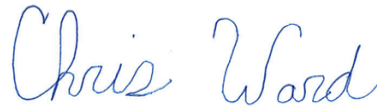


February 19, 2019

Crestone Peak Resources

Sample Delivery Group:	L1065144
Samples Received:	01/30/2019
Project Number:	16190459/9901
Description:	BWSE/GWA_Waste_Connections_29H_M168
Site:	753909
Report To:	Crestone Peak Resources 1801 California Street Denver, CO 80202

Entire Report Reviewed By:



Chris Ward
Project Manager

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



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SAMPLE SUMMARY



BW_JOHNSTON_183148 L1065144-01 GW

Collected by David Hitchings	Collected date/time 01/29/19 15:16	Received date/time 01/30/19 08:45
---------------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Microbiology by Method BART	WG1230359	1	02/09/19 10:23	02/09/19 10:23	RF
Gravimetric Analysis by Method 2540 C-2011	WG1230826	1	02/02/19 15:49	02/02/19 16:21	AJS
Wet Chemistry by Method 2320 B-2011	WG1231115	1	02/01/19 16:31	02/01/19 16:31	GB
Wet Chemistry by Method 353.2	WG1230751	1	02/05/19 07:39	02/05/19 07:39	BRJ
Wet Chemistry by Method 365.4	WG1232366	5	01/31/19 12:23	02/04/19 21:09	JER
Wet Chemistry by Method 9040C	WG1230356	1	01/30/19 13:21	01/30/19 13:21	MLW
Wet Chemistry by Method 9050A	WG1231768	1	02/02/19 13:43	02/02/19 13:43	MJA
Wet Chemistry by Method 9056A	WG1230200	1	01/30/19 12:36	01/30/19 12:36	ELN
Wet Chemistry by Method 9056A	WG1230200	10	01/30/19 12:52	01/30/19 12:52	ELN
Metals (ICP) by Method 6010B	WG1229967	1	01/31/19 08:26	01/31/19 13:47	TRB
Metals (ICPMS) by Method 6020	WG1230426	1	01/31/19 10:17	01/31/19 15:40	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1230973	1	02/01/19 14:58	02/01/19 14:58	ACG
Volatile Organic Compounds (GC) by Method RSK175	WG1230299	1	01/31/19 13:54	01/31/19 13:54	MEL
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1231589	1	02/01/19 20:31	02/01/19 20:31	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1230264	1	01/31/19 08:52	01/31/19 19:43	TH

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

Project Narrative

The following reactions were observed on one or more samples within this SDG.

- CL Cloudy Growth
- PB Pale Blue Glow in UV Light

NO2/NO3 the COGCC SAP requires method 353.3. - ESC reports by 353.2 /T.Phos the COGCC SAP requires method 365.3 - ESC reports by 365.4/Total ALK, Bicarb, carbonate the COGCC SAP requires a limit of 10 mg/l - ESC reporting limit is 20 mg/l /BR the COGCC SAP require a limit of 0.2 mg/l - ESC reporting limit is 1.0 mg/l /CL the COGCC SAP require a limit of 0.1 mg/l - ESC reporting limit is 1.0 mg/l /T.Phos the COGCC SAP require a limit of 0.05 mg/l - ESC reporting limit is 0.1 mg/l /Methane the COGCC SAP require a limit of 0.005 mg/l - ESC reporting limit is 0.01 mg/l /Ethane the COGCC SAP require a limit of 0.005 mg/l - ESC reporting limit is 0.013 mg/l /Propane the COGCC SAP require a limit of 0.005 - ESC reporting limit is 0.0186 mg/l /BA the COGCC SAP require a limit of 0.001 mg/l - ESC reporting limit is 0.005 mg/l /SE the COGCC SAP require a limit of 0.001 mg/l - ESC reporting limit is 0.002 mg/l /GRO (C6-C10) the COGCC SAP require a limit of 0.05 mg/l - ESC reporting limit is 0.1 m

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



Additional Information

Analyte	Result	Units
pH (On Site)	8.2	su
Temperature (on-site)	12.63	C
Specific Conductance	1356.5	uS/cm
Dissolved Oxygen (on-site)	0.03	mg/L
Turbidity (on-site)	9.9	NTU

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

Microbiology by Method BART

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Iron Related Bacteria	Absent		1	02/09/2019 10:23	WG1230359
Slime Forming Bacteria	Present		1	02/09/2019 10:23	WG1230359
Sulfate Reducing Bacteria	Absent		1	02/09/2019 10:23	WG1230359

Sample Narrative:

L1065144-01 WG1230359: SLYM Approximate Population=100 CFU/mL. Reactions=CL/PB.

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1140		20.0	1	02/02/2019 16:21	WG1230826

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	356		20.0	1	02/01/2019 16:31	WG1231115
Alkalinity,Bicarbonate	354		20.0	1	02/01/2019 16:31	WG1231115
Alkalinity,Carbonate	ND		20.0	1	02/01/2019 16:31	WG1231115

Sample Narrative:

L1065144-01 WG1231115: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	ND		0.100	1	02/05/2019 07:39	WG1230751

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	6.30		0.500	5	02/04/2019 21:09	WG1232366

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	<u>T8</u>	1	01/30/2019 13:21	WG1230356

Sample Narrative:

L1065144-01 WG1230356: 8.06 at 10.9C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1780		10.0	1	02/02/2019 13:43	WG1231768



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Bromide	ND		1.00	1	01/30/2019 12:36	WG1230200
Chloride	11.4		1.00	1	01/30/2019 12:36	WG1230200
Fluoride	0.430		0.100	1	01/30/2019 12:36	WG1230200
Nitrate as (N)	ND		0.100	1	01/30/2019 12:36	WG1230200
Nitrite as (N)	ND		0.100	1	01/30/2019 12:36	WG1230200
Sulfate	554		50.0	10	01/30/2019 12:52	WG1230200

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

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Barium,Dissolved	0.00780		0.00500	1	01/31/2019 13:47	WG1229967
Boron,Dissolved	0.526		0.200	1	01/31/2019 13:47	WG1229967
Calcium,Dissolved	36.3		1.00	1	01/31/2019 13:47	WG1229967
Iron,Dissolved	ND		0.100	1	01/31/2019 13:47	WG1229967
Magnesium,Dissolved	26.5		1.00	1	01/31/2019 13:47	WG1229967
Manganese,Dissolved	0.0666		0.0100	1	01/31/2019 13:47	WG1229967
Potassium,Dissolved	4.46		1.00	1	01/31/2019 13:47	WG1229967
Sodium,Dissolved	326		1.00	1	01/31/2019 13:47	WG1229967
Strontium,Dissolved	1.32		0.0100	1	01/31/2019 13:47	WG1229967

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Selenium,Dissolved	ND		0.00200	1	01/31/2019 15:40	WG1230426

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.100	1	02/01/2019 14:58	WG1230973
(S) a,a,a-Trifluorotoluene(FID)	109		78.0-120		02/01/2019 14:58	WG1230973

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Methane	0.0152		0.0100	1	01/31/2019 13:54	WG1230299
Ethane	ND		0.0130	1	01/31/2019 13:54	WG1230299
Propane	ND		0.0200	1	01/31/2019 13:54	WG1230299

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	02/01/2019 20:31	WG1231589
Toluene	ND		0.00100	1	02/01/2019 20:31	WG1231589
Ethylbenzene	ND		0.00100	1	02/01/2019 20:31	WG1231589
Total Xylenes	ND		0.00300	1	02/01/2019 20:31	WG1231589
o-Xylene	ND		0.00100	1	02/01/2019 20:31	WG1231589
m&p-Xylene	ND		0.00200	1	02/01/2019 20:31	WG1231589
(S) Toluene-d8	102		80.0-120		02/01/2019 20:31	WG1231589
(S) a,a,a-Trifluorotoluene	94.5		80.0-120		02/01/2019 20:31	WG1231589
(S) 4-Bromofluorobenzene	98.6		77.0-126		02/01/2019 20:31	WG1231589
(S) 1,2-Dichloroethane-d4	106		70.0-130		02/01/2019 20:31	WG1231589



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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		0.100	1	01/31/2019 19:43	WG1230264
(S) o-Terphenyl	85.8		31.0-160		01/31/2019 19:43	WG1230264

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3380991-1 02/02/19 16:21

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L1065444-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1065444-01 02/02/19 16:21 • (DUP) R3380991-3 02/02/19 16:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1020	1020	1	0.196		5

⁷ Gl

⁸ Al

Laboratory Control Sample (LCS)

(LCS) R3380991-2 02/02/19 16:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8620	98.0	85.0-115	

⁹ Sc



Method Blank (MB)

(MB) R3380663-1 02/01/19 14:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Alkalinity	3.15	U	2.71	20.0
Alkalinity,Bicarbonate	3.15	U	2.71	20.0
Alkalinity,Carbonate	U		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1062521-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1062521-01 02/01/19 15:41 • (DUP) R3380663-2 02/01/19 15:49

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	ND	0.000	1	0.000		20
Alkalinity,Bicarbonate	ND	0.000	1	0.000		20
Alkalinity,Carbonate	ND	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 HEADSPACE

DUP: Endpoint pH 4.5

L1065546-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1065546-05 02/01/19 18:14 • (DUP) R3380663-4 02/01/19 18:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Alkalinity	160	160	1	0.00388		20
Alkalinity,Bicarbonate	158	158	1	0.176		20
Alkalinity,Carbonate	U	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 HEADSPACE

DUP: Endpoint pH 4.5

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Laboratory Control Sample (LCS)

(LCS) R3380663-3 02/01/19 16:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Alkalinity	100	98.8	98.8	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3381185-1 02/05/19 07:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Nitrate-Nitrite	U		0.0197	0.100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1064810-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1064810-01 02/05/19 07:07 • (DUP) R3381185-3 02/05/19 07:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Nitrate-Nitrite	0.643	0.635	1	1.25		20

L1064989-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1064989-01 02/05/19 07:33 • (DUP) R3381185-6 02/05/19 07:35

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Nitrate-Nitrite	0.453	0.468	1	3.26		20

Laboratory Control Sample (LCS)

(LCS) R3381185-2 02/05/19 07:06

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Nitrate-Nitrite	4.00	3.67	91.8	90.0-110	

L1064830-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1064830-01 02/05/19 07:12 • (MS) R3381185-4 02/05/19 07:13 • (MSD) R3381185-5 02/05/19 07:15

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Nitrate-Nitrite	2.50	ND	2.12	1.98	84.8	79.0	1	90.0-110	<u>J6</u>	<u>J6</u>	7.13	20

L1065233-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1065233-03 02/05/19 07:53 • (MS) R3381185-7 02/05/19 07:54

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Nitrate-Nitrite	2.50	ND	2.47	96.5	1	90.0-110	



Method Blank (MB)

(MB) R3381144-1 02/04/19 20:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Phosphorus,Total	U		0.0350	0.100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1065131-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1065131-01 02/04/19 20:51 • (DUP) R3381144-5 02/04/19 20:52

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Phosphorus,Total	0.127	0.121	1	4.84		20

L1065338-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1065338-02 02/04/19 21:06 • (DUP) R3381144-7 02/04/19 21:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Phosphorus,Total	0.566	0.550	1	2.87		20

Laboratory Control Sample (LCS)

(LCS) R3381144-2 02/04/19 20:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Phosphorus,Total	2.00	1.97	98.5	90.0-110	

L1065129-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1065129-01 02/04/19 20:44 • (MS) R3381144-3 02/04/19 20:46 • (MSD) R3381144-4 02/04/19 20:47

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Phosphorus,Total	2.50	0.269	2.59	2.49	92.8	88.8	1	90.0-110		<u>J6</u>	3.94	20

L1065233-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1065233-01 02/04/19 20:58 • (MS) R3381144-6 02/04/19 21:00

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Phosphorus,Total	2.50	0.243	0.115	0.000	1	90.0-110	<u>J6</u>



L1064796-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1064796-01 01/30/19 13:21 • (DUP) R3379898-2 01/30/19 13:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	2.64	2.64	1	0.000		1

Sample Narrative:

OS: 2.64 at 7.7C

DUP: 2.64 at 7.7C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L1065166-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1065166-01 01/30/19 13:21 • (DUP) R3379898-3 01/30/19 13:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.20	7.19	1	0.139		1

Sample Narrative:

OS: 7.2 at 15.5C

DUP: 7.19 at 15.6C

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3379898-1 01/30/19 13:21

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.96	99.6	99.0-101	

Sample Narrative:

LCS: 9.96 at 17.2C



Method Blank (MB)

(MB) R3380749-1 02/02/19 13:43

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1059141-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1059141-22 02/02/19 13:43 • (DUP) R3380749-3 02/02/19 13:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	854	855	1	0.117		20

L1061476-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1061476-25 02/02/19 13:43 • (DUP) R3380749-4 02/02/19 13:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	734	736	1	0.272		20

L1065892-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1065892-01 02/02/19 13:43 • (DUP) R3380749-5 02/02/19 13:43

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Specific Conductance	274	276	1	0.582		20

Laboratory Control Sample (LCS)

(LCS) R3380749-2 02/02/19 13:43

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	877	880	100	90.0-110	



Method Blank (MB)

(MB) R3380151-1 01/30/19 09:43

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

L1065152-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1065152-04 01/30/19 13:24 • (DUP) R3380151-3 01/30/19 14:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Bromide	0.357	0.379	1	6.01	U	15
Chloride	58.5	58.5	1	0.0667		15
Fluoride	0.340	0.343	1	0.908		15
Nitrate	U	0.000	1	0.000		15
Nitrite	U	0.000	1	0.000		15
Sulfate	3.12	3.17	1	1.39	U	15

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1065170-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1065170-03 01/30/19 19:46 • (DUP) R3380151-5 01/30/19 20:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Bromide	U	0.000	1	0.000		15
Chloride	11.9	12.0	1	0.450		15
Fluoride	0.479	0.482	1	0.770		15
Nitrate	U	0.000	1	0.000		15
Nitrite	U	0.000	1	0.000		15
Sulfate	12.0	12.0	1	0.210		15



Laboratory Control Sample (LCS)

(LCS) R3380151-2 01/30/19 09:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromide	40.0	41.1	103	80.0-120	
Chloride	40.0	40.5	101	80.0-120	
Fluoride	8.00	8.20	102	80.0-120	
Nitrate	8.00	8.24	103	80.0-120	
Nitrite	8.00	8.13	102	80.0-120	
Sulfate	40.0	41.3	103	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

L1065152-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1065152-04 01/30/19 13:24 • (MS) R3380151-4 01/30/19 14:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Bromide	50.0	0.357	46.3	91.9	1	80.0-120	
Chloride	50.0	58.5	106	94.5	1	80.0-120	E
Fluoride	5.00	0.340	5.25	98.3	1	80.0-120	
Nitrate	5.00	U	4.82	96.4	1	80.0-120	
Nitrite	5.00	U	5.01	100	1	80.0-120	
Sulfate	50.0	3.12	51.9	97.6	1	80.0-120	

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1065170-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1065170-03 01/30/19 19:46 • (MS) R3380151-6 01/30/19 20:50 • (MSD) R3380151-7 01/30/19 21:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Bromide	50.0	U	48.0	48.0	96.0	96.0	1	80.0-120			0.0738	15
Chloride	50.0	11.9	61.5	61.6	99.2	99.2	1	80.0-120			0.0301	15
Fluoride	5.00	0.479	5.48	5.50	100	100	1	80.0-120			0.355	15
Nitrate	5.00	U	4.86	4.83	97.3	96.5	1	80.0-120			0.795	15
Nitrite	5.00	U	5.09	5.09	102	102	1	80.0-120			0.0943	15
Sulfate	50.0	12.0	61.3	61.2	98.6	98.4	1	80.0-120			0.174	15



Method Blank (MB)

(MB) R3380401-1 01/31/19 12:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium,Dissolved	U		0.00170	0.00500
Boron,Dissolved	U		0.0126	0.200
Calcium,Dissolved	U		0.0463	1.00
Iron,Dissolved	U		0.0141	0.100
Magnesium,Dissolved	0.0205	↓	0.0111	1.00
Manganese,Dissolved	U		0.00120	0.0100
Potassium,Dissolved	U		0.102	1.00
Sodium,Dissolved	U		0.0985	1.00
Strontium,Dissolved	U		0.00170	0.0100

- 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) R3380401-2 01/31/19 12:31 • (LCSD) R3380401-3 01/31/19 12:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Barium,Dissolved	1.00	0.996	0.995	99.6	99.5	80.0-120			0.175	20
Boron,Dissolved	1.00	0.931	0.941	93.1	94.1	80.0-120			1.14	20
Calcium,Dissolved	10.0	9.56	9.54	95.6	95.4	80.0-120			0.226	20
Iron,Dissolved	10.0	9.39	9.37	93.9	93.7	80.0-120			0.183	20
Magnesium,Dissolved	10.0	9.72	9.67	97.2	96.7	80.0-120			0.555	20
Manganese,Dissolved	1.00	0.942	0.935	94.2	93.5	80.0-120			0.842	20
Potassium,Dissolved	10.0	9.08	9.01	90.8	90.1	80.0-120			0.702	20
Sodium,Dissolved	10.0	9.59	9.45	95.9	94.5	80.0-120			1.42	20
Strontium,Dissolved	1.00	0.966	0.958	96.6	95.8	80.0-120			0.836	20

L1065086-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1065086-04 01/31/19 12:36 • (MS) R3380401-5 01/31/19 12:42 • (MSD) R3380401-6 01/31/19 12:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium,Dissolved	1.00	0.0233	0.975	0.963	95.2	94.0	1	75.0-125			1.24	20
Boron,Dissolved	1.00	12.9	13.8	13.4	89.1	47.8	1	75.0-125		↓	3.03	20
Calcium,Dissolved	10.0	720	724	707	35.8	0.000	1	75.0-125	↓	↓	2.37	20
Iron,Dissolved	10.0	0.0143	9.39	9.19	93.8	91.7	1	75.0-125			2.18	20
Magnesium,Dissolved	10.0	157	164	160	66.3	23.5	1	75.0-125	↓	↓	2.65	20
Manganese,Dissolved	1.00	0.892	1.79	1.79	89.8	89.4	1	75.0-125			0.257	20
Potassium,Dissolved	10.0	10.6	20.7	20.3	100	96.7	1	75.0-125			1.79	20
Sodium,Dissolved	10.0	3470	3450	3370	0.000	0.000	1	75.0-125	EV	EV	2.42	20
Strontium,Dissolved	1.00	8.27	9.18	9.00	90.8	72.6	1	75.0-125		↓	2.01	20



Method Blank (MB)

(MB) R3380327-1 01/31/19 15:08

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Selenium,Dissolved	U		0.000380	0.00200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

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

(LCS) R3380327-2 01/31/19 15:12 • (LCSD) R3380327-3 01/31/19 15:17

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Selenium,Dissolved	0.0500	0.0517	0.0505	103	101	80.0-120			2.37	20

L1063573-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1063573-02 01/31/19 15:22 • (MS) R3380327-5 01/31/19 15:31 • (MSD) R3380327-6 01/31/19 15:35

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Selenium,Dissolved	0.0500	ND	0.0551	0.0547	110	109	1	75.0-125			0.700	20

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3381263-5 02/01/19 13:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
^(S) a,a,a-Trifluorotoluene(FID)	108			78.0-120

1 Cp

2 Tc

3 Ss

4 Cn

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

(LCS) R3381263-3 02/01/19 12:50 • (LCSD) R3381263-4 02/01/19 13:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.69	5.84	103	106	72.0-127			2.63	20
^(S) a,a,a-Trifluorotoluene(FID)				109	108	78.0-120				

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3380249-1 01/31/19 13:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Methane	U		0.00291	0.0100
Ethane	U		0.00407	0.0130
Propane	U		0.00414	0.0200

L1065061-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1065061-01 01/31/19 13:52 • (DUP) R3380249-2 01/31/19 14:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Methane	U	0.000	1	0.000		20
Ethane	U	0.000	1	0.000		20
Propane	U	0.000	1	0.000		20

L1065152-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1065152-02 01/31/19 14:20 • (DUP) R3380249-5 01/31/19 15:19

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Methane	0.276	0.276	1	0.0459		20
Ethane	U	0.000	1	0.000		20
Propane	U	0.000	1	0.000		20

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

(LCS) R3380249-6 01/31/19 15:28 • (LCSD) R3380249-7 01/31/19 15:31

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Methane	0.0678	0.0717	0.0740	106	109	85.0-115			3.12	20
Ethane	0.129	0.113	0.117	87.5	90.6	85.0-115			3.41	20
Propane	0.186	0.161	0.169	86.7	90.9	85.0-115			4.73	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L1065170-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1065170-03 01/31/19 14:14 • (MS) R3380249-3 01/31/19 14:53 • (MSD) R3380249-4 01/31/19 14:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methane	0.0678	2.25	2.32	2.29	96.1	54.2	1	85.0-115		V	1.23	20
Ethane	0.129	U	0.114	0.122	88.4	94.4	1	85.0-115			6.52	20
Propane	0.186	U	0.163	0.175	87.8	93.8	1	85.0-115			6.62	20

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



Method Blank (MB)

(MB) R3381133-2 02/01/19 18:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
o-Xylene	U		0.000341	0.00100
m&p-Xylenes	U		0.000719	0.00200
(S) Toluene-d8	103			80.0-120
(S) a,a,a-Trifluorotoluene	91.5			80.0-120
(S) 4-Bromofluorobenzene	98.7			77.0-126
(S) 1,2-Dichloroethane-d4	106			70.0-130

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) R3381133-1 02/01/19 18:05 • (LCSD) R3381133-3 02/01/19 19:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Benzene	0.0250	0.0264	0.0244	105	97.7	70.0-123			7.61	20
Ethylbenzene	0.0250	0.0242	0.0225	96.6	90.2	79.0-123			6.94	20
Toluene	0.0250	0.0246	0.0226	98.5	90.2	79.0-120			8.74	20
Xylenes, Total	0.0750	0.0764	0.0703	102	93.7	79.0-123			8.32	20
o-Xylene	0.0250	0.0256	0.0232	102	92.6	80.0-122			10.1	20
m&p-Xylenes	0.0500	0.0508	0.0471	102	94.2	80.0-122			7.51	20
(S) Toluene-d8				100	98.7	80.0-120				
(S) a,a,a-Trifluorotoluene				95.8	95.8	80.0-120				
(S) 4-Bromofluorobenzene				102	97.2	77.0-126				
(S) 1,2-Dichloroethane-d4				111	109	70.0-130				



Method Blank (MB)

(MB) R3380527-1 01/31/19 18:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
<i>(S) o-Terphenyl</i>	88.0			31.0-160

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

(LCS) R3380527-2 01/31/19 19:09 • (LCSD) R3380527-3 01/31/19 19:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.64	1.64	109	109	50.0-150			0.000	20
<i>(S) o-Terphenyl</i>				91.5	90.5	31.0-160				

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



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
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

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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 ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	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 ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	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

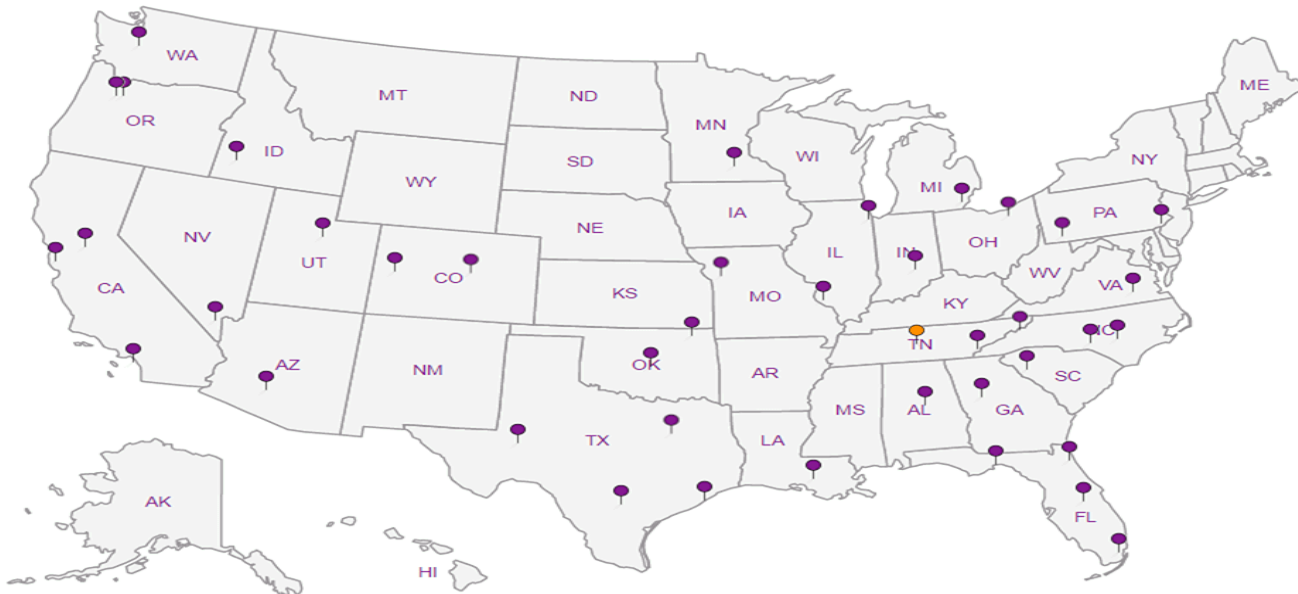
Third Party Federal Accreditations

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

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ 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.



Crestone Peak Resources (CPR)
 10188 E I-25 Frontage Road
 Firestone, CO 80504

Billing Information:
Crestone Peak Resources (CPR)
David Tewkesbury
 10188 E I-25 Frontage Road
 Firestone, CO 80504

Pres Chk

Chain of Custody Page 1 of 1



ESC
 L.A.B. S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
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Report to:
Apex Companies, LLC

Email to: Heather.Shideman@apexcos.com;
 Kolbi.Olson@apexcos.com; Rochelle.Carlsle@apexcos.com

Project Description: **BWSE/GWA_Waste_Connections_29H_M168**

City/State Collected: **0**

Phone: **307-620-0117**
(H. Shideman)

Client Project #
16190459/9901

Lab Project #

Collected by (print):
David Hitchings

Site/Facility ID#:
753909

P.O. #

Collected by (signature):
 Immediately Packed on Ice N Y

Rush? (Lab MUST be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 20 Day (Rad Only)
 Three Day

Quote #
APEXCWY031017S
 Date Results Needed

Analysis / Container / Preservative

ALK, ALKBI, ALKCA, 250mlHDPE-NoPres	B, Cl, F, SO4, NO2, NO3 250mlHDPE-NoPres	DRO1VI 40miAmb-HCl-BT	GRO 40miAMB HCl	IRB, SLYM, SRB Microbiological	Metals dissolved 250mlHDPE	NO2NO3, PT 250mlHDPE-H2SO4	RSK175 (Methane, Ethane, Propane) 40miAmb-HCl	V8260BTEX (including m&p-xylene, o-xylene) 40miAmb-HCl	V8260BTEX-TB 40miAmb-HCl
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L# **L1065/44**
B240

Acctnum: **CPEPEAFCO**
 Template: **T140833**
 Prelogin: **P673140**
 TSR: **TSR: 824 Chris Ward**
 Shipped Via: **FedEx -Ground**

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ALK, ALKBI, ALKCA, 250mlHDPE-NoPres	B, Cl, F, SO4, NO2, NO3 250mlHDPE-NoPres	DRO1VI 40miAmb-HCl-BT	GRO 40miAMB HCl	IRB, SLYM, SRB Microbiological	Metals dissolved 250mlHDPE	NO2NO3, PT 250mlHDPE-H2SO4	RSK175 (Methane, Ethane, Propane) 40miAmb-HCl	V8260BTEX (including m&p-xylene, o-xylene) 40miAmb-HCl	V8260BTEX-TB 40miAmb-HCl
BW_Johnston_183148		GW		01/29/19	1516	13	X	X	X	X	X	X	X	X	X	X
SENW_32_1N_68W																
Temperature, field				12.63	°C											
pH, field				8.20	s.u.											
Conductivity, field				1356.5	uS/cm											
Oxidation Reduction Potential, field				-236.4	mV											
Dissolved Oxygen, field				0.03	mg/L											
Turbidity, field				9.9	NTU											

Remarks	Sample # (lab only)
Sample Frequency: 1SUB	01

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

AIR - Air F - Filter
 B - Bioassay

Remarks: pH, EC, TDS and metals list: Ca,Fe,Mg,MN,K,NA,Ba,B,St by 6010 - SE by 6020;
 Report - Anion/Cation Balance
 COGCC Compatible EDD, Lab Filter

Samples returned via:
 UPS FedEx Courier

Tracking # **4757 5085 3101**

PH _____ Temp _____
 Flow _____ Other _____

RAD SCREEN: <0.5 mB/hr

Sample Receipt Checklist

COC Seal Present/ Intact: Y N
 COC Signed / Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N

If Applicable

VOA Zero Headspace: Y N
 Preservation Correct / Checked: Y N

If preservation required by Login: Date/Time

Relinquished by: (Signature)
[Signature]

Date: **01/29/2019**

Time: **1715**

Received by: (Signature)
[Signature]

Date: _____

Time: _____

Received by: (Signature)
[Signature]

Date: _____

Time: _____

Trip Blank Received: Yes No
 MeOH TBA
 Temp: **13.701 = 0.48 14**

Condition: **1069**
 Ncf

L1065 1414



1306 Parkland Court Champaign, IL 61821 • (877) 362-4190 • www.isotechlabs.com

Send Data and Invoice to

Name: David Tewkesbury
 Company: Crestone Peak Resources (CPR)
 Address: Bill to: Crestone Peak Resources (CPR)
10188 E I-25 Frontage Road Firestone, CO 80504
 Phone: Heather.Shideman@apexcos.com;
Kolbi.Olson@apexcos.com;
Rochelle.Carlsle@apexcos.com
 Fax: _____
 Email: _____
 Sample Freq: 1SUB
 Facility ID: 753909
 Regulation: 318A.f

Project: BWSE/GWA_Waste_Connections_29H_M168
 Purchase Order #: 125160101/434375
 Location: SENW_32_1N_68W
 Sampled By: David Hitchings

Circle one: Standard
 Priority
 Rush

Unique ID: _____

Sample Description

Container Number	Sample Identification	Date Sampled	Time	Analysis Requested		Comments
				NG1	MIS	
1	BW_Johnston_183 148	01/29/19	1516	x		COGCC Compatible EDD Please report methane gas plot

Chain-of-Custody Record

Signature		Company	Date	Time
Relinquished by	<i>[Signature]</i>	Apex Companies, LLC	01/29/19	1715
Received by				
Relinquished by				
Received by				
Relinquished by				
Received by				