

December 24, 2020

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Caerus Oil and Gas

Sample Delivery Group: L1296302

Samples Received: 12/12/2020

Project Number:

Description: N23

Report To: Blair Rollins
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 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.

Pace Analytical National

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



20201211-N23-S WALL-(8') L1296302-01 Solid

Collected by Jason McLarty
Collected date/time 12/11/20 09:30
Received date/time 12/12/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1594560	1	12/22/20 13:54	12/22/20 13:54	KMG	Mt. Juliet, TN
Calculated Results	WG1596254	1	12/22/20 18:12	12/23/20 18:17	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1594735	1	12/20/20 21:01	12/22/20 02:58	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1594390	1	12/18/20 13:00	12/18/20 19:28	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1595161	1	12/21/20 12:00	12/21/20 20:00	JRB	Mt. Juliet, TN
Mercury by Method 7471A	WG1596707	1	12/23/20 13:04	12/24/20 07:17	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1596254	1	12/22/20 18:12	12/23/20 18:17	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596499	5	12/23/20 08:15	12/23/20 12:31	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1594983	1	12/16/20 16:10	12/21/20 06:47	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1593394	1	12/16/20 16:10	12/17/20 11:20	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1596304	1	12/23/20 07:45	12/24/20 05:31	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1596062	1	12/22/20 16:05	12/23/20 14:06	AAT	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

20201211-N23-E WALL-(8') L1296302-02 Solid

Collected by Jason McLarty
Collected date/time 12/11/20 09:50
Received date/time 12/12/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1594560	1	12/22/20 13:57	12/22/20 13:57	KMG	Mt. Juliet, TN
Calculated Results	WG1596254	1	12/22/20 18:12	12/23/20 19:00	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1594735	1	12/20/20 21:01	12/22/20 02:58	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1594390	1	12/18/20 13:00	12/18/20 19:28	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1595161	1	12/21/20 12:00	12/21/20 20:00	JRB	Mt. Juliet, TN
Mercury by Method 7471A	WG1596707	1	12/23/20 13:04	12/24/20 07:19	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1596254	1	12/22/20 18:12	12/23/20 19:00	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596499	5	12/23/20 08:15	12/23/20 12:48	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1596828	25	12/16/20 16:10	12/24/20 01:46	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1593394	1	12/16/20 16:10	12/17/20 11:40	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1596304	1	12/23/20 07:45	12/24/20 05:46	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1596062	1	12/22/20 16:05	12/23/20 14:26	AAT	Mt. Juliet, TN

20201211-N23-N WALL-(8') L1296302-03 Solid

Collected by Jason McLarty
Collected date/time 12/11/20 10:10
Received date/time 12/12/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1594560	1	12/22/20 13:59	12/22/20 13:59	KMG	Mt. Juliet, TN
Calculated Results	WG1596254	1	12/22/20 18:12	12/23/20 19:03	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1594735	1	12/20/20 21:01	12/22/20 02:59	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1594390	1	12/18/20 13:00	12/18/20 19:28	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1595161	1	12/21/20 12:00	12/21/20 20:00	JRB	Mt. Juliet, TN
Mercury by Method 7471A	WG1596707	1	12/23/20 13:04	12/24/20 07:21	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1596254	1	12/22/20 18:12	12/23/20 19:03	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596499	5	12/23/20 08:15	12/23/20 12:51	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1594983	100	12/16/20 16:10	12/21/20 08:54	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1593394	8	12/16/20 16:10	12/17/20 15:47	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1596304	1	12/23/20 07:45	12/24/20 06:00	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1596062	1	12/22/20 16:05	12/23/20 14:45	AAT	Mt. Juliet, TN

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



20201211-N23-SW DITCH-(1') L1296302-04 Solid

Collected by
Jason McLarty

Collected date/time
12/11/20 13:30

Received date/time
12/12/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1594560	1	12/22/20 14:02	12/22/20 14:02	KMG	Mt. Juliet, TN
Calculated Results	WG1596254	1	12/22/20 18:12	12/23/20 19:06	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1594735	1	12/20/20 21:01	12/22/20 03:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1594390	1	12/18/20 13:00	12/18/20 19:28	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1595161	1	12/21/20 12:00	12/21/20 20:00	JRB	Mt. Juliet, TN
Mercury by Method 7471A	WG1596707	1	12/23/20 13:04	12/24/20 07:22	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1596254	1	12/22/20 18:12	12/23/20 19:06	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596499	5	12/23/20 08:15	12/23/20 12:55	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1597279	1	12/16/20 16:10	12/24/20 13:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1595377	1	12/16/20 16:10	12/21/20 13:00	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1596304	1	12/23/20 07:45	12/24/20 05:01	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1596062	1	12/22/20 16:05	12/23/20 15:05	AAT	Mt. Juliet, TN

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

20201211-N23-SW DITCH-(2') L1296302-05 Solid

Collected by
Jason McLarty

Collected date/time
12/11/20 13:50

Received date/time
12/12/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1594560	1	12/22/20 14:05	12/22/20 14:05	KMG	Mt. Juliet, TN
Calculated Results	WG1596254	1	12/22/20 18:12	12/23/20 19:08	CCE	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1594735	1	12/20/20 21:01	12/22/20 03:00	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1594390	1	12/18/20 13:00	12/18/20 19:28	KPS	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1595161	1	12/21/20 12:00	12/21/20 20:00	JRB	Mt. Juliet, TN
Mercury by Method 7471A	WG1596707	1	12/23/20 13:04	12/24/20 07:24	BMF	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1596254	1	12/22/20 18:12	12/23/20 19:08	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1596499	5	12/23/20 08:15	12/23/20 13:11	LAT	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1596828	1	12/16/20 16:10	12/24/20 02:27	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1593394	1	12/16/20 16:10	12/17/20 11:59	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1596304	1	12/23/20 07:45	12/24/20 05:16	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1596062	1	12/22/20 16:05	12/23/20 15:25	LEA	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

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	3.99		1	12/22/2020 13:54	WG1594560

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	15.8		1.00	1	12/23/2020 18:17	WG1596254

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	12/22/2020 02:58	WG1594735

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.54	T8	1	12/18/2020 19:28	WG1594390

Sample Narrative:

L1296302-01 WG1594390: 8.54 at 21.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	510		10.0	1	12/21/2020 20:00	WG1595161

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	12/24/2020 07:17	WG1596707

Metals (ICP) by Method 6010B

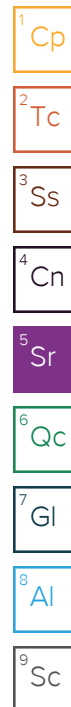
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	244	J6 O1	0.500	1	12/23/2020 18:17	WG1596254
Cadmium	0.851		0.500	1	12/23/2020 18:17	WG1596254
Chromium	15.8	O1	1.00	1	12/23/2020 18:17	WG1596254
Copper	9.58		2.00	1	12/23/2020 18:17	WG1596254
Lead	7.53		0.500	1	12/23/2020 18:17	WG1596254
Nickel	11.6		2.00	1	12/23/2020 18:17	WG1596254
Selenium	ND		2.00	1	12/23/2020 18:17	WG1596254
Silver	ND		1.00	1	12/23/2020 18:17	WG1596254
Zinc	34.7		5.00	1	12/23/2020 18:17	WG1596254

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.62		1.00	5	12/23/2020 12:31	WG1596499

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	7.86		0.100	1	12/21/2020 06:47	WG1594983





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	101		77.0-120		12/21/2020 06:47	WG1594983

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	12/17/2020 11:20	WG1593394
Toluene	ND		0.00500	1	12/17/2020 11:20	WG1593394
Ethylbenzene	ND		0.00250	1	12/17/2020 11:20	WG1593394
Total Xylenes	0.0204		0.00650	1	12/17/2020 11:20	WG1593394
(S) <i>Toluene-d8</i>	107		75.0-131		12/17/2020 11:20	WG1593394
(S) <i>4-Bromofluorobenzene</i>	108		67.0-138		12/17/2020 11:20	WG1593394
(S) <i>1,2-Dichloroethane-d4</i>	119		70.0-130		12/17/2020 11:20	WG1593394

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	48.7		4.00	1	12/24/2020 05:31	WG1596304
(S) <i>o</i> -Terphenyl	67.2		18.0-148		12/24/2020 05:31	WG1596304

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	12/23/2020 14:06	WG1596062
Acenaphthene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Acenaphthylene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Benzo(a)anthracene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Benzo(a)pyrene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Benzo(b)fluoranthene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Benzo(g,h,i)perylene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Benzo(k)fluoranthene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Chrysene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Dibenz(a,h)anthracene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Fluoranthene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Fluorene	0.0239		0.00600	1	12/23/2020 14:06	WG1596062
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/23/2020 14:06	WG1596062
Naphthalene	0.0975		0.0200	1	12/23/2020 14:06	WG1596062
Phenanthrene	0.0132		0.00600	1	12/23/2020 14:06	WG1596062
Pyrene	ND		0.00600	1	12/23/2020 14:06	WG1596062
1-Methylnaphthalene	0.206		0.0200	1	12/23/2020 14:06	WG1596062
2-Methylnaphthalene	0.428		0.0200	1	12/23/2020 14:06	WG1596062
2-Chloronaphthalene	ND		0.0200	1	12/23/2020 14:06	WG1596062
(S) <i>p</i> -Terphenyl-d14	97.2		23.0-120		12/23/2020 14:06	WG1596062
(S) Nitrobenzene-d5	83.5		14.0-149		12/23/2020 14:06	WG1596062
(S) <i>2</i> -Fluorobiphenyl	82.8		34.0-125		12/23/2020 14:06	WG1596062



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.98		1	12/22/2020 13:57	WG1594560

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	35.7		1.00	1	12/23/2020 19:00	WG1596254

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	12/22/2020 02:58	WG1594735

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.98	T8	1	12/18/2020 19:28	WG1594390

Sample Narrative:

L1296302-02 WG1594390: 8.98 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	282		10.0	1	12/21/2020 20:00	WG1595161

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.121		0.0400	1	12/24/2020 07:19	WG1596707

Metals (ICP) by Method 6010B

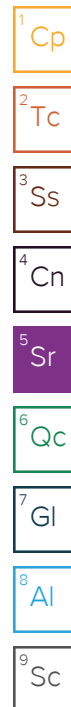
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	213		0.500	1	12/23/2020 19:00	WG1596254
Cadmium	0.617		0.500	1	12/23/2020 19:00	WG1596254
Chromium	35.7		1.00	1	12/23/2020 19:00	WG1596254
Copper	18.4		2.00	1	12/23/2020 19:00	WG1596254
Lead	14.1		0.500	1	12/23/2020 19:00	WG1596254
Nickel	29.0		2.00	1	12/23/2020 19:00	WG1596254
Selenium	ND		2.00	1	12/23/2020 19:00	WG1596254
Silver	ND		1.00	1	12/23/2020 19:00	WG1596254
Zinc	57.3		5.00	1	12/23/2020 19:00	WG1596254

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.69		1.00	5	12/23/2020 12:48	WG1596499

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	56.9		2.50	25	12/24/2020 01:46	WG1596828





Collected date/time: 12/11/20 09:50

L1296302

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	93.3		77.0-120		12/24/2020 01:46	WG1596828

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	12/17/2020 11:40	WG1593394
Toluene	ND		0.00500	1	12/17/2020 11:40	WG1593394
Ethylbenzene	ND		0.00250	1	12/17/2020 11:40	WG1593394
Total Xylenes	0.0428		0.00650	1	12/17/2020 11:40	WG1593394
(S) <i>Toluene-d8</i>	109		75.0-131		12/17/2020 11:40	WG1593394
(S) <i>4-Bromofluorobenzene</i>	120		67.0-138		12/17/2020 11:40	WG1593394
(S) <i>1,2-Dichloroethane-d4</i>	115		70.0-130		12/17/2020 11:40	WG1593394

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	76.5		4.00	1	12/24/2020 05:46	WG1596304
(S) <i>o</i> -Terphenyl	68.3		18.0-148		12/24/2020 05:46	WG1596304

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	12/23/2020 14:26	WG1596062
Acenaphthene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Acenaphthylene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Benzo(a)anthracene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Benzo(a)pyrene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Benzo(b)fluoranthene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Benzo(g,h,i)perylene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Benzo(k)fluoranthene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Chrysene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Dibenz(a,h)anthracene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Fluoranthene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Fluorene	0.0136		0.00600	1	12/23/2020 14:26	WG1596062
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/23/2020 14:26	WG1596062
Naphthalene	0.0274		0.0200	1	12/23/2020 14:26	WG1596062
Phenanthrene	0.0104		0.00600	1	12/23/2020 14:26	WG1596062
Pyrene	ND		0.00600	1	12/23/2020 14:26	WG1596062
1-Methylnaphthalene	0.0599		0.0200	1	12/23/2020 14:26	WG1596062
2-Methylnaphthalene	0.122		0.0200	1	12/23/2020 14:26	WG1596062
2-Chloronaphthalene	ND		0.0200	1	12/23/2020 14:26	WG1596062
(S) <i>p</i> -Terphenyl-d14	91.9		23.0-120		12/23/2020 14:26	WG1596062
(S) Nitrobenzene-d5	122		14.0-149		12/23/2020 14:26	WG1596062
(S) <i>2</i> -Fluorobiphenyl	77.3		34.0-125		12/23/2020 14:26	WG1596062



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.85		1	12/22/2020 13:59	WG1594560

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	28.7		1.00	1	12/23/2020 19:03	WG1596254

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	12/22/2020 02:59	WG1594735

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.68	T8	1	12/18/2020 19:28	WG1594390

Sample Narrative:

L1296302-03 WG1594390: 8.68 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	394		10.0	1	12/21/2020 20:00	WG1595161

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	12/24/2020 07:21	WG1596707

Metals (ICP) by Method 6010B

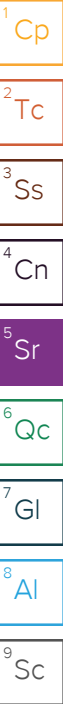
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	323		0.500	1	12/23/2020 19:03	WG1596254
Cadmium	0.588		0.500	1	12/23/2020 19:03	WG1596254
Chromium	28.7		1.00	1	12/23/2020 19:03	WG1596254
Copper	16.9		2.00	1	12/23/2020 19:03	WG1596254
Lead	11.0		0.500	1	12/23/2020 19:03	WG1596254
Nickel	22.9		2.00	1	12/23/2020 19:03	WG1596254
Selenium	ND		2.00	1	12/23/2020 19:03	WG1596254
Silver	ND		1.00	1	12/23/2020 19:03	WG1596254
Zinc	45.9		5.00	1	12/23/2020 19:03	WG1596254

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	14.1		1.00	5	12/23/2020 12:51	WG1596499

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	455		10.0	100	12/21/2020 08:54	WG1594983





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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	105		77.0-120		12/21/2020 08:54	WG1594983

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	0.00860		0.00800	8	12/17/2020 15:47	WG1593394
Toluene	0.0846		0.0400	8	12/17/2020 15:47	WG1593394
Ethylbenzene	ND		0.0200	8	12/17/2020 15:47	WG1593394
Total Xylenes	4.59		0.0520	8	12/17/2020 15:47	WG1593394
(S) <i>Toluene-d8</i>	103		75.0-131		12/17/2020 15:47	WG1593394
(S) <i>4-Bromofluorobenzene</i>	112		67.0-138		12/17/2020 15:47	WG1593394
(S) <i>1,2-Dichloroethane-d4</i>	123		70.0-130		12/17/2020 15:47	WG1593394

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	233		4.00	1	12/24/2020 06:00	WG1596304
(S) <i>o</i> -Terphenyl	69.1		18.0-148		12/24/2020 06:00	WG1596304

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	12/23/2020 14:45	WG1596062
Acenaphthene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Acenaphthylene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Benzo(a)anthracene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Benzo(a)pyrene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Benzo(b)fluoranthene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Benzo(g,h,i)perylene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Benzo(k)fluoranthene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Chrysene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Dibenz(a,h)anthracene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Fluoranthene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Fluorene	0.0270		0.00600	1	12/23/2020 14:45	WG1596062
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/23/2020 14:45	WG1596062
Naphthalene	0.0746		0.0200	1	12/23/2020 14:45	WG1596062
Phenanthrene	0.0177		0.00600	1	12/23/2020 14:45	WG1596062
Pyrene	ND		0.00600	1	12/23/2020 14:45	WG1596062
1-Methylnaphthalene	0.202		0.0200	1	12/23/2020 14:45	WG1596062
2-Methylnaphthalene	0.409		0.0200	1	12/23/2020 14:45	WG1596062
2-Chloronaphthalene	ND		0.0200	1	12/23/2020 14:45	WG1596062
(S) <i>p</i> -Terphenyl-d14	90.8		23.0-120		12/23/2020 14:45	WG1596062
(S) Nitrobenzene-d5	0.000	J2	14.0-149		12/23/2020 14:45	WG1596062
(S) 2-Fluorobiphenyl	77.6		34.0-125		12/23/2020 14:45	WG1596062

Sample Narrative:

L1296302-03 WG1596062: Surrogate failure due to matrix interference



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.70		1	12/22/2020 14:02	WG1594560

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	34.4		1.00	1	12/23/2020 19:06	WG1596254

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	12/22/2020 03:00	WG1594735

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.25	T8	1	12/18/2020 19:28	WG1594390

Sample Narrative:

L1296302-04 WG1594390: 8.25 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2240		10.0	1	12/21/2020 20:00	WG1595161

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	12/24/2020 07:22	WG1596707

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	282		0.500	1	12/23/2020 19:06	WG1596254
Cadmium	ND		0.500	1	12/23/2020 19:06	WG1596254
Chromium	34.4		1.00	1	12/23/2020 19:06	WG1596254
Copper	14.6		2.00	1	12/23/2020 19:06	WG1596254
Lead	10.2		0.500	1	12/23/2020 19:06	WG1596254
Nickel	22.5		2.00	1	12/23/2020 19:06	WG1596254
Selenium	ND		2.00	1	12/23/2020 19:06	WG1596254
Silver	ND		1.00	1	12/23/2020 19:06	WG1596254
Zinc	53.3		5.00	1	12/23/2020 19:06	WG1596254

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.05		1.00	5	12/23/2020 12:55	WG1596499

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	ND		0.100	1	12/24/2020 13:44	WG1597279



Collected date/time: 12/11/20 13:30

L1296302

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-120		12/24/2020 13:44	WG1597279

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	12/21/2020 13:00	WG1595377
Toluene	ND		0.00500	1	12/21/2020 13:00	WG1595377
Ethylbenzene	ND		0.00250	1	12/21/2020 13:00	WG1595377
Total Xylenes	ND		0.00650	1	12/21/2020 13:00	WG1595377
(S) Toluene-d8	115		75.0-131		12/21/2020 13:00	WG1595377
(S) 4-Bromofluorobenzene	108		67.0-138		12/21/2020 13:00	WG1595377
(S) 1,2-Dichloroethane-d4	84.2		70.0-130		12/21/2020 13:00	WG1595377

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	12/24/2020 05:01	WG1596304
(S) o-Terphenyl	73.0		18.0-148		12/24/2020 05:01	WG1596304

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	12/23/2020 15:05	WG1596062
Acenaphthene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Acenaphthylene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Benzo(a)anthracene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Benzo(a)pyrene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Benzo(b)fluoranthene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Benzo(g,h,i)perylene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Benzo(k)fluoranthene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Chrysene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Dibenz(a,h)anthracene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Fluoranthene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Fluorene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Naphthalene	ND		0.0200	1	12/23/2020 15:05	WG1596062
Phenanthrene	ND		0.00600	1	12/23/2020 15:05	WG1596062
Pyrene	ND		0.00600	1	12/23/2020 15:05	WG1596062
1-Methylnaphthalene	ND		0.0200	1	12/23/2020 15:05	WG1596062
2-Methylnaphthalene	ND		0.0200	1	12/23/2020 15:05	WG1596062
2-Chloronaphthalene	ND		0.0200	1	12/23/2020 15:05	WG1596062
(S) p-Terphenyl-d14	97.2		23.0-120		12/23/2020 15:05	WG1596062
(S) Nitrobenzene-d5	73.3		14.0-149		12/23/2020 15:05	WG1596062
(S) 2-Fluorobiphenyl	82.4		34.0-125		12/23/2020 15:05	WG1596062



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.46		1	12/22/2020 14:05	WG1594560

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	42.0		1.00	1	12/23/2020 19:08	WG1596254

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	12/22/2020 03:00	WG1594735

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.38	T8	1	12/18/2020 19:28	WG1594390

Sample Narrative:

L1296302-05 WG1594390: 8.38 at 21.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	232		10.0	1	12/21/2020 20:00	WG1595161

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0400	1	12/24/2020 07:24	WG1596707

Metals (ICP) by Method 6010B

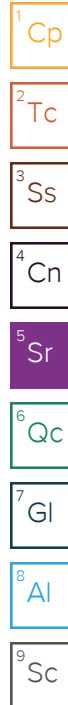
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	223		0.500	1	12/23/2020 19:08	WG1596254
Cadmium	0.662		0.500	1	12/23/2020 19:08	WG1596254
Chromium	42.0		1.00	1	12/23/2020 19:08	WG1596254
Copper	19.3		2.00	1	12/23/2020 19:08	WG1596254
Lead	14.0		0.500	1	12/23/2020 19:08	WG1596254
Nickel	23.2		2.00	1	12/23/2020 19:08	WG1596254
Selenium	ND		2.00	1	12/23/2020 19:08	WG1596254
Silver	ND		1.00	1	12/23/2020 19:08	WG1596254
Zinc	52.9		5.00	1	12/23/2020 19:08	WG1596254

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.0		1.00	5	12/23/2020 13:11	WG1596499

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	ND		0.100	1	12/24/2020 02:27	WG1596828





Collected date/time: 12/11/20 13:50

L1296302

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	89.0		77.0-120		12/24/2020 02:27	WG1596828

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	12/17/2020 11:59	WG1593394
Toluene	ND		0.00500	1	12/17/2020 11:59	WG1593394
Ethylbenzene	ND		0.00250	1	12/17/2020 11:59	WG1593394
Total Xylenes	ND		0.00650	1	12/17/2020 11:59	WG1593394
(S) <i>Toluene-d8</i>	103		75.0-131		12/17/2020 11:59	WG1593394
(S) <i>4-Bromofluorobenzene</i>	96.9		67.0-138		12/17/2020 11:59	WG1593394
(S) <i>1,2-Dichloroethane-d4</i>	116		70.0-130		12/17/2020 11:59	WG1593394

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	12/24/2020 05:16	WG1596304
(S) <i>o</i> -Terphenyl	75.1		18.0-148		12/24/2020 05:16	WG1596304

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	12/23/2020 15:25	WG1596062
Acenaphthene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Acenaphthylene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Benzo(a)anthracene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Benzo(a)pyrene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Benzo(b)fluoranthene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Benzo(g,h,i)perylene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Benzo(k)fluoranthene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Chrysene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Dibenz(a,h)anthracene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Fluoranthene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Fluorene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Naphthalene	ND		0.0200	1	12/23/2020 15:25	WG1596062
Phenanthrene	ND		0.00600	1	12/23/2020 15:25	WG1596062
Pyrene	ND		0.00600	1	12/23/2020 15:25	WG1596062
1-Methylnaphthalene	ND		0.0200	1	12/23/2020 15:25	WG1596062
2-Methylnaphthalene	ND		0.0200	1	12/23/2020 15:25	WG1596062
2-Chloronaphthalene	ND		0.0200	1	12/23/2020 15:25	WG1596062
(S) <i>p</i> -Terphenyl-d14	93.1		23.0-120		12/23/2020 15:25	WG1596062
(S) Nitrobenzene-d5	69.4		14.0-149		12/23/2020 15:25	WG1596062
(S) <i>2</i> -Fluorobiphenyl	76.7		34.0-125		12/23/2020 15:25	WG1596062



Method Blank (MB)

(MB) R3606032-1 12/22/20 02:48

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

L1296070-37 Original Sample (OS) • Duplicate (DUP)

(OS) L1296070-37 12/22/20 02:56 • (DUP) R3606032-7 12/22/20 02:57

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

L1296302-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1296302-04 12/22/20 03:00 • (DUP) R3606032-8 12/22/20 03:00

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

Laboratory Control Sample (LCS)

(LCS) R3606032-2 12/22/20 02:49

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	25.3	106	80.0-120	

L1296070-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296070-13 12/22/20 02:49 • (MS) R3606032-3 12/22/20 02:49 • (MSD) R3606032-4 12/22/20 02:49

	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	9.36	8.64	46.8	43.2	1	75.0-125	J6	J6	7.99	20

L1296070-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1296070-13 12/22/20 02:49 • (MS) R3606032-5 12/22/20 02:50

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	643	ND	632	98.3	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1296057-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1296057-01 12/18/20 19:28 • (DUP) R3605289-2 12/18/20 19:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.00	7.97	1	0.376		1

Sample Narrative:
OS: 8 at 22.7C
DUP: 7.97 at 22.1C

L1296818-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1296818-01 12/18/20 19:28 • (DUP) R3605289-3 12/18/20 19:28

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	8.59	8.56	1	0.350		1

Sample Narrative:
OS: 8.59 at 21.1C
DUP: 8.56 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R3605289-1 12/18/20 19:28

	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: 10.04 at 18.8C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3605985-1 12/21/20 20:00				
Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	umhos/cm		umhos/cm	umhos/cm
Specific Conductance	U		10.0	10.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1296252-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1296252-02 12/21/20 20:00 • (DUP) R3605985-3 12/21/20 20:00						
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	umhos/cm	umhos/cm		%		%
Specific Conductance	7890	7920	1	0.380		20

L1296252-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1296252-08 12/21/20 20:00 • (DUP) R3605985-4 12/21/20 20:00						
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	umhos/cm	umhos/cm		%		%
Specific Conductance	6670	6800	1	1.93		20

Laboratory Control Sample (LCS)

(LCS) R3605985-2 12/21/20 20:00					
Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	umhos/cm	umhos/cm	%	%	
Specific Conductance	483	486	101	85.0-115	



Method Blank (MB)

(MB) R3607005-1 12/24/20 07:07

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R3607005-2 12/24/20 07:09

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.528	106	80.0-120	

⁷Gl

⁸Al

L1299044-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1299044-01 12/24/20 07:11 • (MS) R3607005-3 12/24/20 07:13 • (MSD) R3607005-4 12/24/20 07:15

	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	%	%		%			%	%
Mercury	0.500	ND	0.565	0.571	105	107	1	75.0-125			1.18	20

⁹Sc



Method Blank (MB)

(MB) R3606900-1 12/23/20 18:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Barium	U		0.0852	0.500
Cadmium	U		0.0471	0.500
Chromium	U		0.133	1.00
Copper	U		0.400	2.00
Lead	U		0.208	0.500
Nickel	U		0.132	2.00
Selenium	U		0.764	2.00
Silver	U		0.127	1.00
Zinc	U		0.832	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3606900-2 12/23/20 18:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	96.3	96.3	80.0-120	
Cadmium	100	92.3	92.3	80.0-120	
Chromium	100	94.9	94.9	80.0-120	
Copper	100	93.9	93.9	80.0-120	
Lead	100	95.7	95.7	80.0-120	
Nickel	100	95.0	95.0	80.0-120	
Selenium	100	92.9	92.9	80.0-120	
Silver	20.0	18.6	93.2	80.0-120	
Zinc	100	91.7	91.7	80.0-120	

L1296302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296302-01 12/23/20 18:17 • (MS) R3606900-5 12/23/20 18:26 • (MSD) R3606900-6 12/23/20 18:29

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 %
Barium	100	244	258	259	14.5	15.1	1	75.0-125	J6	J6	0.256	20
Cadmium	100	0.851	93.1	91.9	92.3	91.1	1	75.0-125			1.25	20
Chromium	100	15.8	121	108	105	92.2	1	75.0-125			11.0	20
Copper	100	9.58	106	105	96.8	95.2	1	75.0-125			1.52	20
Lead	100	7.53	104	106	96.8	98.6	1	75.0-125			1.69	20
Nickel	100	11.6	115	110	103	98.9	1	75.0-125			3.85	20
Selenium	100	ND	93.9	93.0	93.9	93.0	1	75.0-125			1.00	20
Silver	20.0	ND	18.7	18.5	93.3	92.5	1	75.0-125			0.908	20
Zinc	100	34.7	136	123	102	88.1	1	75.0-125			10.5	20



Method Blank (MB)

(MB) R3606623-1 12/23/20 12:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R3606623-2 12/23/20 12:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	96.9	96.9	80.0-120	

L1296302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296302-01 12/23/20 12:31 • (MS) R3606623-5 12/23/20 12:41 • (MSD) R3606623-6 12/23/20 12:45

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	20.0	6.62	97.2	103	90.5	96.2	5	75.0-125			5.70	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3606726-2 12/21/20 02:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	111			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3606726-1 12/21/20 01:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.56	82.9	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			98.3	77.0-120	

L1296327-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296327-02 12/21/20 08:11 • (MS) R3606726-3 12/21/20 09:57 • (MSD) R3606726-4 12/21/20 10:18

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	48.1	ND	61.4	58.9	128	122	25	10.0-151			4.16	28
(S) a,a,a-Trifluorotoluene(FID)					105	105		77.0-120				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3607041-3 12/24/20 01:04

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	94.5			77.0-120

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

(LCS) R3607041-1 12/24/20 00:02 • (LCSD) R3607041-2 12/24/20 00:23

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	5.40	5.52	98.2	100	72.0-127			2.20	20
(S) a,a,a-Trifluorotoluene(FID)				109	110	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3607151-2 12/24/20 12:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0386	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	110			77.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3607151-1 12/24/20 11:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.08	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			109	77.0-120	



Method Blank (MB)

(MB) R3605541-3 12/17/20 07:24

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	103			75.0-131
(S) 4-Bromofluorobenzene	94.7			67.0-138
(S) 1,2-Dichloroethane-d4	120			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) R3605541-1 12/17/20 06:08 • (LCSD) R3605541-2 12/17/20 06:27

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 %
Benzene	0.125	0.123	0.123	98.4	98.4	70.0-123			0.000	20
Ethylbenzene	0.125	0.111	0.116	88.8	92.8	74.0-126			4.41	20
Toluene	0.125	0.117	0.117	93.6	93.6	75.0-121			0.000	20
Xylenes, Total	0.375	0.329	0.333	87.7	88.8	72.0-127			1.21	20
(S) Toluene-d8				102	105	75.0-131				
(S) 4-Bromofluorobenzene				92.6	95.9	67.0-138				
(S) 1,2-Dichloroethane-d4				120	126	70.0-130				

L1296256-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296256-02 12/17/20 15:09 • (MS) R3605541-4 12/17/20 16:25 • (MSD) R3605541-5 12/17/20 16:44

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	12.3	13.7	18.5	20.8	39.0	57.7	98.4	10.0-149			11.7	37
Ethylbenzene	12.3	73.9	47.7	53.4	0.000	0.000	98.4	10.0-160	✓	✓	11.3	38
Toluene	12.3	144	83.5	93.5	0.000	0.000	98.4	10.0-156	✓	✓	11.3	38
Xylenes, Total	36.9	238	144	180	0.000	0.000	98.4	10.0-160	✓	✓	22.2	38
(S) Toluene-d8					106	101		75.0-131				
(S) 4-Bromofluorobenzene					99.2	98.1		67.0-138				
(S) 1,2-Dichloroethane-d4					110	126		70.0-130				



Method Blank (MB)

(MB) R3605895-2 12/21/20 11:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Ethylbenzene	U		0.000737	0.00250
Toluene	U		0.00130	0.00500
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	112			75.0-131
(S) 4-Bromofluorobenzene	103			67.0-138
(S) 1,2-Dichloroethane-d4	83.3			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) R3605895-1 12/21/20 10:13 • (LCSD) R3605895-3 12/21/20 11:43

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 %
Benzene	0.125	0.133	0.146	106	117	70.0-123			9.32	20
Ethylbenzene	0.125	0.146	0.153	117	122	74.0-126			4.68	20
Toluene	0.125	0.129	0.143	103	114	75.0-121			10.3	20
Xylenes, Total	0.375	0.433	0.470	115	125	72.0-127			8.19	20
(S) Toluene-d8				108	111	75.0-131				
(S) 4-Bromofluorobenzene				106	106	67.0-138				
(S) 1,2-Dichloroethane-d4				90.8	91.3	70.0-130				



Method Blank (MB)

(MB) R3607000-1 12/24/20 03:47

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	88.9			18.0-148

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3607000-2 12/24/20 04:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	40.9	81.8	50.0-150	
(S) o-Terphenyl			82.9	18.0-148	

L1296294-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296294-03 12/24/20 11:53 • (MS) R3607000-3 12/24/20 12:08 • (MSD) R3607000-4 12/24/20 12:22

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 %
TPH (GC/FID) High Fraction	48.0	ND	46.2	44.4	90.6	86.8	1	50.0-150			3.97	20
(S) o-Terphenyl					70.8	70.6		18.0-148				



Method Blank (MB)

(MB) R3606722-2 12/23/20 07:35

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.00230	0.00600
Acenaphthene	U		0.00209	0.00600
Acenaphthylene	U		0.00216	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(g,h,i)perylene	U		0.00177	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
Naphthalene	U		0.00408	0.0200
Phenanthrene	U		0.00231	0.00600
Pyrene	U		0.00200	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
2-Chloronaphthalene	U		0.00466	0.0200
(S) Nitrobenzene-d5	72.5			14.0-149
(S) 2-Fluorobiphenyl	80.6			34.0-125
(S) p-Terphenyl-d14	98.4			23.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3606722-1 12/23/20 07:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0642	80.3	50.0-126	
Acenaphthene	0.0800	0.0634	79.3	50.0-120	
Acenaphthylene	0.0800	0.0691	86.4	50.0-120	
Benzo(a)anthracene	0.0800	0.0684	85.5	45.0-120	
Benzo(a)pyrene	0.0800	0.0571	71.4	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0588	73.5	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0592	74.0	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0600	75.0	49.0-125	
Chrysene	0.0800	0.0648	81.0	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0622	77.8	47.0-125	
Fluoranthene	0.0800	0.0668	83.5	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3606722-1 12/23/20 07:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0680	85.0	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0636	79.5	46.0-125	
Naphthalene	0.0800	0.0619	77.4	50.0-120	
Phenanthrene	0.0800	0.0635	79.4	47.0-120	
Pyrene	0.0800	0.0627	78.4	43.0-123	
1-Methylnaphthalene	0.0800	0.0659	82.4	51.0-121	
2-Methylnaphthalene	0.0800	0.0629	78.6	50.0-120	
2-Chloronaphthalene	0.0800	0.0624	78.0	50.0-120	
(S) Nitrobenzene-d5			72.8	14.0-149	
(S) 2-Fluorobiphenyl			79.0	34.0-125	
(S) p-Terphenyl-d14			90.9	23.0-120	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

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L1296890-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296890-10 12/23/20 08:33 • (MS) R3606722-3 12/23/20 08:53 • (MSD) R3606722-4 12/23/20 09:13

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 %
Anthracene	0.0800	ND	0.0706	0.0655	82.8	76.4	1	10.0-145			7.49	30
Acenaphthene	0.0800	ND	0.0663	0.0603	82.9	75.4	1	14.0-127			9.48	27
Acenaphthylene	0.0800	ND	0.0746	0.0696	87.8	81.5	1	21.0-124			6.93	25
Benzo(a)anthracene	0.0800	0.0395	0.106	0.101	83.1	76.9	1	10.0-139			4.83	30
Benzo(a)pyrene	0.0800	0.0431	0.0992	0.0961	70.1	66.3	1	10.0-141			3.17	31
Benzo(b)fluoranthene	0.0800	0.0840	0.130	0.127	57.5	53.8	1	10.0-140			2.33	36
Benzo(g,h,i)perylene	0.0800	0.0309	0.0830	0.0806	65.1	62.1	1	10.0-140			2.93	33
Benzo(k)fluoranthene	0.0800	0.0305	0.0895	0.0832	73.8	65.9	1	10.0-137			7.30	31
Chrysene	0.0800	0.0663	0.131	0.128	80.9	77.1	1	10.0-145			2.32	30
Dibenz(a,h)anthracene	0.0800	0.00742	0.0682	0.0618	76.0	68.0	1	10.0-132			9.85	31
Fluoranthene	0.0800	0.0768	0.135	0.125	72.8	60.2	1	10.0-153			7.69	33
Fluorene	0.0800	ND	0.0719	0.0652	89.9	81.5	1	11.0-130			9.77	29
Indeno(1,2,3-cd)pyrene	0.0800	0.0392	0.0930	0.0898	67.3	63.3	1	10.0-137			3.50	32
Naphthalene	0.0800	ND	0.0667	0.0717	76.9	83.2	1	10.0-135			7.23	27
Phenanthrene	0.0800	0.0207	0.0817	0.0766	76.3	69.9	1	10.0-144			6.44	31
Pyrene	0.0800	0.0812	0.134	0.124	66.0	53.5	1	10.0-148			7.75	35
1-Methylnaphthalene	0.0800	ND	0.0699	0.0646	87.4	80.7	1	10.0-142			7.88	28
2-Methylnaphthalene	0.0800	ND	0.0670	0.0623	83.8	77.9	1	10.0-137			7.27	28
2-Chloronaphthalene	0.0800	ND	0.0649	0.0592	81.1	74.0	1	29.0-120			9.19	24
(S) Nitrobenzene-d5					68.9	76.3		14.0-149				
(S) 2-Fluorobiphenyl					72.4	80.2		34.0-125				
(S) p-Terphenyl-d14					81.8	89.0		23.0-120				



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.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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



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

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

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
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}	KY90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-20-18
Maine	TN00003	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	998093910
Montana	CERT0086	Wyoming	A2LA

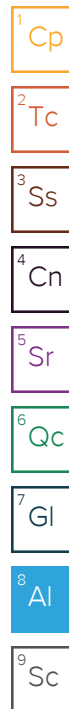
Third Party Federal Accreditations

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.



Caerus Oil and Gas 143 Diamond Avenue Parachute, CO 81635				Billing Information:				Pres		Analysis / Container / Preservative										Chain of Custody		Page ____ of ____							
				Same as left				Chk																					
Report to: Blair Rollins				Email To: brollins@caerusoilandgas.com																									
Project Description: N23				City/State Collected: CO																									
Phone: (970) 640-6919 Fax:				Client Project #				Lab Project #																					
Collected by (print): J. McLaughlin				Site/Facility ID #				P.O. #																					
Collected by (signature): [Signature]				Rush? (Lab MUST Be Notified) ____ Same Day ____ Five Day ____ Next Day ____ 5 Day (Rad Only) ____ Two Day ____ 10 Day (Rad Only) ____ Three Day				Quote #																					
Immediately Packed on Ice N ____ Y ____ X								Date Results Needed		No. of Cntrs																			
Sample ID				Comp/Grab		Matrix *		Depth		Date		Time		TPH (DRO and GRO)		BTEX		Table 910-1 metals in soil		Table 910-1 PAHs		EC, SAR, pH							
20201211-N23-SWall-(8')				Grab		SS		8'		12/11/20		930		3		X		X		X		X							
20201211-N23-EWall-(8')				↓		↓		8'		↓		950		3		X		X		X		X							
20201211-N23-NWall-(8')				↓		↓		8'		↓		1010		3		X		X		X		X							
20201211-N23-SWDitch-(1')				↓		↓		1'		↓		1330		3		X		X		X		X							
20201211-N23-SWDitch-(2')				↓		↓		2'		↓		1350		3		X		X		X		X							