

October 05, 2018

Caerus Oil and Gas

Sample Delivery Group: L1028303
Samples Received: 09/22/2018
Project Number: K22
Description: K22 Spill
Site: K22(NPR)
Report To: Brett Middleton
143 Diamond Avenue
Parachute, CO 81635

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

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



20180921-K22-N WALL 5' L1028303-01 Solid

Collected by
Chance Holder

Collected date/time
09/21/18 11:05

Received date/time
09/22/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1174150	1	10/02/18 16:08	10/05/18 08:35	TRB
Calculated Results	WG1173074	1	09/29/18 07:23	10/02/18 12:04	EEM
Wet Chemistry by Method 3060A/7196A	WG1172991	1	10/02/18 07:10	10/02/18 12:04	EEM
Wet Chemistry by Method 9045D	WG1172798	1	09/28/18 10:37	09/28/18 12:52	AMB
Wet Chemistry by Method 9050AMod	WG1174151	1	10/02/18 17:50	10/02/18 18:56	TH
Mercury by Method 7471A	WG1173893	1	10/01/18 09:11	10/03/18 14:32	ABL
Metals (ICP) by Method 6010B	WG1173074	1	09/29/18 07:23	09/30/18 15:27	CCE
Volatile Organic Compounds (GC) by Method 8015/8021	WG1171141	2500	09/24/18 12:49	09/26/18 09:25	LRL
Volatile Organic Compounds (GC) by Method 8021	WG1170590	250	09/24/18 12:49	09/24/18 19:36	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1170843	80	09/24/18 21:54	09/25/18 11:47	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	1	09/24/18 11:03	09/25/18 00:34	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	20	09/24/18 11:03	09/25/18 08:51	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	200	09/24/18 11:03	09/25/18 10:40	DMG

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

20180921-K22-BOT 5' L1028303-02 Solid

Collected by
Chance Holder

Collected date/time
09/21/18 11:10

Received date/time
09/22/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1174150	1	10/02/18 16:08	10/05/18 03:06	TRB
Calculated Results	WG1173074	1	09/29/18 07:23	10/02/18 12:05	EEM
Wet Chemistry by Method 3060A/7196A	WG1172991	1	10/02/18 07:10	10/02/18 12:05	EEM
Wet Chemistry by Method 9045D	WG1172798	1	09/28/18 10:37	09/28/18 12:52	AMB
Wet Chemistry by Method 9050AMod	WG1174151	1	10/02/18 17:50	10/02/18 18:56	TH
Mercury by Method 7471A	WG1173893	1	10/01/18 09:11	10/03/18 14:40	ABL
Metals (ICP) by Method 6010B	WG1173074	1	09/29/18 07:23	09/30/18 15:30	CCE
Volatile Organic Compounds (GC) by Method 8015	WG1171141	2000	09/24/18 12:49	09/26/18 09:47	LRL
Volatile Organic Compounds (GC) by Method 8021	WG1170590	250	09/24/18 12:49	09/24/18 19:58	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1170843	20	09/24/18 21:54	09/25/18 10:52	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	1	09/24/18 11:03	09/25/18 00:12	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	20	09/24/18 11:03	09/25/18 09:13	DMG

20180921-K22-S WALL 5' L1028303-03 Solid

Collected by
Chance Holder

Collected date/time
09/21/18 11:15

Received date/time
09/22/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1174150	1	10/02/18 16:08	10/05/18 08:38	TRB
Calculated Results	WG1173074	1	09/29/18 07:23	10/02/18 12:05	EEM
Wet Chemistry by Method 3060A/7196A	WG1172991	1	10/02/18 07:10	10/02/18 12:05	EEM
Wet Chemistry by Method 9045D	WG1172798	1	09/28/18 10:37	09/28/18 12:52	AMB
Wet Chemistry by Method 9050AMod	WG1174151	1	10/02/18 17:50	10/02/18 18:56	TH
Mercury by Method 7471A	WG1173893	1	10/01/18 09:11	10/03/18 14:42	ABL
Metals (ICP) by Method 6010B	WG1173074	1	09/29/18 07:23	09/30/18 15:38	CCE
Volatile Organic Compounds (GC) by Method 8015	WG1171141	10000	09/24/18 12:49	09/26/18 11:12	LRL
Volatile Organic Compounds (GC) by Method 8021	WG1170590	250	09/24/18 12:49	09/24/18 20:19	JHH
Volatile Organic Compounds (GC) by Method 8021	WG1171141	2500	09/24/18 12:49	09/26/18 10:08	LRL
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1170843	40	09/24/18 21:54	09/25/18 11:03	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	1	09/24/18 11:03	09/24/18 23:50	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	20	09/24/18 11:03	09/25/18 09:35	DMG

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



20180921-K22-E WALL 5' L1028303-04 Solid

Collected by
Chance Holder

Collected date/time
09/21/18 11:20

Received date/time
09/22/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1174150	1	10/02/18 16:08	10/05/18 08:41	TRB
Calculated Results	WG1173074	1	09/29/18 07:23	10/02/18 12:06	EEM
Wet Chemistry by Method 3060A/7196A	WG1172991	1	10/02/18 07:10	10/02/18 12:06	EEM
Wet Chemistry by Method 9045D	WG1172798	1	09/28/18 10:37	09/28/18 12:52	AMB
Wet Chemistry by Method 9050AMod	WG1174151	1	10/02/18 17:50	10/02/18 18:56	TH
Mercury by Method 7471A	WG1173893	1	10/01/18 09:11	10/03/18 14:45	ABL
Metals (ICP) by Method 6010B	WG1173074	1	09/29/18 07:23	09/30/18 15:41	CCE
Volatile Organic Compounds (GC) by Method 8015/8021	WG1171141	2000	09/24/18 12:49	09/26/18 10:30	LRL
Volatile Organic Compounds (GC) by Method 8021	WG1170590	250	09/24/18 12:49	09/24/18 20:40	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1170843	80	09/24/18 21:54	09/25/18 11:58	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	1	09/24/18 11:03	09/25/18 00:56	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	20	09/24/18 11:03	09/25/18 09:57	DMG

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

20180921-K22-W WALL 5' L1028303-05 Solid

Collected by
Chance Holder

Collected date/time
09/21/18 11:25

Received date/time
09/22/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG1174150	1	10/02/18 16:08	10/05/18 08:43	TRB
Calculated Results	WG1173074	1	09/29/18 07:23	10/02/18 12:07	EEM
Wet Chemistry by Method 3060A/7196A	WG1172991	1	10/02/18 07:10	10/02/18 12:07	EEM
Wet Chemistry by Method 9045D	WG1172798	1	09/28/18 10:37	09/28/18 12:52	AMB
Wet Chemistry by Method 9050AMod	WG1174151	1	10/02/18 17:50	10/02/18 18:56	TH
Mercury by Method 7471A	WG1173893	1	10/01/18 09:11	10/03/18 14:47	ABL
Metals (ICP) by Method 6010B	WG1173074	1	09/29/18 07:23	09/30/18 15:44	CCE
Volatile Organic Compounds (GC) by Method 8015/8021	WG1171141	2000	09/24/18 12:49	09/26/18 10:51	LRL
Volatile Organic Compounds (GC) by Method 8021	WG1170590	250	09/24/18 12:49	09/24/18 21:02	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1170843	40	09/24/18 21:54	09/25/18 11:25	DMW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	1	09/24/18 11:03	09/25/18 01:18	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	20	09/24/18 11:03	09/25/18 10:19	DMG
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1170374	200	09/24/18 11:03	09/25/18 11:02	DMG



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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Gl

⁷ Al

⁸ Sc



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.12		1	10/05/2018 08:35	WG1174150

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	22.4		1.00	1	10/02/2018 12:04	WG1173074

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	10/02/2018 12:04	WG1172991

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.86	J3 T8	1	09/28/2018 12:52	WG1172798

Sample Narrative:

L1028303-01 WG1172798: 7.86 at 19.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1760		10.0	1	10/02/2018 18:56	WG1174151

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/03/2018 14:32	WG1173893

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	15.8		2.00	1	09/30/2018 15:27	WG1173074
Barium	252		0.500	1	09/30/2018 15:27	WG1173074
Cadmium	ND		0.500	1	09/30/2018 15:27	WG1173074
Chromium	22.4		1.00	1	09/30/2018 15:27	WG1173074
Copper	23.1		2.00	1	09/30/2018 15:27	WG1173074
Lead	15.5		0.500	1	09/30/2018 15:27	WG1173074
Nickel	18.5		2.00	1	09/30/2018 15:27	WG1173074
Selenium	ND		2.00	1	09/30/2018 15:27	WG1173074
Silver	ND		1.00	1	09/30/2018 15:27	WG1173074
Zinc	54.1		5.00	1	09/30/2018 15:27	WG1173074

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.175		0.125	250	09/24/2018 19:36	WG1170590
Toluene	ND		1.25	250	09/24/2018 19:36	WG1170590
Ethylbenzene	23.9		0.125	250	09/24/2018 19:36	WG1170590
Total Xylene	333		3.75	2500	09/26/2018 09:25	WG1171141
TPH (GC/FID) Low Fraction	22600		250	2500	09/26/2018 09:25	WG1171141



Collected date/time: 09/21/18 11:05

L1028303

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)	107		77.0-120		09/24/2018 19:36	WG1170590
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 09:25	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	97.8		72.0-128		09/24/2018 19:36	WG1170590
(S) a,a,a-Trifluorotoluene(PID)	97.0		72.0-128		09/26/2018 09:25	WG1171141

1
Cp2
Tc3
Ss4
Cn5
Sr6
Gl7
Al8
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	12400		320	80	09/25/2018 11:47	WG1170843
(S) o-Terphenyl	0.000	J7	18.0-148		09/25/2018 11:47	WG1170843

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	09/25/2018 00:34	WG1170374
Acenaphthene	0.218		0.00600	1	09/25/2018 00:34	WG1170374
Acenaphthylene	ND		0.00600	1	09/25/2018 00:34	WG1170374
Benzo(a)anthracene	0.0390		0.00600	1	09/25/2018 00:34	WG1170374
Benzo(a)pyrene	0.0188		0.00600	1	09/25/2018 00:34	WG1170374
Benzo(b)fluoranthene	0.0235		0.00600	1	09/25/2018 00:34	WG1170374
Benzo(g,h,i)perylene	0.0266		0.00600	1	09/25/2018 00:34	WG1170374
Benzo(k)fluoranthene	ND		0.00600	1	09/25/2018 00:34	WG1170374
Chrysene	0.0317		0.00600	1	09/25/2018 00:34	WG1170374
Dibenz(a,h)anthracene	ND		0.00600	1	09/25/2018 00:34	WG1170374
Fluoranthene	0.182		0.00600	1	09/25/2018 00:34	WG1170374
Fluorene	1.00		0.00600	1	09/25/2018 00:34	WG1170374
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/25/2018 00:34	WG1170374
Naphthalene	112		4.00	200	09/25/2018 10:40	WG1170374
Phenanthrene	ND		0.00600	1	09/25/2018 00:34	WG1170374
Pyrene	0.0940		0.00600	1	09/25/2018 00:34	WG1170374
1-Methylnaphthalene	28.6		0.400	20	09/25/2018 08:51	WG1170374
2-Methylnaphthalene	44.9		0.400	20	09/25/2018 08:51	WG1170374
2-Chloronaphthalene	ND		0.0200	1	09/25/2018 00:34	WG1170374
(S) p-Terphenyl-d14	93.5	J7	23.0-120		09/25/2018 08:51	WG1170374
(S) p-Terphenyl-d14	144	J7	23.0-120		09/25/2018 10:40	WG1170374
(S) p-Terphenyl-d14	74.0		23.0-120		09/25/2018 00:34	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 08:51	WG1170374
(S) Nitrobenzene-d5	845	J1	14.0-149		09/25/2018 00:34	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 10:40	WG1170374
(S) 2-Fluorobiphenyl	117	J7	34.0-125		09/25/2018 08:51	WG1170374
(S) 2-Fluorobiphenyl	49.5		34.0-125		09/25/2018 00:34	WG1170374
(S) 2-Fluorobiphenyl	113	J7	34.0-125		09/25/2018 10:40	WG1170374



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.763		1	10/05/2018 03:06	WG1174150

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	29.0		1.00	1	10/02/2018 12:05	WG1173074

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	10/02/2018 12:05	WG1172991

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.48	T8	1	09/28/2018 12:52	WG1172798

Sample Narrative:

L1028303-02 WG1172798: 8.48 at 19C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	417		10.0	1	10/02/2018 18:56	WG1174151

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/03/2018 14:40	WG1173893

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	22.6		2.00	1	09/30/2018 15:30	WG1173074
Barium	411		0.500	1	09/30/2018 15:30	WG1173074
Cadmium	ND		0.500	1	09/30/2018 15:30	WG1173074
Chromium	29.0		1.00	1	09/30/2018 15:30	WG1173074
Copper	26.7		2.00	1	09/30/2018 15:30	WG1173074
Lead	15.6		0.500	1	09/30/2018 15:30	WG1173074
Nickel	18.5		2.00	1	09/30/2018 15:30	WG1173074
Selenium	ND		2.00	1	09/30/2018 15:30	WG1173074
Silver	ND		1.00	1	09/30/2018 15:30	WG1173074
Zinc	50.0		5.00	1	09/30/2018 15:30	WG1173074

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.125	250	09/24/2018 19:58	WG1170590
Toluene	ND		1.25	250	09/24/2018 19:58	WG1170590
Ethylbenzene	12.9		0.125	250	09/24/2018 19:58	WG1170590
Total Xylene	107		0.375	250	09/24/2018 19:58	WG1170590
TPH (GC/FID) Low Fraction	14100		200	2000	09/26/2018 09:47	WG1171141



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		09/24/2018 19:58	WG1170590
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 09:47	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	96.6		72.0-128		09/24/2018 19:58	WG1170590
(S) a,a,a-Trifluorotoluene(PID)	98.3		72.0-128		09/26/2018 09:47	WG1171141

Sample Narrative:

L1028303-02 WG1170590: Target and Non-target compounds too high to run at a lower dilution.

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	3650		80.0	20	09/25/2018 10:52	WG1170843
(S) o-Terphenyl	0.000	J7	18.0-148		09/25/2018 10:52	WG1170843

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	09/25/2018 00:12	WG1170374
Acenaphthene	0.162		0.00600	1	09/25/2018 00:12	WG1170374
Acenaphthylene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Benzo(a)anthracene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Benzo(a)pyrene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Benzo(b)fluoranthene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Benzo(g,h,i)perylene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Benzo(k)fluoranthene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Chrysene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Dibenz(a,h)anthracene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Fluoranthene	0.0245		0.00600	1	09/25/2018 00:12	WG1170374
Fluorene	1.06		0.00600	1	09/25/2018 00:12	WG1170374
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/25/2018 00:12	WG1170374
Naphthalene	27.9		0.400	20	09/25/2018 09:13	WG1170374
Phenanthrene	0.664		0.00600	1	09/25/2018 00:12	WG1170374
Pyrene	0.0220		0.00600	1	09/25/2018 00:12	WG1170374
1-Methylnaphthalene	5.69		0.400	20	09/25/2018 09:13	WG1170374
2-Methylnaphthalene	9.36		0.400	20	09/25/2018 09:13	WG1170374
2-Chloronaphthalene	ND		0.0200	1	09/25/2018 00:12	WG1170374
(S) p-Terphenyl-d14	83.0		23.0-120		09/25/2018 00:12	WG1170374
(S) p-Terphenyl-d14	84.9	J7	23.0-120		09/25/2018 09:13	WG1170374
(S) Nitrobenzene-d5	117	J7	14.0-149		09/25/2018 09:13	WG1170374
(S) Nitrobenzene-d5	38.4		14.0-149		09/25/2018 00:12	WG1170374
(S) 2-Fluorobiphenyl	103	J7	34.0-125		09/25/2018 09:13	WG1170374
(S) 2-Fluorobiphenyl	146	J1	34.0-125		09/25/2018 00:12	WG1170374





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.684		1	10/05/2018 08:38	WG1174150

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	23.1		1.00	1	10/02/2018 12:05	WG1173074

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	10/02/2018 12:05	WG1172991

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.36	T8	1	09/28/2018 12:52	WG1172798

Sample Narrative:

L1028303-03 WG1172798: 7.36 at 19C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2510		10.0	1	10/02/2018 18:56	WG1174151

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/03/2018 14:42	WG1173893

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	25.5		2.00	1	09/30/2018 15:38	WG1173074
Barium	251		0.500	1	09/30/2018 15:38	WG1173074
Cadmium	ND		0.500	1	09/30/2018 15:38	WG1173074
Chromium	23.1		1.00	1	09/30/2018 15:38	WG1173074
Copper	25.3		2.00	1	09/30/2018 15:38	WG1173074
Lead	16.6		0.500	1	09/30/2018 15:38	WG1173074
Nickel	20.1		2.00	1	09/30/2018 15:38	WG1173074
Selenium	ND		2.00	1	09/30/2018 15:38	WG1173074
Silver	ND		1.00	1	09/30/2018 15:38	WG1173074
Zinc	64.2		5.00	1	09/30/2018 15:38	WG1173074

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.125	250	09/24/2018 20:19	WG1170590
Toluene	ND		1.25	250	09/24/2018 20:19	WG1170590
Ethylbenzene	26.3		0.125	250	09/24/2018 20:19	WG1170590
Total Xylene	492		3.75	2500	09/26/2018 10:08	WG1171141
TPH (GC/FID) Low Fraction	35500		1000	10000	09/26/2018 11:12	WG1171141



Collected date/time: 09/21/18 11:15

L1028303

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)	108		77.0-120		09/24/2018 20:19	WG1170590
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 10:08	WG1171141
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 11:12	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	97.2		72.0-128		09/24/2018 20:19	WG1170590
(S) a,a,a-Trifluorotoluene(PID)	98.3		72.0-128		09/26/2018 11:12	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	98.6		72.0-128		09/26/2018 10:08	WG1171141

Sample Narrative:

L1028303-03 WG1170590: Target and Non-target compounds too high to run at a lower dilution.

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	3220		160	40	09/25/2018 11:03	WG1170843
(S) o-Terphenyl	0.000	J7	18.0-148		09/25/2018 11:03	WG1170843

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	09/24/2018 23:50	WG1170374
Acenaphthene	ND		0.00600	1	09/24/2018 23:50	WG1170374
Acenaphthylene	ND		0.00600	1	09/24/2018 23:50	WG1170374
Benzo(a)anthracene	ND		0.120	20	09/25/2018 09:35	WG1170374
Benzo(a)pyrene	ND		0.120	20	09/25/2018 09:35	WG1170374
Benzo(b)fluoranthene	ND		0.120	20	09/25/2018 09:35	WG1170374
Benzo(g,h,i)perylene	ND		0.120	20	09/25/2018 09:35	WG1170374
Benzo(k)fluoranthene	ND		0.120	20	09/25/2018 09:35	WG1170374
Chrysene	ND		0.120	20	09/25/2018 09:35	WG1170374
Dibenz(a,h)anthracene	ND		0.120	20	09/25/2018 09:35	WG1170374
Fluoranthene	0.0127		0.00600	1	09/24/2018 23:50	WG1170374
Fluorene	0.0814		0.00600	1	09/24/2018 23:50	WG1170374
Indeno(1,2,3-cd)pyrene	ND		0.120	20	09/25/2018 09:35	WG1170374
Naphthalene	17.0		0.400	20	09/25/2018 09:35	WG1170374
Phenanthrene	ND		0.00600	1	09/24/2018 23:50	WG1170374
Pyrene	ND		0.120	20	09/25/2018 09:35	WG1170374
1-Methylnaphthalene	3.14		0.0200	1	09/24/2018 23:50	WG1170374
2-Methylnaphthalene	4.66		0.400	20	09/25/2018 09:35	WG1170374
2-Chloronaphthalene	ND		0.0200	1	09/24/2018 23:50	WG1170374
(S) p-Terphenyl-d14	148	J1	23.0-120		09/24/2018 23:50	WG1170374
(S) p-Terphenyl-d14	79.4	J7	23.0-120		09/25/2018 09:35	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 09:35	WG1170374
(S) Nitrobenzene-d5	11.2	J2	14.0-149		09/24/2018 23:50	WG1170374
(S) 2-Fluorobiphenyl	45.3		34.0-125		09/24/2018 23:50	WG1170374
(S) 2-Fluorobiphenyl	67.6	J7	34.0-125		09/25/2018 09:35	WG1170374

Sample Narrative:

L1028303-03 WG1170374: IS/SURR failed on lower dilution.





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.568		1	10/05/2018 08:41	WG1174150

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	23.8		1.00	1	10/02/2018 12:06	WG1173074

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	10/02/2018 12:06	WG1172991

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.80	T8	1	09/28/2018 12:52	WG1172798

Sample Narrative:

L1028303-04 WG1172798: 7.8 at 18.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1240		10.0	1	10/02/2018 18:56	WG1174151

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/03/2018 14:45	WG1173893

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	14.8		2.00	1	09/30/2018 15:41	WG1173074
Barium	239		0.500	1	09/30/2018 15:41	WG1173074
Cadmium	ND		0.500	1	09/30/2018 15:41	WG1173074
Chromium	23.8		1.00	1	09/30/2018 15:41	WG1173074
Copper	23.0		2.00	1	09/30/2018 15:41	WG1173074
Lead	15.0		0.500	1	09/30/2018 15:41	WG1173074
Nickel	19.1		2.00	1	09/30/2018 15:41	WG1173074
Selenium	ND		2.00	1	09/30/2018 15:41	WG1173074
Silver	ND		1.00	1	09/30/2018 15:41	WG1173074
Zinc	61.2		5.00	1	09/30/2018 15:41	WG1173074

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.125	250	09/24/2018 20:40	WG1170590
Toluene	ND		1.25	250	09/24/2018 20:40	WG1170590
Ethylbenzene	16.1		0.125	250	09/24/2018 20:40	WG1170590
Total Xylene	332		3.00	2000	09/26/2018 10:30	WG1171141
TPH (GC/FID) Low Fraction	19400		200	2000	09/26/2018 10:30	WG1171141



Collected date/time: 09/21/18 11:20

L1028303

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)	107		77.0-120		09/24/2018 20:40	WG1170590
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 10:30	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	97.2		72.0-128		09/24/2018 20:40	WG1170590
(S) a,a,a-Trifluorotoluene(PID)	97.9		72.0-128		09/26/2018 10:30	WG1171141

Sample Narrative:

L1028303-04 WG1170590: Target and Non-target compounds too high to run at a lower dilution.

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	14200		320	80	09/25/2018 11:58	WG1170843
(S) o-Terphenyl	0.000	J7	18.0-148		09/25/2018 11:58	WG1170843

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	09/25/2018 00:56	WG1170374
Acenaphthene	0.370		0.00600	1	09/25/2018 00:56	WG1170374
Acenaphthylene	ND		0.00600	1	09/25/2018 00:56	WG1170374
Benzo(a)anthracene	0.0146		0.00600	1	09/25/2018 00:56	WG1170374
Benzo(a)pyrene	0.0255	V3	0.00600	1	09/25/2018 00:56	WG1170374
Benzo(b)fluoranthene	0.0179	V3	0.00600	1	09/25/2018 00:56	WG1170374
Benzo(g,h,i)perylene	0.0369	V3	0.00600	1	09/25/2018 00:56	WG1170374
Benzo(k)fluoranthene	ND		0.00600	1	09/25/2018 00:56	WG1170374
Chrysene	0.0138		0.00600	1	09/25/2018 00:56	WG1170374
Dibenz(a,h)anthracene	ND		0.00600	1	09/25/2018 00:56	WG1170374
Fluoranthene	0.145		0.00600	1	09/25/2018 00:56	WG1170374
Fluorene	0.313		0.00600	1	09/25/2018 00:56	WG1170374
Indeno(1,2,3-cd)pyrene	0.00612	V3	0.00600	1	09/25/2018 00:56	WG1170374
Naphthalene	71.6		0.400	20	09/25/2018 09:57	WG1170374
Phenanthrene	ND		0.00600	1	09/25/2018 00:56	WG1170374
Pyrene	0.0438		0.00600	1	09/25/2018 00:56	WG1170374
1-Methylnaphthalene	14.1		0.400	20	09/25/2018 09:57	WG1170374
2-Methylnaphthalene	23.7		0.400	20	09/25/2018 09:57	WG1170374
2-Chloronaphthalene	ND		0.0200	1	09/25/2018 00:56	WG1170374
(S) p-Terphenyl-d14	46.2		23.0-120		09/25/2018 00:56	WG1170374
(S) p-Terphenyl-d14	83.7	J7	23.0-120		09/25/2018 09:57	WG1170374
(S) Nitrobenzene-d5	0.000	J2	14.0-149		09/25/2018 00:56	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 09:57	WG1170374
(S) 2-Fluorobiphenyl	40.7		34.0-125		09/25/2018 00:56	WG1170374
(S) 2-Fluorobiphenyl	71.6	J7	34.0-125		09/25/2018 09:57	WG1170374





Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.727		1	10/05/2018 08:43	WG1174150

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	27.7		1.00	1	10/02/2018 12:07	WG1173074

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	10/02/2018 12:07	WG1172991

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.74	T8	1	09/28/2018 12:52	WG1172798

Sample Narrative:

L1028303-05 WG1172798: 7.74 at 19C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	1750		10.0	1	10/02/2018 18:56	WG1174151

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	10/03/2018 14:47	WG1173893

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	17.0		2.00	1	09/30/2018 15:44	WG1173074
Barium	233		0.500	1	09/30/2018 15:44	WG1173074
Cadmium	ND		0.500	1	09/30/2018 15:44	WG1173074
Chromium	27.7		1.00	1	09/30/2018 15:44	WG1173074
Copper	28.1		2.00	1	09/30/2018 15:44	WG1173074
Lead	18.2		0.500	1	09/30/2018 15:44	WG1173074
Nickel	18.9		2.00	1	09/30/2018 15:44	WG1173074
Selenium	ND		2.00	1	09/30/2018 15:44	WG1173074
Silver	ND		1.00	1	09/30/2018 15:44	WG1173074
Zinc	55.3		5.00	1	09/30/2018 15:44	WG1173074

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.125	250	09/24/2018 21:02	WG1170590
Toluene	ND		1.25	250	09/24/2018 21:02	WG1170590
Ethylbenzene	13.8		0.125	250	09/24/2018 21:02	WG1170590
Total Xylene	15.0		3.00	2000	09/26/2018 10:51	WG1171141
TPH (GC/FID) Low Fraction	1630		200	2000	09/26/2018 10:51	WG1171141



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)	108		77.0-120		09/24/2018 21:02	WG1170590
(S) a,a,a-Trifluorotoluene(FID)	106		77.0-120		09/26/2018 10:51	WG1171141
(S) a,a,a-Trifluorotoluene(PID)	97.5		72.0-128		09/24/2018 21:02	WG1170590
(S) a,a,a-Trifluorotoluene(PID)	98.2		72.0-128		09/26/2018 10:51	WG1171141

Sample Narrative:

L1028303-05 WG1170590: Target and Non-target compounds too high to run at a lower dilution.

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	12400		160	40	09/25/2018 11:25	WG1170843
(S) o-Terphenyl	0.000	J7	18.0-148		09/25/2018 11:25	WG1170843

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	09/25/2018 01:18	WG1170374
Acenaphthene	0.498	V3	0.00600	1	09/25/2018 01:18	WG1170374
Acenaphthylene	ND		0.00600	1	09/25/2018 01:18	WG1170374
Benzo(a)anthracene	0.0379		0.00600	1	09/25/2018 01:18	WG1170374
Benzo(a)pyrene	0.0197		0.00600	1	09/25/2018 01:18	WG1170374
Benzo(b)fluoranthene	0.0199		0.00600	1	09/25/2018 01:18	WG1170374
Benzo(g,h,i)perylene	0.0222		0.00600	1	09/25/2018 01:18	WG1170374
Benzo(k)fluoranthene	ND		0.00600	1	09/25/2018 01:18	WG1170374
Chrysene	0.0221		0.00600	1	09/25/2018 01:18	WG1170374
Dibenz(a,h)anthracene	ND		0.00600	1	09/25/2018 01:18	WG1170374
Fluoranthene	0.188		0.00600	1	09/25/2018 01:18	WG1170374
Fluorene	1.47	V3	0.00600	1	09/25/2018 01:18	WG1170374
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	09/25/2018 01:18	WG1170374
Naphthalene	123		4.00	200	09/25/2018 11:02	WG1170374
Phenanthrene	ND		0.00600	1	09/25/2018 01:18	WG1170374
Pyrene	0.101		0.00600	1	09/25/2018 01:18	WG1170374
1-Methylnaphthalene	38.2		0.400	20	09/25/2018 10:19	WG1170374
2-Methylnaphthalene	61.0		0.400	20	09/25/2018 10:19	WG1170374
2-Chloronaphthalene	ND		0.0200	1	09/25/2018 01:18	WG1170374
(S) p-Terphenyl-d14	111	J7	23.0-120		09/25/2018 10:19	WG1170374
(S) p-Terphenyl-d14	72.3		23.0-120		09/25/2018 01:18	WG1170374
(S) p-Terphenyl-d14	123	J7	23.0-120		09/25/2018 11:02	WG1170374
(S) Nitrobenzene-d5	0.000	J2	14.0-149		09/25/2018 01:18	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 11:02	WG1170374
(S) Nitrobenzene-d5	0.000	J7	14.0-149		09/25/2018 10:19	WG1170374
(S) 2-Fluorobiphenyl	96.1	J7	34.0-125		09/25/2018 11:02	WG1170374
(S) 2-Fluorobiphenyl	110		34.0-125		09/25/2018 01:18	WG1170374
(S) 2-Fluorobiphenyl	113	J7	34.0-125		09/25/2018 10:19	WG1170374





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

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
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.
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.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.
V3	The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Gl

⁷ A

⁸ 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 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	T 104704245-17-14
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.



Company Name/Address:
Caerus

143 Diamond Avenue
Parachute, CO 81635

Billing Information:
Brett Middleton
143 Diamond Avenue
Parachute, CO 81635

Report to:
Brett Middleton

Email To:
bmiddleton@caerusoilandgas.com

Project Description:
K22 Spill

City/State Collected:
Parachute, Co

Phone: **970-987-4650**

Client Project #
K22

Fax:

Site/Facility ID #
K22(NPR)

Collected by (print):
CHANCE HOLDER

P.O. #

Collected by (signature):

Date Results Needed

Immediately Packed on Ice N ☐ Y ☒

Same Day200%

Next Day100%

☒ Two Day50%

Three Day25%

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

BTEXGRO/DRO - 8021/8015

SV8270PAHSIM - 8270SIM

SPCON - 9050AMod

SAR - Calc.

RCRA8 Metals + Cu, Ni, and Zn - 6010/7470

CR6SS - 3060A/7196

CR3 - Calc.

pH

20180921 - K22 - N WALLS

GRAB

SS

5'

9/21/18

1105

2

X

X

20180921 - K22 - BOT 5'

5'

1110

X

X

20180921 - K22 - S WALL

5'

1115

X

X

20180921 - K22 - E WALLS

5'

1120

X

X

20180921 - K22 - W WALLS

5'

1125

X

X

Chain of Custody

Page 1 of 1

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

YOUR LAB OF CHOICE

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

L# **41028303**

D145

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Rem./Contaminant:

Sample # (lab only)

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

pH _____ Temp _____

Flow _____ Other _____

Hold # _____

Remarks: *** 2 DAY TURN ***

Relinquished by: (Signature) Date: **9/21/18** Time: **1400** Received by: (Signature)

Relinquished by: (Signature) Date: **9/21/18** Time: **1500** Received by: (Signature)


Relinquished by: (Signature) Date: _____ Time: _____ Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____ Condition: _____ (lab use only)

Temp: _____ °C Bottles Received: **1.0-4.0 10.402** COC Seal Intact: **Y** **N** **NA**

Date: **9/22/18** Time: **8:45** pH Checked: _____ NCF: _____

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: CAERUSPCO	SDG#	L1028303
Cooler Received/Opened On: 09/22/18	Temperature:	0.6
Received By: Chrystan Lyle		
Signature: 		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	<input checked="" type="checkbox"/>		
COC Signed / Accurate?	<input checked="" type="checkbox"/>		
Bottles arrive intact?	<input checked="" type="checkbox"/>		
Correct bottles used?	<input checked="" type="checkbox"/>		
Sufficient volume sent?	<input checked="" type="checkbox"/>		
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Andy Vann

From: Chris Ward
Sent: Friday, September 28, 2018 10:10 AM
To: Login
Cc: Due WetLab; Due Metals; Sample Storage
Subject: L1028303 *CAERUSPCO*

Do we have enough sample left to run the below? Please add the rest of the 910 table due Monday 10/01.

SPCON, PH

SAR

MRCRA8+CUICP,NIICP,ZNICP

CR3+CR6