ANALYTICAL REPORT

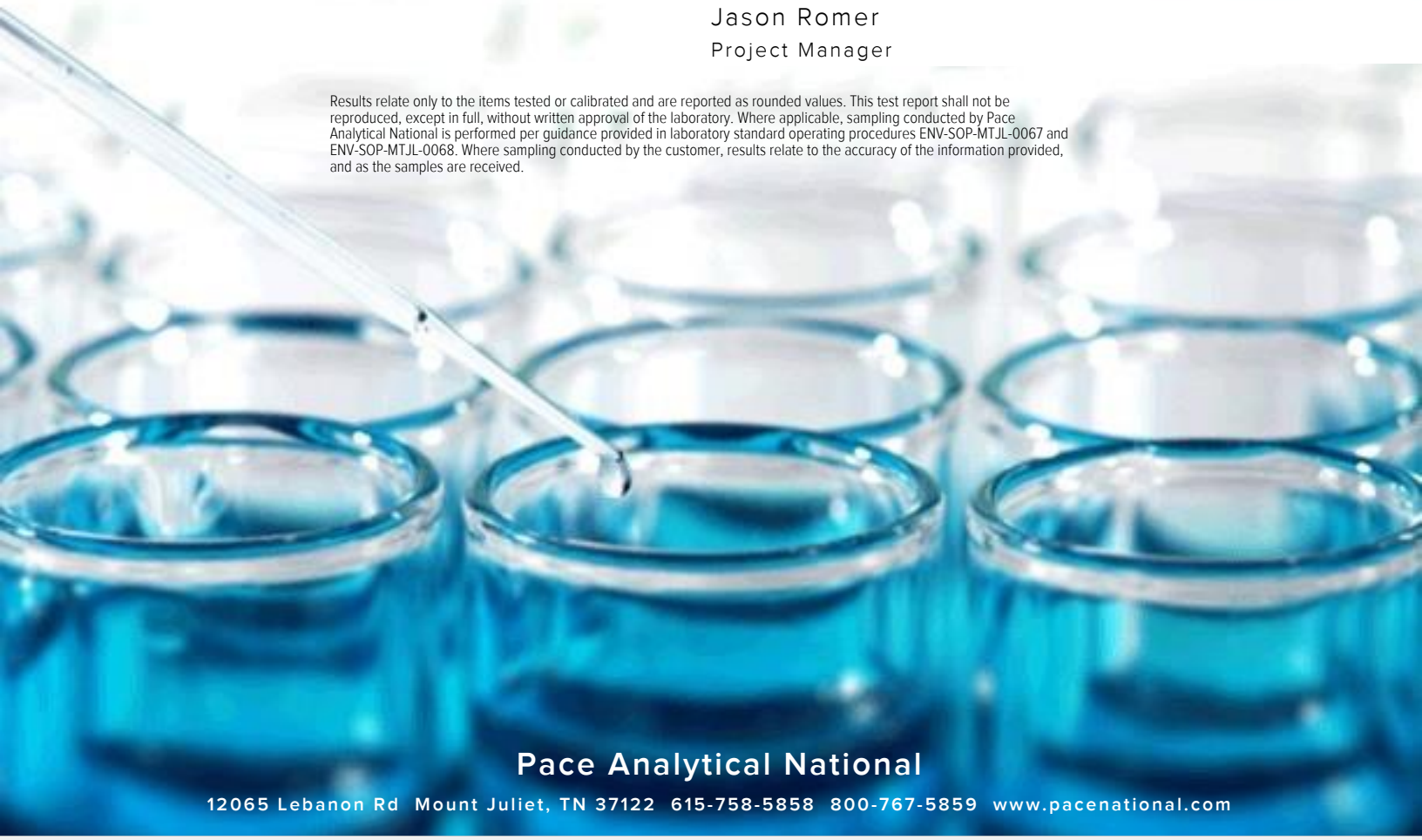
May 10, 2022

Caerus Oil and Gas

Sample Delivery Group:	L1488352
Samples Received:	04/30/2022
Project Number:	
Description:	Garden Gulch 8" Water Line Release
Site:	LATHAM LAYDOWN YARD
Report To:	Brett Middleton 143 Diamond Avenue Parachute, CO 81635

Entire Report Reviewed By:

Jason Romer
Project Manager



Pace Analytical National
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20220428-GARDEN_GULCH_8"-SILT_TRAP_1@1' L1488352-01 Solid

Collected by: Alex Slorby | Collected date/time: 04/28/22 08:55 | Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1857736	1	05/09/22 17:05	05/09/22 17:05	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1860177	1	05/07/22 18:00	05/09/22 15:45	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1859463	1	05/06/22 15:00	05/06/22 17:00	GI	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1859941	1	05/07/22 13:33	05/07/22 16:29	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1858096	1	05/05/22 18:30	05/06/22 07:23	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1857735	1	05/08/22 12:56	05/10/22 00:41	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1858100	5	05/05/22 18:34	05/06/22 12:33	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1858932	1	05/03/22 14:04	05/07/22 19:37	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1858929	1	05/03/22 14:04	05/05/22 16:08	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859354	1	05/06/22 04:43	05/06/22 16:39	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1859382	1	05/05/22 19:56	05/06/22 00:41	AMG	Mt. Juliet, TN

20220428-GARDEN_GULCH_8"-SILT_TRAP_2@1' L1488352-02 Solid

Collected by: Alex Slorby | Collected date/time: 04/28/22 09:10 | Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1857736	1	05/09/22 17:08	05/09/22 17:08	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1860177	1	05/07/22 18:00	05/09/22 16:01	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1859173	1	05/05/22 10:00	05/05/22 12:00	GI	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1859941	1	05/07/22 13:33	05/07/22 16:29	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1858096	1	05/05/22 18:30	05/06/22 07:32	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1857735	1	05/08/22 12:56	05/10/22 00:44	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1858100	5	05/05/22 18:34	05/06/22 12:44	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1858932	1	05/03/22 14:04	05/07/22 20:09	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1858929	1	05/03/22 14:04	05/05/22 16:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859354	1	05/06/22 04:43	05/06/22 16:13	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1859382	1	05/05/22 19:56	05/06/22 01:01	AMG	Mt. Juliet, TN

20220428-GARDEN_GULCH_8"-SILT_TRAP_3@1' L1488352-03 Solid

Collected by: Alex Slorby | Collected date/time: 04/28/22 09:25 | Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1857736	1	05/09/22 17:11	05/09/22 17:11	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1860177	1	05/07/22 18:00	05/09/22 16:06	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1859167	1	05/06/22 13:00	05/06/22 15:00	GI	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1859941	1	05/07/22 13:33	05/07/22 16:29	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1858096	1	05/05/22 18:30	05/06/22 07:35	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1857735	1	05/08/22 12:56	05/10/22 00:47	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1858100	5	05/05/22 18:34	05/06/22 12:47	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1858932	1	05/03/22 14:04	05/07/22 20:33	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1858929	1	05/03/22 14:04	05/05/22 16:47	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859354	1	05/06/22 04:43	05/06/22 16:39	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1859382	1	05/05/22 19:56	05/06/22 01:21	AMG	Mt. Juliet, TN

20220428-GARDEN_GULCH_8"-SILT_TRAP_4@1' L1488352-04 Solid

Collected by: Alex Slorby | Collected date/time: 04/28/22 09:40 | Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1857736	1	05/09/22 17:13	05/09/22 17:13	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1860177	1	05/07/22 18:00	05/09/22 16:16	JER	Mt. Juliet, TN

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

20220428-GARDEN_GULCH_8"-SILT_TRAP_4@1' Solid

L1488352-04

Collected by	Collected date/time	Received date/time
Alex Slorby	04/28/22 09:40	04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9045D	WG1859173	1	05/05/22 10:00	05/05/22 12:00	GI	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1859941	1	05/07/22 13:33	05/07/22 16:29	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1858096	1	05/05/22 18:30	05/06/22 07:38	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1857735	1	05/08/22 12:56	05/10/22 00:51	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1858100	5	05/05/22 18:34	05/06/22 12:51	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1858932	1	05/03/22 14:04	05/07/22 21:14	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1858929	1	05/03/22 14:04	05/05/22 17:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859354	1	05/06/22 04:43	05/06/22 16:26	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1859382	1	05/05/22 19:56	05/06/22 05:22	AMG	Mt. Juliet, TN

20220428-GARDEN_GULCH_8"-SILT_TRAP_5@1' Solid

L1488352-05

Collected by	Collected date/time	Received date/time
Alex Slorby	04/28/22 10:00	04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1857736	1	05/09/22 17:16	05/09/22 17:16	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG1860177	1	05/07/22 18:00	05/09/22 16:21	JER	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1859167	1	05/06/22 13:00	05/06/22 15:00	GI	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1859941	1	05/07/22 13:33	05/07/22 16:29	ARD	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1858096	1	05/05/22 18:30	05/06/22 07:41	CCE	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG1857735	1	05/08/22 12:56	05/10/22 00:55	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1858100	5	05/05/22 18:34	05/06/22 12:54	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1859000	1	05/03/22 14:04	05/07/22 14:11	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1858929	1	05/03/22 14:04	05/05/22 17:26	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859421	1	05/06/22 04:12	05/06/22 15:13	JDG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG1859421	5	05/06/22 04:12	05/06/22 17:24	JDG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1859382	1	05/05/22 19:56	05/06/22 01:41	AMG	Mt. Juliet, TN

CASE NARRATIVE

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.

Jason Romer
Project Manager

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.718		1	05/09/2022 17:05	WG1857736

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/09/2022 15:45	WG1860177

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.97	T8	1	05/06/2022 17:00	WG1859463

Sample Narrative:

L1488352-01 WG1859463: 7.97 at 20.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	200		10.0	1	05/07/2022 16:29	WG1859941

Sample Narrative:

L1488352-01 WG1859941: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	362		0.500	1	05/06/2022 07:23	WG1858096
Cadmium	ND		0.500	1	05/06/2022 07:23	WG1858096
Copper	19.7		2.00	1	05/06/2022 07:23	WG1858096
Lead	13.2		0.500	1	05/06/2022 07:23	WG1858096
Nickel	21.0		2.00	1	05/06/2022 07:23	WG1858096
Selenium	ND		2.00	1	05/06/2022 07:23	WG1858096
Silver	ND		1.00	1	05/06/2022 07:23	WG1858096
Zinc	47.8		5.00	1	05/06/2022 07:23	WG1858096

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.430		0.200	1	05/10/2022 00:41	WG1857735

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.84		1.00	5	05/06/2022 12:33	WG1858100

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.115		0.100	1	05/07/2022 19:37	WG1858932
(S) a,a,a-Trifluorotoluene(FID)	*100*		*77.0-120*		*05/07/2022 19:37*	WG1858932

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00285		0.00100	1	05/05/2022 16:08	WG1858929
Toluene	0.0244		0.00500	1	05/05/2022 16:08	WG1858929
Ethylbenzene	ND		0.00250	1	05/05/2022 16:08	WG1858929
Xylenes, Total	0.0209		0.00650	1	05/05/2022 16:08	WG1858929
1,2,4-Trimethylbenzene	ND		0.00500	1	05/05/2022 16:08	WG1858929
1,3,5-Trimethylbenzene	ND		0.00500	1	05/05/2022 16:08	WG1858929
(S) Toluene-d8	*90.6*		*75.0-131*		*05/05/2022 16:08*	WG1858929
(S) 4-Bromofluorobenzene	*88.3*		*67.0-138*		*05/05/2022 16:08*	WG1858929
(S) 1,2-Dichloroethane-d4	*96.8*		*70.0-130*		*05/05/2022 16:08*	WG1858929

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	66.6		4.00	1	05/06/2022 16:39	WG1859354
C28-C36 Motor Oil Range	120		4.00	1	05/06/2022 16:39	WG1859354
(S) o-Terphenyl	*54.2*		*18.0-148*		*05/06/2022 16:39*	WG1859354

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Anthracene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Benzo(a)anthracene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Benzo(b)fluoranthene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Benzo(k)fluoranthene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Benzo(a)pyrene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Chrysene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Dibenz(a,h)anthracene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Fluoranthene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Fluorene	ND		0.00600	1	05/06/2022 00:41	WG1859382
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/06/2022 00:41	WG1859382
1-Methylnaphthalene	ND		0.0200	1	05/06/2022 00:41	WG1859382
2-Methylnaphthalene	ND		0.0200	1	05/06/2022 00:41	WG1859382
Naphthalene	ND		0.0200	1	05/06/2022 00:41	WG1859382
Pyrene	ND		0.00600	1	05/06/2022 00:41	WG1859382
(S) p-Terphenyl-d14	*79.7*		*23.0-120*		*05/06/2022 00:41*	WG1859382
(S) Nitrobenzene-d5	*77.0*		*14.0-149*		*05/06/2022 00:41*	WG1859382
(S) 2-Fluorobiphenyl	*71.0*		*34.0-125*		*05/06/2022 00:41*	WG1859382

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	0.754		1	05/09/2022 17:08	WG1857736

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	05/09/2022 16:01	WG1860177

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	7.97	T8	1	05/05/2022 12:00	WG1859173

Sample Narrative:

L1488352-02 WG1859173: 7.97 at 21.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	239		10.0	1	05/07/2022 16:29	WG1859941

Sample Narrative:

L1488352-02 WG1859941: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Barium	263		0.500	1	05/06/2022 07:32	WG1858096
Cadmium	0.502		0.500	1	05/06/2022 07:32	WG1858096
Copper	19.3		2.00	1	05/06/2022 07:32	WG1858096
Lead	12.8		0.500	1	05/06/2022 07:32	WG1858096
Nickel	21.4		2.00	1	05/06/2022 07:32	WG1858096
Selenium	ND		2.00	1	05/06/2022 07:32	WG1858096
Silver	ND		1.00	1	05/06/2022 07:32	WG1858096
Zinc	53.5		5.00	1	05/06/2022 07:32	WG1858096

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.235		0.200	1	05/10/2022 00:44	WG1857735

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	8.91		1.00	5	05/06/2022 12:44	WG1858100

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	1.27		0.100	1	05/07/2022 20:09	WG1858932
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*05/07/2022 20:09*	WG1858932

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.0324		0.00100	1	05/05/2022 16:28	WG1858929
Toluene	0.292		0.00500	1	05/05/2022 16:28	WG1858929
Ethylbenzene	0.0184		0.00250	1	05/05/2022 16:28	WG1858929
Xylenes, Total	0.336		0.00650	1	05/05/2022 16:28	WG1858929
1,2,4-Trimethylbenzene	0.0215		0.00500	1	05/05/2022 16:28	WG1858929
1,3,5-Trimethylbenzene	0.0232		0.00500	1	05/05/2022 16:28	WG1858929
(S) Toluene-d8	*89.1*		*75.0-131*		*05/05/2022 16:28*	WG1858929
(S) 4-Bromofluorobenzene	*87.1*		*67.0-138*		*05/05/2022 16:28*	WG1858929
(S) 1,2-Dichloroethane-d4	*99.1*		*70.0-130*		*05/05/2022 16:28*	WG1858929

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	9.41		4.00	1	05/06/2022 16:13	WG1859354
C28-C36 Motor Oil Range	23.8		4.00	1	05/06/2022 16:13	WG1859354
(S) o-Terphenyl	*43.7*		*18.0-148*		*05/06/2022 16:13*	WG1859354

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Anthracene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Benzo(a)anthracene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Benzo(b)fluoranthene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Benzo(k)fluoranthene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Benzo(a)pyrene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Chrysene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Dibenz(a,h)anthracene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Fluoranthene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Fluorene	ND		0.00600	1	05/06/2022 01:01	WG1859382
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/06/2022 01:01	WG1859382
1-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:01	WG1859382
2-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:01	WG1859382
Naphthalene	ND		0.0200	1	05/06/2022 01:01	WG1859382
Pyrene	ND		0.00600	1	05/06/2022 01:01	WG1859382
(S) p-Terphenyl-d14	*78.4*		*23.0-120*		*05/06/2022 01:01*	WG1859382
(S) Nitrobenzene-d5	*78.0*		*14.0-149*		*05/06/2022 01:01*	WG1859382
(S) 2-Fluorobiphenyl	*70.8*		*34.0-125*		*05/06/2022 01:01*	WG1859382

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.43		1	05/09/2022 17:11	WG1857736

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	2.89		1.00	1	05/09/2022 16:06	WG1860177

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.03	T8	1	05/06/2022 15:00	WG1859167

Sample Narrative:

L1488352-03 WG1859167: 7.03 at 20.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	2490		10.0	1	05/07/2022 16:29	WG1859941

Sample Narrative:

L1488352-03 WG1859941: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	887		0.500	1	05/06/2022 07:35	WG1858096
Cadmium	2.98		0.500	1	05/06/2022 07:35	WG1858096
Copper	62.6		2.00	1	05/06/2022 07:35	WG1858096
Lead	28.2		0.500	1	05/06/2022 07:35	WG1858096
Nickel	67.9		2.00	1	05/06/2022 07:35	WG1858096
Selenium	3.95		2.00	1	05/06/2022 07:35	WG1858096
Silver	ND		1.00	1	05/06/2022 07:35	WG1858096
Zinc	60.2		5.00	1	05/06/2022 07:35	WG1858096

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.330		0.200	1	05/10/2022 00:47	WG1857735

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	84.6		1.00	5	05/06/2022 12:47	WG1858100

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	2.24		0.100	1	05/07/2022 20:33	WG1858932
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*05/07/2022 20:33*	WG1858932

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.110		0.00100	1	05/05/2022 16:47	WG1858929
Toluene	0.665		0.00500	1	05/05/2022 16:47	WG1858929
Ethylbenzene	0.0463		0.00250	1	05/05/2022 16:47	WG1858929
Xylenes, Total	1.50		0.00650	1	05/05/2022 16:47	WG1858929
1,2,4-Trimethylbenzene	0.101		0.00500	1	05/05/2022 16:47	WG1858929
1,3,5-Trimethylbenzene	0.122		0.00500	1	05/05/2022 16:47	WG1858929
(S) Toluene-d8	*91.9*		*75.0-131*		*05/05/2022 16:47*	WG1858929
(S) 4-Bromofluorobenzene	*89.9*		*67.0-138*		*05/05/2022 16:47*	WG1858929
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*05/05/2022 16:47*	WG1858929

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	21.1		4.00	1	05/06/2022 16:39	WG1859354
C28-C36 Motor Oil Range	91.8		4.00	1	05/06/2022 16:39	WG1859354
(S) o-Terphenyl	*58.6*		*18.0-148*		*05/06/2022 16:39*	WG1859354

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Anthracene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Benzo(a)anthracene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Benzo(b)fluoranthene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Benzo(k)fluoranthene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Benzo(a)pyrene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Chrysene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Dibenz(a,h)anthracene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Fluoranthene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Fluorene	ND		0.00600	1	05/06/2022 01:21	WG1859382
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/06/2022 01:21	WG1859382
1-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:21	WG1859382
2-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:21	WG1859382
Naphthalene	ND		0.0200	1	05/06/2022 01:21	WG1859382
Pyrene	ND		0.00600	1	05/06/2022 01:21	WG1859382
(S) p-Terphenyl-d14	*96.5*		*23.0-120*		*05/06/2022 01:21*	WG1859382
(S) Nitrobenzene-d5	*91.4*		*14.0-149*		*05/06/2022 01:21*	WG1859382
(S) 2-Fluorobiphenyl	*85.7*		*34.0-125*		*05/06/2022 01:21*	WG1859382

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.89		1	05/09/2022 17:13	WG1857736

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		1.00	1	05/09/2022 16:16	WG1860177

Wet Chemistry by Method 9045D

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	8.55	T8	1	05/05/2022 12:00	WG1859173

Sample Narrative:

L1488352-04 WG1859173: 8.55 at 21.6C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	429		10.0	1	05/07/2022 16:29	WG1859941

Sample Narrative:

L1488352-04 WG1859941: at 25C

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Barium	403		0.500	1	05/06/2022 07:38	WG1858096
Cadmium	0.577		0.500	1	05/06/2022 07:38	WG1858096
Copper	29.6		2.00	1	05/06/2022 07:38	WG1858096
Lead	16.3		0.500	1	05/06/2022 07:38	WG1858096
Nickel	24.5		2.00	1	05/06/2022 07:38	WG1858096
Selenium	ND		2.00	1	05/06/2022 07:38	WG1858096
Silver	ND		1.00	1	05/06/2022 07:38	WG1858096
Zinc	66.0		5.00	1	05/06/2022 07:38	WG1858096

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	1.22		0.200	1	05/10/2022 00:51	WG1857735

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.43		1.00	5	05/06/2022 12:51	WG1858100

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.204		0.100	1	05/07/2022 21:14	WG1858932
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*05/07/2022 21:14*	WG1858932

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00570		0.00100	1	05/05/2022 17:07	WG1858929
Toluene	0.0527		0.00500	1	05/05/2022 17:07	WG1858929
Ethylbenzene	0.00380		0.00250	1	05/05/2022 17:07	WG1858929
Xylenes, Total	0.0696		0.00650	1	05/05/2022 17:07	WG1858929
1,2,4-Trimethylbenzene	0.00617		0.00500	1	05/05/2022 17:07	WG1858929
1,3,5-Trimethylbenzene	0.0116		0.00500	1	05/05/2022 17:07	WG1858929
(S) Toluene-d8	*91.7*		*75.0-131*		*05/05/2022 17:07*	WG1858929
(S) 4-Bromofluorobenzene	*87.1*		*67.0-138*		*05/05/2022 17:07*	WG1858929
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*05/05/2022 17:07*	WG1858929

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	31.8		4.00	1	05/06/2022 16:26	WG1859354
C28-C36 Motor Oil Range	102		4.00	1	05/06/2022 16:26	WG1859354
(S) o-Terphenyl	*44.8*		*18.0-148*		*05/06/2022 16:26*	WG1859354

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Anthracene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Benzo(a)anthracene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Benzo(b)fluoranthene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Benzo(k)fluoranthene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Benzo(a)pyrene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Chrysene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Dibenz(a,h)anthracene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Fluoranthene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Fluorene	ND		0.00600	1	05/06/2022 05:22	WG1859382
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/06/2022 05:22	WG1859382
1-Methylnaphthalene	ND		0.0200	1	05/06/2022 05:22	WG1859382
2-Methylnaphthalene	ND		0.0200	1	05/06/2022 05:22	WG1859382
Naphthalene	ND		0.0200	1	05/06/2022 05:22	WG1859382
Pyrene	ND		0.00600	1	05/06/2022 05:22	WG1859382
(S) p-Terphenyl-d14	*76.9*		*23.0-120*		*05/06/2022 05:22*	WG1859382
(S) Nitrobenzene-d5	*79.9*		*14.0-149*		*05/06/2022 05:22*	WG1859382
(S) 2-Fluorobiphenyl	*70.8*		*34.0-125*		*05/06/2022 05:22*	WG1859382

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	SAR				
Sodium Adsorption Ratio	2.00		1	05/09/2022 17:16	WG1857736

Wet Chemistry by Method 7199

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Hexavalent Chromium	ND		1.00	1	05/09/2022 16:21	WG1860177

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
	pH				
pH	8.28	T8	1	05/06/2022 15:00	WG1859167

Sample Narrative:

L1488352-05 WG1859167: 8.28 at 20.5C

Wet Chemistry by Method 9050AMod

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	umhos/cm		umhos/cm			
Specific Conductance	302		10.0	1	05/07/2022 16:29	WG1859941

Sample Narrative:

L1488352-05 WG1859941: at 25C

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Barium	336		0.500	1	05/06/2022 07:41	WG1858096
Cadmium	0.653		0.500	1	05/06/2022 07:41	WG1858096
Copper	22.7		2.00	1	05/06/2022 07:41	WG1858096
Lead	15.0		0.500	1	05/06/2022 07:41	WG1858096
Nickel	21.4		2.00	1	05/06/2022 07:41	WG1858096
Selenium	ND		2.00	1	05/06/2022 07:41	WG1858096
Silver	ND		1.00	1	05/06/2022 07:41	WG1858096
Zinc	57.2		5.00	1	05/06/2022 07:41	WG1858096

Metals (ICP) by Method 6010B-NE493 Ch 2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l			
Hot Water Sol. Boron	0.969		0.200	1	05/10/2022 00:55	WG1857735

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
Arsenic	7.97		1.00	5	05/06/2022 12:54	WG1858100

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

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.100	1	05/07/2022 14:11	WG1859000
(S) a,a,a-Trifluorotoluene(FID)	*108*		*77.0-120*		*05/07/2022 14:11*	WG1859000

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	05/05/2022 17:26	WG1858929
Toluene	ND		0.00500	1	05/05/2022 17:26	WG1858929
Ethylbenzene	ND		0.00250	1	05/05/2022 17:26	WG1858929
Xylenes, Total	ND		0.00650	1	05/05/2022 17:26	WG1858929
1,2,4-Trimethylbenzene	ND		0.00500	1	05/05/2022 17:26	WG1858929
1,3,5-Trimethylbenzene	ND		0.00500	1	05/05/2022 17:26	WG1858929
(S) Toluene-d8	*89.6*		*75.0-131*		*05/05/2022 17:26*	WG1858929
(S) 4-Bromofluorobenzene	*90.8*		*67.0-138*		*05/05/2022 17:26*	WG1858929
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*05/05/2022 17:26*	WG1858929

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	22.0		4.00	1	05/06/2022 15:13	WG1859421
C28-C36 Motor Oil Range	108		20.0	5	05/06/2022 17:24	WG1859421
(S) o-Terphenyl	*43.1*		*18.0-148*		*05/06/2022 17:24*	WG1859421
(S) o-Terphenyl	*49.4*		*18.0-148*		*05/06/2022 15:13*	WG1859421

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Anthracene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Benzo(a)anthracene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Benzo(b)fluoranthene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Benzo(k)fluoranthene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Benzo(a)pyrene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Chrysene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Dibenz(a,h)anthracene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Fluoranthene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Fluorene	ND		0.00600	1	05/06/2022 01:41	WG1859382
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	05/06/2022 01:41	WG1859382
1-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:41	WG1859382
2-Methylnaphthalene	ND		0.0200	1	05/06/2022 01:41	WG1859382
Naphthalene	ND		0.0200	1	05/06/2022 01:41	WG1859382
Pyrene	ND		0.00600	1	05/06/2022 01:41	WG1859382
(S) p-Terphenyl-d14	*99.4*		*23.0-120*		*05/06/2022 01:41*	WG1859382
(S) Nitrobenzene-d5	*97.7*		*14.0-149*		*05/06/2022 01:41*	WG1859382
(S) 2-Fluorobiphenyl	*89.0*		*34.0-125*		*05/06/2022 01:41*	WG1859382

Method Blank (MB)

(MB) R3790080-1 05/09/22 14:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Hexavalent Chromium	U		0.255	1.00

L1488352-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1488352-03 05/09/22 16:06 • (DUP) R3790080-7 05/09/22 16:11

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	2.89	2.87	1	0.488		20

L1490285-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1490285-01 05/09/22 17:34 • (DUP) R3790080-8 05/09/22 17:39

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	ND	ND	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R3790080-2 05/09/22 15:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	9.57	95.7	80.0-120	

L1483927-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1483927-07 05/09/22 15:09 • (MS) R3790080-3 05/09/22 15:14 • (MSD) R3790080-4 05/09/22 15:19

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 %
Hexavalent Chromium	20.0	ND	19.0	16.5	94.9	82.6	1	75.0-125			13.9	20

L1483927-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1483927-07 05/09/22 15:09 • (MS) R3790080-5 05/09/22 15:24

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	646	ND	577	89.4	50	75.0-125	

L1488348-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488348-01 05/06/22 15:00 • (DUP) R3789061-2 05/06/22 15:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	7.66	7.71	1	0.651		1

Sample Narrative:

OS: 7.66 at 20C

DUP: 7.71 at 21C

L1488348-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1488348-11 05/06/22 15:00 • (DUP) R3789061-3 05/06/22 15:00

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	pH	su		%		%
pH	8.36	8.40	1	0.477		1

Sample Narrative:

OS: 8.36 at 20.3C

DUP: 8.4 at 20.4C

Laboratory Control Sample (LCS)

(LCS) R3789061-1 05/06/22 15:00

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

Sample Narrative:

LCS: 9.94 at 20.1C

L1487959-98 Original Sample (OS) • Duplicate (DUP)

(OS) L1487959-98 05/05/22 12:00 • (DUP) R3788410-2 05/05/22 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.41	8.40	1	0.119		1

Sample Narrative:

OS: 8.41 at 21.8C

DUP: 8.4 at 21.8C

L1488352-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1488352-02 05/05/22 12:00 • (DUP) R3788410-3 05/05/22 12:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	7.97	7.98	1	0.125		1

Sample Narrative:

OS: 7.97 at 21.3C

DUP: 7.98 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R3788410-1 05/05/22 12:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.93	99.3	99.0-101	

Sample Narrative:

LCS: 9.93 at 19.9C

L1488352-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488352-01 05/06/22 17:00 • (DUP) R3789117-2 05/06/22 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	7.97	7.97	1	0.000		1

Sample Narrative:

OS: 7.97 at 20.7C

DUP: 7.97 at 20.7C

L1488805-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1488805-03 05/06/22 17:00 • (DUP) R3789117-3 05/06/22 17:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.15	8.15	1	0.000		1

Sample Narrative:

OS: 8.15 at 20.5C

DUP: 8.15 at 20.5C

Laboratory Control Sample (LCS)

(LCS) R3789117-1 05/06/22 17:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.95	99.5	99.0-101	

Sample Narrative:

LCS: 9.95 at 20.6C

Method Blank (MB)

(MB) R3789256-1 05/07/22 16:29

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

Sample Narrative:
BLANK: at 25C

L1488357-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1488357-01 05/07/22 16:29 • (DUP) R3789256-3 05/07/22 16:29

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	6920	6130	1	12.1		20

Sample Narrative:
OS: at 25C
DUP: at 25C

L1488357-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1488357-02 05/07/22 16:29 • (DUP) R3789256-4 05/07/22 16:29

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	1300	1350	1	3.93		20

Sample Narrative:
OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3789256-2 05/07/22 16:29

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	268	282	105	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3788787-1 05/06/22 06:56

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
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

Laboratory Control Sample (LCS)

(LCS) R3788787-2 05/06/22 06:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	100	97.2	97.2	80.0-120	
Cadmium	100	92.7	92.7	80.0-120	
Copper	100	98.3	98.3	80.0-120	
Lead	100	93.5	93.5	80.0-120	
Nickel	100	95.4	95.4	80.0-120	
Selenium	100	98.9	98.9	80.0-120	
Silver	20.0	17.6	88.2	80.0-120	
Zinc	100	93.0	93.0	80.0-120	

L1488347-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488347-01 05/06/22 07:02 • (MS) R3788787-5 05/06/22 07:11 • (MSD) R3788787-6 05/06/22 07:14

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	182	277	422	94.8	240	1	75.0-125		J3 J5	41.6	20
Cadmium	100	0.599	98.7	101	98.1	100	1	75.0-125			2.40	20
Copper	100	19.7	125	129	105	109	1	75.0-125			3.57	20
Lead	100	8.74	104	105	95.8	96.4	1	75.0-125			0.597	20
Nickel	100	31.9	126	135	94.5	103	1	75.0-125			6.80	20
Selenium	100	ND	105	107	105	107	1	75.0-125			2.10	20
Silver	20.0	ND	19.2	19.6	95.8	98.2	1	75.0-125			2.47	20
Zinc	100	44.4	130	130	85.5	85.3	1	75.0-125			0.128	20

Method Blank (MB)

(MB) R3789929-1 05/10/22 00:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hot Water Sol. Boron	U		0.0167	0.200

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

(LCS) R3789929-2 05/10/22 00:29 • (LCSD) R3789929-3 05/10/22 00:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.02	100	102	80.0-120			1.95	20

Method Blank (MB)

(MB) R3788933-1 05/06/22 12:03

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) R3788933-2 05/06/22 12:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	88.9	88.9	80.0-120	

L1488347-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488347-01 05/06/22 12:10 • (MS) R3788933-5 05/06/22 12:20 • (MSD) R3788933-6 05/06/22 12:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	7.29	94.1	86.7	86.8	79.4	5	75.0-125			8.20	20

Method Blank (MB)

(MB) R3789505-3 05/07/22 09:45

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)	*105*			*77.0-120*

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

(LCS) R3789505-1 05/07/22 08:34 • (LCSD) R3789505-2 05/07/22 08:58

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	5.18	5.47	94.2	99.5	72.0-127			5.45	20
(S) a,a,a-Trifluorotoluene(FID)				*107*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R3789394-2 05/07/22 05:35

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)	*112*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3789394-1 05/07/22 04:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.91	89.3	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*101*	*77.0-120*	

Method Blank (MB)

(MB) R3789373-2 05/05/22 15:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	*88.6*			*75.0-131*
(S) 4-Bromofluorobenzene	*97.6*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*97.3*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3789373-1 05/05/22 12:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.127	102	70.0-123	
Toluene	0.125	0.108	86.4	75.0-121	
Ethylbenzene	0.125	0.100	80.0	74.0-126	
Xylenes, Total	0.375	0.298	79.5	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.109	87.2	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.106	84.8	73.0-127	
(S) Toluene-d8			*89.3*	*75.0-131*	
(S) 4-Bromofluorobenzene			*99.1*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*109*	*70.0-130*	

L1488354-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488354-01 05/05/22 21:02 • (MS) R3789373-3 05/05/22 22:01 • (MSD) R3789373-4 05/05/22 22:21

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	10.0	54.5	54.2	55.9	0.000	14.0	80	10.0-149	V		3.09	37
Toluene	10.0	403	359	396	0.000	0.000	80	10.0-156	E V	E V	9.80	38
Ethylbenzene	10.0	37.6	40.1	42.0	25.0	44.0	80	10.0-160			4.63	38
Xylenes, Total	30.0	580	516	573	0.000	0.000	80	10.0-160	V	V	10.5	38
1,2,4-Trimethylbenzene	10.0	90.2	82.2	80.6	0.000	0.000	80	10.0-160	V	V	1.97	36
1,3,5-Trimethylbenzene	10.0	91.1	81.0	81.3	0.000	0.000	80	10.0-160	V	V	0.370	38
(S) Toluene-d8					*91.3*	*92.9*		*75.0-131*				
(S) 4-Bromofluorobenzene					*108*	*112*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*108*	*111*		*70.0-130*				

Method Blank (MB)

(MB) R3789163-1 05/06/22 15:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.523	J	0.274	4.00
(S) o-Terphenyl	*73.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3789163-3 05/06/22 15:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.2	76.4	50.0-150	
(S) o-Terphenyl			*90.8*	*18.0-148*	

L1488204-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488204-03 05/06/22 17:05 • (MS) R3789163-4 05/06/22 18:00 • (MSD) R3789163-2 05/06/22 18:13

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 %
C10-C28 Diesel Range	49.4	118	148	2740	60.7	5330	5	50.0-150		E J3 J5	180	20
(S) o-Terphenyl					*51.2*	*0.000*		*18.0-148*		J2		

Method Blank (MB)

(MB) R3788904-1 05/06/22 10:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	*52.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3788904-2 05/06/22 10:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	30.1	60.2	50.0-150	
(S) o-Terphenyl			*60.4*	*18.0-148*	

L1488356-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488356-04 05/06/22 13:01 • (MS) R3788904-3 05/06/22 13:14 • (MSD) R3788904-4 05/06/22 13:27

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 %
C10-C28 Diesel Range	50.0	ND	29.4	43.0	58.8	89.0	1	50.0-150		J3	37.6	20
(S) o-Terphenyl					*55.9*	*62.0*		*18.0-148*				

Method Blank (MB)

(MB) R3789046-2 05/05/22 23:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	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
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	*120*			*23.0-120*
(S) Nitrobenzene-d5	*99.5*			*14.0-149*
(S) 2-Fluorobiphenyl	*101*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R3789046-1 05/05/22 23:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0731	91.4	50.0-120	
Anthracene	0.0800	0.0723	90.4	50.0-126	
Benzo(a)anthracene	0.0800	0.0729	91.1	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0726	90.8	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0719	89.9	49.0-125	
Benzo(a)pyrene	0.0800	0.0683	85.4	42.0-120	
Chrysene	0.0800	0.0723	90.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0731	91.4	47.0-125	
Fluoranthene	0.0800	0.0728	91.0	49.0-129	
Fluorene	0.0800	0.0740	92.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0743	92.9	46.0-125	
1-Methylnaphthalene	0.0800	0.0752	94.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0730	91.3	50.0-120	
Naphthalene	0.0800	0.0731	91.4	50.0-120	
Pyrene	0.0800	0.0700	87.5	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3789046-1 05/05/22 23:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*110*	*23.0-120*	
(S) Nitrobenzene-d5			*97.5*	*14.0-149*	
(S) 2-Fluorobiphenyl			*96.5*	*34.0-125*	

L1488328-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488328-25 05/05/22 23:41 • (MS) R3789046-3 05/06/22 00:01 • (MSD) R3789046-4 05/06/22 00:21

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 %
Acenaphthene	0.0800	ND	0.0648	0.0580	81.0	72.5	1	14.0-127			11.1	27
Anthracene	0.0800	ND	0.0645	0.0594	80.6	74.3	1	10.0-145			8.23	30
Benzo(a)anthracene	0.0800	ND	0.0643	0.0632	80.4	79.0	1	10.0-139			1.73	30
Benzo(b)fluoranthene	0.0800	ND	0.0588	0.0587	73.5	73.4	1	10.0-140			0.170	36
Benzo(k)fluoranthene	0.0800	ND	0.0548	0.0547	68.5	68.4	1	10.0-137			0.183	31
Benzo(a)pyrene	0.0800	ND	0.0564	0.0587	70.5	73.4	1	10.0-141			4.00	31
Chrysene	0.0800	ND	0.0635	0.0601	79.4	75.1	1	10.0-145			5.50	30
Dibenz(a,h)anthracene	0.0800	ND	0.0539	0.0563	67.4	70.4	1	10.0-132			4.36	31
Fluoranthene	0.0800	ND	0.0643	0.0617	80.4	77.1	1	10.0-153			4.13	33
Fluorene	0.0800	ND	0.0653	0.0595	81.6	74.4	1	11.0-130			9.29	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0547	0.0601	68.4	75.1	1	10.0-137			9.41	32
1-Methylnaphthalene	0.0800	ND	0.0673	0.0611	84.1	76.4	1	10.0-142			9.66	28
2-Methylnaphthalene	0.0800	ND	0.0660	0.0593	82.5	74.1	1	10.0-137			10.7	28
Naphthalene	0.0800	ND	0.0661	0.0596	82.6	74.5	1	10.0-135			10.3	27
Pyrene	0.0800	ND	0.0599	0.0574	74.9	71.8	1	10.0-148			4.26	35
(S) p-Terphenyl-d14					*94.8*	*88.6*		*23.0-120*				
(S) Nitrobenzene-d5					*88.0*	*79.7*		*14.0-149*				
(S) 2-Fluorobiphenyl					*86.3*	*78.8*		*34.0-125*				

GLOSSARY OF TERMS

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
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
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

* 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 Analytical.

Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Company: Caerus Oil and Gas LLC

Address: Info on file

Billing Information: Info on file

Report To: Jake Janicek, Brett Middleton, Blair Rollins

Email To: brollins@caerusoilandgas.com; bmiddleton@caerusoilandgas.com

Copy To: Chris McKisson, remediation@confluence-cc.com

Site Collection Info/Address:

Customer Project Name/Number: Garden Gulch 8" Water Line Release

State: CO / County/City: Garfield / Time Zone Collected: [ ]PT [X]MT [ ]CT [ ]ET

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Phone:

Email:

Site/Facility ID #: Latham Laydown Yard

Compliance Monitoring? [ ] Yes [X] No

Collected By (print): Alex Slorby

Purchase Order # :

Quote #:

DW PWS ID #:

DW Location Code:

Collected By (signature): Alex Slorby

Turnaround Date Required: Standard 5-day

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate
[ ] Return
[ ] Archive: _____
[ ] Hold: _____

Rush: (Expedite Charges Apply)
[ ] Same Day [ ] Next Day
[ ] 2 Day [ ] 3 Day
[ ] 4 Day [ ] 5 Day

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Container Type: Plastic (P) or Glass (G)	Table 915-1 VOCs	TPH (ORO, GRO, DRO)	Table 915-1 Metal's	Table 915-1 PAHs	EC, SAR, Arsenic	Boron (Hot Water Soluble Soil)	Lab Sample # / Comments
20220428-Garden_Gulch_8"-SILT_TRAP_1@1'	SL	G	4/28/2022	0855				2	G	X	X	X	X	X	X	L1488352 -01
20220428-Garden_Gulch_8"-SILT_TRAP_2@1'	SL	G	4/28/2022	0910				2	G	X	X	X	X	X	X	-02
20220428-Garden_Gulch_8"-SILT_TRAP_3@1'	SL	G	4/28/2022	0925				2	G	X	X	X	X	X	X	-03
20220428-Garden_Gulch_8"-SILT_TRAP_4@1'	SL	G	4/28/2022	0940				2	G	X	X	X	X	X	X	-04
20220428-Garden_Gulch_8"-SILT_TRAP_5@1'	SL	G	4/28/2022	1000				2	G	X	X	X	X	X	X	-05

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 5433 8384 0903

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y (N) NA
Therm ID#: SAIA6
Cooler 1 Temp Upon Receipt: 3.8 oC
Cooler 1 Therm Corr. Factor: ___ oC
Cooler 1 Corrected Temp: ___ oC
Comments:

E079

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Alex Slorby	4/29/2022 1200		4/29 1200
	4/29 1330		
			04/30/22 0900

Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____