16:50	EEM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1396956	1	12/15/19 13:00	12/15/19 15:25	BAM	Mt. Juliet, TN
Mercury by Method 7471A	WG1397371	1	12/16/19 14:21	12/16/19 21:33	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1397347	1	12/16/19 18:39	12/17/19 00:46	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1397311	1	12/14/19 16:47	12/16/19 14:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1397421	1	12/16/19 21:41	12/17/19 18:09	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1397433	1	12/17/19 15:57	12/17/19 21:59	AAT	Mt. Juliet, TN

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## SS8 L1170911-03 Solid

				Collected by Jessica Dilka	Collected date/time 12/13/19 12:05	Received date/time 12/14/19 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1397073	1	12/17/19 14:12	12/17/19 14:12	EL	Mt. Juliet, TN
Calculated Results	WG1397347	1	12/16/19 18:39	12/17/19 00:49	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1397045	1	12/16/19 11:00	12/16/19 18:59	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1397697	1	12/17/19 14:30	12/17/19 16:50	EEM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1396956	1	12/15/19 13:00	12/15/19 15:25	BAM	Mt. Juliet, TN
Mercury by Method 7471A	WG1397371	1	12/16/19 14:21	12/16/19 21:11	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1397347	1	12/16/19 18:39	12/17/19 00:49	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1397311	1	12/14/19 16:47	12/16/19 14:23	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1397421	1	12/16/19 21:41	12/17/19 18:47	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1397433	1	12/17/19 15:57	12/17/19 22:20	AAT	Mt. Juliet, TN

## SS9 L1170911-04 Solid

				Collected by Jessica Dilka	Collected date/time 12/13/19 12:10	Received date/time 12/14/19 08:30
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1397073	1	12/17/19 14:14	12/17/19 14:14	EL	Mt. Juliet, TN
Calculated Results	WG1397347	1	12/16/19 18:37	12/17/19 00:51	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1397045	1	12/16/19 11:00	12/16/19 19:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1397697	1	12/17/19 14:30	12/17/19 16:50	EEM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1396956	1	12/15/19 13:00	12/15/19 15:25	BAM	Mt. Juliet, TN
Mercury by Method 7471A	WG1397371	1	12/16/19 14:21	12/16/19 21:35	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1397347	1	12/16/19 18:37	12/17/19 00:51	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1397311	1	12/14/19 16:47	12/16/19 14:44	BMB	Mt. Juliet, TN

ACCOUNT:

Entrada Consulting Group

PROJECT:

SDG:

L1170911

DATE/TIME:

12/20/19 10:58

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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



SS9 L1170911-04 Solid

Collected by  
Jessica Dilka

Collected date/time  
12/13/19 12:10

Received date/time  
12/14/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1397421	1	12/16/19 21:41	12/17/19 18:22	FM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1397433	1	12/17/19 15:57	12/17/19 22:41	AAT	Mt. Juliet, TN

<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

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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

#### Report Revision History

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Version 1: 12/18/19 10:39

<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



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.778		1	12/17/2019 14:06	WG1397073

<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

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	15.3		1.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/16/2019 18:58	<a href="#">WG1397045</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.97	<u>T8</u>	1	12/17/2019 16:50	<a href="#">WG1397697</a>

## Sample Narrative:

L1170911-01 WG1397697: 7.97 at 21.8C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	551		10.0	1	12/15/2019 15:25	<a href="#">WG1396956</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/16/2019 21:30	<a href="#">WG1397371</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.39		2.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Barium	155		0.500	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Cadmium	ND		0.500	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Chromium	15.3		1.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Copper	12.7		2.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Lead	11.5		0.500	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Nickel	17.7		2.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Selenium	ND		2.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Silver	ND		1.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>
Zinc	51.5		5.00	1	12/17/2019 00:44	<a href="#">WG1397347</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00338		0.000500	1	12/16/2019 13:43	<a href="#">WG1397311</a>
Toluene	ND		0.00500	1	12/16/2019 13:43	<a href="#">WG1397311</a>
Ethylbenzene	0.00173		0.000500	1	12/16/2019 13:43	<a href="#">WG1397311</a>
Total Xylene	0.0333		0.00150	1	12/16/2019 13:43	<a href="#">WG1397311</a>
TPH (GC/FID) Low Fraction	0.342	<u>B</u>	0.100	1	12/16/2019 13:43	<a href="#">WG1397311</a>



## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	102		77.0-120		12/16/2019 13:43	<a href="#">WG1397311</a>
(S) a,a,a-Trifluorotoluene(PID)	98.1		72.0-128		12/16/2019 13:43	<a href="#">WG1397311</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/17/2019 19:00	<a href="#">WG1397421</a>
(S) o-Terphenyl	40.4		18.0-148		12/17/2019 19:00	<a href="#">WG1397421</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Acenaphthene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Acenaphthylene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Benzo(a)anthracene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Benzo(a)pyrene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Chrysene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Fluoranthene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Fluorene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Naphthalene	ND		0.0200	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Phenanthrene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
Pyrene	ND		0.00600	1	12/17/2019 21:39	<a href="#">WG1397433</a>
1-Methylnaphthalene	ND		0.0200	1	12/17/2019 21:39	<a href="#">WG1397433</a>
2-Methylnaphthalene	ND		0.0200	1	12/17/2019 21:39	<a href="#">WG1397433</a>
2-Chloronaphthalene	ND		0.0200	1	12/17/2019 21:39	<a href="#">WG1397433</a>
(S) p-Terphenyl-d14	95.5		23.0-120		12/17/2019 21:39	<a href="#">WG1397433</a>
(S) Nitrobenzene-d5	99.1		14.0-149		12/17/2019 21:39	<a href="#">WG1397433</a>
(S) 2-Fluorobiphenyl	81.1		34.0-125		12/17/2019 21:39	<a href="#">WG1397433</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.25		1	12/17/2019 14:09	WG1397073

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	12.8		1.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/16/2019 18:59	<a href="#">WG1397045</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.54	<a href="#">T8</a>	1	12/17/2019 16:50	<a href="#">WG1397697</a>

## Sample Narrative:

L1170911-02 WG1397697: 8.54 at 22.1C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	275		10.0	1	12/15/2019 15:25	<a href="#">WG1396956</a>

## Mercury by Method 7471A

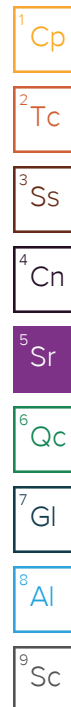
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/16/2019 21:33	<a href="#">WG1397371</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.85		2.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Barium	161		0.500	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Cadmium	ND		0.500	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Chromium	12.8		1.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Copper	10.8		2.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Lead	11.3		0.500	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Nickel	15.5		2.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Selenium	ND		2.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Silver	ND		1.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>
Zinc	47.7		5.00	1	12/17/2019 00:46	<a href="#">WG1397347</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00192		0.000500	1	12/16/2019 14:03	<a href="#">WG1397311</a>
Toluene	ND		0.00500	1	12/16/2019 14:03	<a href="#">WG1397311</a>
Ethylbenzene	0.00172		0.000500	1	12/16/2019 14:03	<a href="#">WG1397311</a>
Total Xylene	0.0130		0.00150	1	12/16/2019 14:03	<a href="#">WG1397311</a>
TPH (GC/FID) Low Fraction	0.600		0.100	1	12/16/2019 14:03	<a href="#">WG1397311</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	102		77.0-120		12/16/2019 14:03	<a href="#">WG1397311</a>
(S) a,a,a-Trifluorotoluene(PID)	100		72.0-128		12/16/2019 14:03	<a href="#">WG1397311</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/17/2019 18:09	<a href="#">WG1397421</a>
(S) o-Terphenyl	48.4		18.0-148		12/17/2019 18:09	<a href="#">WG1397421</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Acenaphthene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Acenaphthylene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Benzo(a)anthracene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Benzo(a)pyrene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Chrysene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Fluoranthene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Fluorene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Naphthalene	ND		0.0200	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Phenanthrene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
Pyrene	ND		0.00600	1	12/17/2019 21:59	<a href="#">WG1397433</a>
1-Methylnaphthalene	ND		0.0200	1	12/17/2019 21:59	<a href="#">WG1397433</a>
2-Methylnaphthalene	ND		0.0200	1	12/17/2019 21:59	<a href="#">WG1397433</a>
2-Chloronaphthalene	ND		0.0200	1	12/17/2019 21:59	<a href="#">WG1397433</a>
(S) p-Terphenyl-d14	100		23.0-120		12/17/2019 21:59	<a href="#">WG1397433</a>
(S) Nitrobenzene-d5	107		14.0-149		12/17/2019 21:59	<a href="#">WG1397433</a>
(S) 2-Fluorobiphenyl	87.5		34.0-125		12/17/2019 21:59	<a href="#">WG1397433</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.39		1	12/17/2019 14:12	WG1397073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	16.1		1.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/16/2019 18:59	<a href="#">WG1397045</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.37	<a href="#">T8</a>	1	12/17/2019 16:50	<a href="#">WG1397697</a>

## Sample Narrative:

L1170911-03 WG1397697: 8.37 at 22.2C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	489		10.0	1	12/15/2019 15:25	<a href="#">WG1396956</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/16/2019 21:11	<a href="#">WG1397371</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.43		2.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Barium	168		0.500	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Cadmium	ND		0.500	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Chromium	16.1		1.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Copper	11.8		2.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Lead	11.2		0.500	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Nickel	17.1		2.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Selenium	ND		2.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Silver	ND		1.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>
Zinc	54.5		5.00	1	12/17/2019 00:49	<a href="#">WG1397347</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000927		0.000500	1	12/16/2019 14:23	<a href="#">WG1397311</a>
Toluene	ND		0.00500	1	12/16/2019 14:23	<a href="#">WG1397311</a>
Ethylbenzene	ND		0.000500	1	12/16/2019 14:23	<a href="#">WG1397311</a>
Total Xylene	ND		0.00150	1	12/16/2019 14:23	<a href="#">WG1397311</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	12/16/2019 14:23	<a href="#">WG1397311</a>



## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		12/16/2019 14:23	<a href="#">WG1397311</a>
(S) a,a,a-Trifluorotoluene(PID)	96.3		72.0-128		12/16/2019 14:23	<a href="#">WG1397311</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/17/2019 18:47	<a href="#">WG1397421</a>
(S) o-Terphenyl	41.7		18.0-148		12/17/2019 18:47	<a href="#">WG1397421</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Acenaphthene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Acenaphthylene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Benzo(a)anthracene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Benzo(a)pyrene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Chrysene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Fluoranthene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Fluorene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Naphthalene	ND		0.0200	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Phenanthrene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
Pyrene	ND		0.00600	1	12/17/2019 22:20	<a href="#">WG1397433</a>
1-Methylnaphthalene	ND		0.0200	1	12/17/2019 22:20	<a href="#">WG1397433</a>
2-Methylnaphthalene	ND		0.0200	1	12/17/2019 22:20	<a href="#">WG1397433</a>
2-Chloronaphthalene	ND		0.0200	1	12/17/2019 22:20	<a href="#">WG1397433</a>
(S) p-Terphenyl-d14	87.4		23.0-120		12/17/2019 22:20	<a href="#">WG1397433</a>
(S) Nitrobenzene-d5	97.3		14.0-149		12/17/2019 22:20	<a href="#">WG1397433</a>
(S) 2-Fluorobiphenyl	75.4		34.0-125		12/17/2019 22:20	<a href="#">WG1397433</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.63		1	12/17/2019 14:14	WG1397073

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	13.0		1.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	12/16/2019 19:00	<a href="#">WG1397045</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.95	<a href="#">T8</a>	1	12/17/2019 16:50	<a href="#">WG1397697</a>

## Sample Narrative:

L1170911-04 WG1397697: 7.95 at 21.7C

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1170		10.0	1	12/15/2019 15:25	<a href="#">WG1396956</a>

## Mercury by Method 7471A

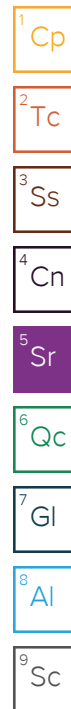
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	12/16/2019 21:35	<a href="#">WG1397371</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.52		2.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Barium	142		0.500	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Cadmium	ND		0.500	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Chromium	13.0		1.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Copper	13.0		2.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Lead	11.5		0.500	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Nickel	16.8		2.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Selenium	ND		2.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Silver	ND		1.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>
Zinc	52.1		5.00	1	12/17/2019 00:51	<a href="#">WG1397347</a>

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0140		0.000500	1	12/16/2019 14:44	<a href="#">WG1397311</a>
Toluene	ND		0.00500	1	12/16/2019 14:44	<a href="#">WG1397311</a>
Ethylbenzene	0.00347		0.000500	1	12/16/2019 14:44	<a href="#">WG1397311</a>
Total Xylene	0.0301		0.00150	1	12/16/2019 14:44	<a href="#">WG1397311</a>
TPH (GC/FID) Low Fraction	0.321	<a href="#">B</a>	0.100	1	12/16/2019 14:44	<a href="#">WG1397311</a>





## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	105		77.0-120		12/16/2019 14:44	<a href="#">WG1397311</a>
(S) a,a,a-Trifluorotoluene(PID)	95.8		72.0-128		12/16/2019 14:44	<a href="#">WG1397311</a>

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	12/17/2019 18:22	<a href="#">WG1397421</a>
(S) o-Terphenyl	41.8		18.0-148		12/17/2019 18:22	<a href="#">WG1397421</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Acenaphthene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Acenaphthylene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Benzo(a)anthracene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Benzo(a)pyrene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Benzo(b)fluoranthene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Benzo(g,h,i)perylene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Benzo(k)fluoranthene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Chrysene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Dibenz(a,h)anthracene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Fluoranthene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Fluorene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Naphthalene	ND		0.0200	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Phenanthrene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
Pyrene	ND		0.00600	1	12/17/2019 22:41	<a href="#">WG1397433</a>
1-Methylnaphthalene	ND		0.0200	1	12/17/2019 22:41	<a href="#">WG1397433</a>
2-Methylnaphthalene	ND		0.0200	1	12/17/2019 22:41	<a href="#">WG1397433</a>
2-Chloronaphthalene	ND		0.0200	1	12/17/2019 22:41	<a href="#">WG1397433</a>
(S) p-Terphenyl-d14	83.1		23.0-120		12/17/2019 22:41	<a href="#">WG1397433</a>
(S) Nitrobenzene-d5	88.7		14.0-149		12/17/2019 22:41	<a href="#">WG1397433</a>
(S) 2-Fluorobiphenyl	71.7		34.0-125		12/17/2019 22:41	<a href="#">WG1397433</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3482913-1 12/16/19 18:46

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

L1170385-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1170385-01 12/16/19 18:52 • (DUP) R3482913-3 12/16/19 18:52

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.000	1	0.000		20

L1170911-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1170911-04 12/16/19 19:00 • (DUP) R3482913-4 12/16/19 19:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3482913-2 12/16/19 18:47

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	25.1	105	80.0-120	

L1170990-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170990-02 12/16/19 19:01 • (MS) R3482913-5 12/16/19 19:01 • (MSD) R3482913-6 12/16/19 19:01

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	19.1	18.8	95.4	94.0	1	75.0-125			1.47	20

L1170990-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1170990-02 12/16/19 19:01 • (MS) R3482913-7 12/16/19 19:02

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	638	ND	624	97.8	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1170907-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1170907-01 12/17/19 16:50 • (DUP) R3483324-2 12/17/19 16:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.67	8.64	1	0.347		1

Sample Narrative:  
OS: 8.67 at 21.6C  
DUP: 8.64 at 21.8C

L1171345-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1171345-05 12/17/19 16:50 • (DUP) R3483324-3 12/17/19 16:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.27	7.30	1	0.412		1

Sample Narrative:  
OS: 7.27 at 21.2C  
DUP: 7.3 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R3483324-1 12/17/19 16:50

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

Sample Narrative:  
LCS: 9.99 at 17.7C

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3482516-1 12/15/19 15:25

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

L1170385-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1170385-01 12/15/19 15:25 • (DUP) R3482516-3 12/15/19 15:25

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2610	2610	1	0.345		20

L1170990-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1170990-05 12/15/19 15:25 • (DUP) R3482516-4 12/15/19 15:25

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	4020	4030	1	0.273		20

Laboratory Control Sample (LCS)

(LCS) R3482516-2 12/15/19 15:25

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	475	498	105	85.0-115	





Method Blank (MB)

(MB) R3482961-1 12/16/19 21:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.00280	0.0300

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

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

(LCS) R3482961-2 12/16/19 21:06 • (LCSD) R3482961-3 12/16/19 21:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.455	0.460	91.0	92.0	80.0-120			1.09	20

L1170911-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170911-03 12/16/19 21:11 • (MS) R3482961-4 12/16/19 21:13 • (MSD) R3482961-5 12/16/19 21:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	ND	0.483	0.453	93.1	87.2	1	75.0-125			6.31	20

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3482989-1 12/17/19 00:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	U		0.590	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

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

(LCS) R3482989-2 12/17/19 00:09 • (LCSD) R3482989-3 12/17/19 00:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	89.6	88.1	89.6	88.1	80.0-120			1.78	20
Barium	100	100	98.2	100	98.2	80.0-120			2.03	20
Cadmium	100	97.2	95.9	97.2	95.9	80.0-120			1.42	20
Chromium	100	101	99.5	101	99.5	80.0-120			1.74	20
Copper	100	102	101	102	101	80.0-120			0.993	20
Lead	100	93.5	90.9	93.5	90.9	80.0-120			2.78	20
Nickel	100	97.6	95.3	97.6	95.3	80.0-120			2.37	20
Selenium	100	98.0	96.1	98.0	96.1	80.0-120			1.88	20
Silver	20.0	19.4	19.1	97.2	95.4	80.0-120			1.86	20
Zinc	100	95.7	93.3	95.7	93.3	80.0-120			2.61	20

L1170733-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170733-01 12/17/19 00:15 • (MS) R3482989-6 12/17/19 00:23 • (MSD) R3482989-7 12/17/19 00:25

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	112	1.21	105	109	92.2	96.1	1	75.0-125			4.16	20
Barium	112	30.5	135	137	92.6	94.7	1	75.0-125			1.79	20
Cadmium	112	0.121	112	116	99.2	103	1	75.0-125			3.97	20
Chromium	112	14.1	121	129	95.4	102	1	75.0-125			5.77	20
Copper	112	10.6	127	132	103	108	1	75.0-125			4.38	20
Lead	112	4.28	108	113	92.2	96.7	1	75.0-125			4.59	20



[L1170911-01,02,03,04](#)

L1170733-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170733-01 12/17/19 00:15 • (MS) R3482989-6 12/17/19 00:23 • (MSD) R3482989-7 12/17/19 00:25

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Nickel	112	17.0	128	134	98.9	104	1	75.0-125			4.49	20
Selenium	112	0.803	113	118	100	105	1	75.0-125			4.34	20
Silver	22.5	U	22.6	23.5	101	105	1	75.0-125			3.82	20
Zinc	112	21.1	123	126	90.5	93.3	1	75.0-125			2.49	20

<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) R3482954-3 12/16/19 11:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000267	J	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0417	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	102			72.0-128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3482954-1 12/16/19 10:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0535	107	76.0-121	
Toluene	0.0500	0.0505	101	80.0-120	
Ethylbenzene	0.0500	0.0522	104	80.0-124	
Total Xylene	0.150	0.143	95.3	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			108	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			105	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3482954-2 12/16/19 10:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.72	104	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			113	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			129	72.0-128	J1



L1170494-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170494-01 12/16/19 17:07 • (MS) R3482954-4 12/16/19 21:33 • (MSD) R3482954-5 12/16/19 21:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	550	79.4	558	534	87.0	82.7	100	10.0-151			4.40	28
(S) a,a,a-Trifluorotoluene(FID)					114	113		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					128	128		72.0-128				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3483340-1 12/17/19 13:21

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	70.4			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3483340-2 12/17/19 13:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
TPH (GC/FID) High Fraction	50.0	40.6	81.2	50.0-150	
(S) o-Terphenyl			67.3	18.0-148	

<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) R3483504-2 12/17/19 20:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	115			14.0-149
(S) 2-Fluorobiphenyl	96.4			34.0-125
(S) p-Terphenyl-d14	113			23.0-120

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS)

(LCS) R3483504-1 12/17/19 20:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0725	90.6	50.0-126	
Acenaphthene	0.0800	0.0755	94.4	50.0-120	
Acenaphthylene	0.0800	0.0784	98.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0711	88.9	45.0-120	
Benzo(a)pyrene	0.0800	0.0701	87.6	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0667	83.4	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0681	85.1	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0724	90.5	49.0-125	
Chrysene	0.0800	0.0700	87.5	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0636	79.5	47.0-125	
Fluoranthene	0.0800	0.0703	87.9	49.0-129	



Laboratory Control Sample (LCS)

(LCS) R3483504-1 12/17/19 20:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0775	96.9	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0661	82.6	46.0-125	
Naphthalene	0.0800	0.0747	93.4	50.0-120	
Phenanthrene	0.0800	0.0673	84.1	47.0-120	
Pyrene	0.0800	0.0686	85.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0836	105	51.0-121	
2-Methylnaphthalene	0.0800	0.0746	93.3	50.0-120	
2-Chloronaphthalene	0.0800	0.0742	92.8	50.0-120	
(S) Nitrobenzene-d5			116	14.0-149	
(S) 2-Fluorobiphenyl			98.2	34.0-125	
(S) p-Terphenyl-d14			113	23.0-120	

L1170721-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170721-02 12/18/19 02:48 • (MS) R3483504-3 12/18/19 03:09 • (MSD) R3483504-4 12/18/19 03:29

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.109	0.0307	0.122	0.102	83.4	64.8	1	10.0-145			17.8	30
Acenaphthene	0.109	0.0222	0.111	0.105	81.2	75.4	1	14.0-127			5.52	27
Acenaphthylene	0.109	ND	0.0980	0.100	85.1	86.8	1	21.0-124			2.37	25
Benzo(a)anthracene	0.109	0.0818	0.144	0.133	57.0	46.3	1	10.0-139			8.21	30
Benzo(a)pyrene	0.109	0.0976	0.143	0.138	41.2	37.2	1	10.0-141			2.96	31
Benzo(b)fluoranthene	0.109	0.102	0.137	0.128	32.1	23.5	1	10.0-140			6.99	36
Benzo(g,h,i)perylene	0.109	0.0678	0.123	0.136	50.5	62.4	1	10.0-140			10.3	33
Benzo(k)fluoranthene	0.109	0.0274	0.109	0.106	74.7	71.8	1	10.0-137			2.57	31
Chrysene	0.109	0.130	0.166	0.127	33.2	0.000	1	10.0-145		J6	27.0	30
Dibenz(a,h)anthracene	0.109	0.0125	0.0825	0.0814	64.2	62.9	1	10.0-132			1.35	31
Fluoranthene	0.109	0.194	0.228	0.187	31.7	0.000	1	10.0-153		J6	20.0	33
Fluorene	0.109	0.0233	0.111	0.100	80.1	70.2	1	11.0-130			9.85	29
Indeno(1,2,3-cd)pyrene	0.109	0.0494	0.110	0.113	55.3	58.1	1	10.0-137			2.98	32
Naphthalene	0.109	0.0292	0.0955	0.0989	60.8	63.5	1	10.0-135			3.42	27
Phenanthrene	0.109	0.234	0.245	0.179	10.2	0.000	1	10.0-144		J3 J6	31.4	31
Pyrene	0.109	0.273	0.321	0.197	44.4	0.000	1	10.0-148		J3 J6	48.1	35
1-Methylnaphthalene	0.109	ND	0.0953	0.0925	81.4	78.4	1	10.0-142			2.95	28
2-Methylnaphthalene	0.109	ND	0.0885	0.0868	71.2	69.3	1	10.0-137			1.90	28
2-Chloronaphthalene	0.109	ND	0.0915	0.0900	83.9	82.1	1	29.0-120			1.68	24
(S) Nitrobenzene-d5					101	98.7		14.0-149				
(S) 2-Fluorobiphenyl					85.6	82.9		34.0-125				
(S) p-Terphenyl-d14					138	95.4		23.0-120	J1			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## 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.

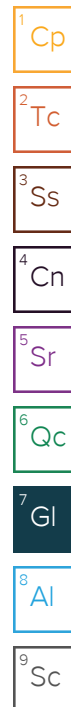
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
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.
T8	Sample(s) received past/too close to holding time expiration.





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\* 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	T104704245-18-15
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.



[illegible]



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Mt. Juliet, TN 37122  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

## Report Summary

Monday April 30, 2012

Report Number: L571297

Samples Received: 04/21/12

Client Project: WA-000546-0013-10

Description: Hells Gulch 26-6 Backgrounds

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-BGN 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:20

ESC Sample # : L571297-01

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.3			su	T8	9045D	04/25/12	1
Specific Conductance	110			umhos/cm		9050AMo	04/24/12	1
Arsenic	4.0	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-01 (PH) - 6.3@19.5c



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Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-BGN 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:20

ESC Sample # : L571297-02

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.9	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01





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Tax I.D. 62-0814289

Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-BGE 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:25

ESC Sample # : L571297-03

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.6			su	T8	9045D	04/25/12	1
Specific Conductance	50.			umhos/cm		9050AMo	04/24/12	1
Arsenic	3.6	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-03 (PH) - 6.6@19.5c



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Est. 1970

# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-BGE 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:25

ESC Sample # : L571297-04

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	3.4	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-CSE 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:30

ESC Sample # : L571297-05

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	7.2			su	T8	9045D	04/25/12	1
Specific Conductance	65.			umhos/cm		9050AMo	04/24/12	1
Arsenic	5.6	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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L571297-05 (PH) - 7.2@19.9c



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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-CSE 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:30

ESC Sample # : L571297-06

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	4.8	0.32	1.0	mg/kg		6010B	04/28/12	1

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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-CSS 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:35

ESC Sample # : L571297-07

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	7.9			su	T8	9045D	04/25/12	1
Specific Conductance	180			umhos/cm		9050AMo	04/24/12	1
Arsenic	5.3	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-07 (PH) - 7.9@20.2c



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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-CSS 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:35

ESC Sample # : L571297-08

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	2.6	0.32	1.0	mg/kg		6010B	04/27/12	1

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# REPORT OF ANALYSIS

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OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-BGS 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:40

ESC Sample # : L571297-09

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.7			su	T8	9045D	04/25/12	1
Specific Conductance	120			umhos/cm		9050AMo	04/24/12	1
Arsenic	4.0	0.32	1.0	mg/kg		6010B	04/28/12	1

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-09 (PH) - 6.7@19.8c





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# REPORT OF ANALYSIS

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OXY USA Inc - Grand Junction, CO  
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Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-BGS 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:40

ESC Sample # : L571297-10

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	6.5	0.32	1.0	mg/kg		6010B	04/28/12	1

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Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-CSN 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:45

ESC Sample # : L571297-11

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	7.8			su	T8	9045D	04/25/12	1
Specific Conductance	150			umhos/cm		9050AMo	04/24/12	1
Arsenic	5.7	0.32	1.0	mg/kg		6010B	04/28/12	1

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RDL = Reported Detection Limit = LOQ = PQL = EQL

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L571297-11 (PH) - 7.8@19.9c



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OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-CSN 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:45

ESC Sample # : L571297-12

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	7.0	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

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# REPORT OF ANALYSIS

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OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-CSW 10 IN

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:50

ESC Sample # : L571297-13

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.8			su	T8	9045D	04/25/12	1
Specific Conductance	48.			umhos/cm		9050AMo	04/24/12	1
Arsenic	6.7	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-13 (PH) - 6.8@19.6c



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Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-CSW 10 IN  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:50

ESC Sample # : L571297-14

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	6.3	0.32	1.0	mg/kg		6010B	04/28/12	1

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RDL = Reported Detection Limit = LOQ = PQL = EQL

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# REPORT OF ANALYSIS

Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds

Sample ID : HG 26-6-BGW 10 FT

Collected By : Matt Kasten  
Collection Date : 04/19/12 11:55

ESC Sample # : L571297-15

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
pH	6.5			su	T8	9045D	04/25/12	1
Specific Conductance	100			umhos/cm		9050AMo	04/24/12	1
Arsenic	3.7	0.32	1.0	mg/kg		6010B	04/28/12	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

RDL = Reported Detection Limit = LOQ = PQL = EQL

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Reported: 04/30/12 09:01 Printed: 04/30/12 09:01  
L571297-15 (PH) - 6.5@20.0c



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Daniel Padilla  
OXY USA Inc - Grand Junction, CO  
760 Horizon Dr., Ste. 101  
Grand Junction, CO 81506

April 30, 2012

Date Received : April 21, 2012  
Description : Hells Gulch 26-6 Backgrounds  
Sample ID : HG 26-6-BGW 10 FT  
Collected By : Matt Kasten  
Collection Date : 04/19/12 11:55

ESC Sample # : L571297-16

Site ID : HELLS GULCH 26-6

Project # : WA-000546-0013-10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic	1.3	0.32	1.0	mg/kg		6010B	04/27/12	1

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L571297-01	WG589381	SAMP	pH	R2141733	T8
L571297-03	WG589381	SAMP	pH	R2141733	T8
L571297-05	WG589381	SAMP	pH	R2141733	T8
L571297-07	WG589381	SAMP	pH	R2141733	T8
L571297-09	WG589381	SAMP	pH	R2141733	T8
L571297-11	WG589381	SAMP	pH	R2141733	T8
L571297-13	WG589381	SAMP	pH	R2141733	T8
L571297-15	WG589381	SAMP	pH	R2141733	T8



Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed  
04/30/12 at 09:01:35

TSR Signing Reports: 134  
R5 - Desired TAT

Sample: L571297-01 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-02 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-03 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-04 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-05 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-06 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-07 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-08 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-09 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-10 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-11 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-12 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-13 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-14 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-15 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01  
Sample: L571297-16 Account: OXYGJCO Received: 04/21/12 09:00 Due Date: 04/27/12 00:00 RPT Date: 04/30/12 09:01