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ANALYTICAL REPORT

October 18, 2019

Caerus Oil and Gas

Sample Delivery Group:	L1149073
Samples Received:	10/11/2019
Project Number:	050819022
Description:	K10-596 Gas Lift Release

Report To: Brett Middleton
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager

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20191009-K10 (N WALL)@11' L1149073-01 Solid

Collected by | Collected date/time 10/09/19 16:30 | Received date/time 10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1362697	1	10/16/19 21:56	10/16/19 21:56	EL	Mt. Juliet, TN
Calculated Results	WG1362953	1	10/15/19 16:54	10/16/19 14:23	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1361793	1	10/12/19 10:13	10/12/19 23:00	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1361953	1	10/12/19 15:00	10/12/19 19:47	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1362887	1	10/15/19 18:43	10/15/19 21:11	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1363108	1	10/15/19 10:50	10/15/19 21:58	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1362953	1	10/15/19 16:54	10/16/19 14:23	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362552	5000	10/12/19 09:01	10/14/19 21:22	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1364858	400	10/12/19 09:01	10/18/19 02:36	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1363762	10	10/16/19 12:27	10/16/19 21:09	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1364022	1	10/16/19 21:31	10/18/19 03:26	AAT	Mt. Juliet, TN

20191009-K10 (SWALL)@9' L1149073-02 Solid

Collected by | Collected date/time 10/09/19 16:40 | Received date/time 10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1362697	1	10/16/19 21:59	10/16/19 21:59	EL	Mt. Juliet, TN
Calculated Results	WG1362953	1	10/15/19 16:54	10/16/19 14:25	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1361796	1	10/13/19 12:29	10/13/19 20:30	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1361953	1	10/12/19 15:00	10/12/19 19:47	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1362887	1	10/15/19 18:43	10/15/19 21:11	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1363108	1	10/15/19 10:50	10/15/19 22:00	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1362953	1	10/15/19 16:54	10/16/19 14:25	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362552	1000	10/12/19 09:01	10/14/19 20:58	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1364858	80	10/12/19 09:01	10/18/19 02:16	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1363762	10	10/16/19 12:27	10/16/19 22:02	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1364022	1	10/16/19 21:31	10/18/19 03:47	AAT	Mt. Juliet, TN

20191009-K10 (EWALL)@10' L1149073-03 Solid

Collected by | Collected date/time 10/09/19 16:20 | Received date/time 10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1362697	1	10/16/19 22:07	10/16/19 22:07	EL	Mt. Juliet, TN
Calculated Results	WG1362953	1	10/15/19 16:54	10/16/19 14:33	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1361796	1	10/13/19 12:29	10/13/19 20:31	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1361953	1	10/12/19 15:00	10/12/19 19:47	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1362887	1	10/15/19 18:43	10/15/19 21:11	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1363108	1	10/15/19 10:50	10/15/19 22:02	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1362953	1	10/15/19 16:54	10/16/19 14:33	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362552	250	10/12/19 09:01	10/14/19 20:11	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1364858	20	10/12/19 09:01	10/18/19 01:34	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1363762	10	10/16/19 12:27	10/16/19 22:15	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1364022	1	10/16/19 21:31	10/18/19 04:08	AAT	Mt. Juliet, TN

20191009-K10 (WWALL)@9' L1149073-04 Solid

Collected by | Collected date/time 10/09/19 16:25 | Received date/time 10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1362697	1	10/16/19 22:10	10/16/19 22:10	EL	Mt. Juliet, TN
Calculated Results	WG1362953	1	10/15/19 16:54	10/16/19 14:36	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1361796	1	10/13/19 12:29	10/13/19 20:33	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1361953	1	10/12/19 15:00	10/12/19 19:47	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1362887	1	10/15/19 18:43	10/15/19 21:11	AKA	Mt. Juliet, TN

20191009-K10 (WWALL)@9' L1149073-04 Solid

Collected by	Collected date/time	Received date/time
	10/09/19 16:25	10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Mercury by Method 7471A	WG1363108	1	10/15/19 10:50	10/15/19 22:05	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1362953	1	10/15/19 16:54	10/16/19 14:36	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362552	500	10/12/19 09:01	10/14/19 20:34	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1364858	40	10/12/19 09:01	10/18/19 01:55	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1363762	5	10/16/19 12:27	10/16/19 20:55	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1364022	1	10/16/19 21:31	10/18/19 04:29	AAT	Mt. Juliet, TN

20191009-K10 (BOTTOM)@13' L1149073-05 Solid

Collected by	Collected date/time	Received date/time
	10/09/19 15:30	10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG1362697	1	10/16/19 22:13	10/16/19 22:13	EL	Mt. Juliet, TN
Calculated Results	WG1362953	1	10/15/19 16:54	10/16/19 14:39	EL	Mt. Juliet, TN
Wet Chemistry by Method 3060A/7196A	WG1361796	1	10/13/19 12:29	10/13/19 20:33	ANP	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1361953	1	10/12/19 15:00	10/12/19 19:47	MSP	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG1362887	1	10/15/19 18:43	10/15/19 21:11	AKA	Mt. Juliet, TN
Mercury by Method 7471A	WG1363108	1	10/15/19 10:50	10/15/19 22:07	TCT	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1362953	1	10/15/19 16:54	10/16/19 14:39	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1362552	5000	10/12/19 09:01	10/14/19 21:45	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1364858	400	10/12/19 09:01	10/18/19 02:56	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1363762	10	10/16/19 12:27	10/16/19 21:48	KME	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1364022	1	10/16/19 21:31	10/18/19 04:50	AAT	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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.735		1	10/16/2019 21:56	WG1362697

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	17.7		1.00	1	10/16/2019 14:23	WG1362953

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/12/2019 23:00	WG1361793

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.23	T8	1	10/12/2019 19:47	WG1361953

Sample Narrative:

L1149073-01 WG1361953: 8.23 at 20.4C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	288		10.0	1	10/15/2019 21:11	WG1362887

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	10/15/2019 21:58	WG1363108

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.8		2.00	1	10/16/2019 14:23	WG1362953
Barium	245		0.500	1	10/16/2019 14:23	WG1362953
Cadmium	ND		0.500	1	10/16/2019 14:23	WG1362953
Chromium	17.7		1.00	1	10/16/2019 14:23	WG1362953
Copper	14.2		2.00	1	10/16/2019 14:23	WG1362953
Lead	9.46		0.500	1	10/16/2019 14:23	WG1362953
Nickel	14.5		2.00	1	10/16/2019 14:23	WG1362953
Selenium	ND		2.00	1	10/16/2019 14:23	WG1362953
Silver	ND		1.00	1	10/16/2019 14:23	WG1362953
Zinc	35.9		5.00	1	10/16/2019 14:23	WG1362953

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	6410		500	5000	10/14/2019 21:22	WG1362552
(S) a,a,a-Trifluorotoluene(FID)	*95.8*		*77.0-120*		*10/14/2019 21:22*	WG1362552

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	6.06		0.400	400	10/18/2019 02:36	WG1364858
Toluene	106		2.00	400	10/18/2019 02:36	WG1364858
Ethylbenzene	14.3		1.00	400	10/18/2019 02:36	WG1364858
Total Xylenes	146		2.60	400	10/18/2019 02:36	WG1364858
(S) Toluene-d8	*101*		*75.0-131*		*10/18/2019 02:36*	WG1364858
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*10/18/2019 02:36*	WG1364858
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*10/18/2019 02:36*	WG1364858

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	694	V	40.0	10	10/16/2019 21:09	WG1363762
(S) o-Terphenyl	*139*		*18.0-148*		*10/16/2019 21:09*	WG1363762

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	10/18/2019 03:26	WG1364022
Acenaphthene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Acenaphthylene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Benzo(a)anthracene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Benzo(a)pyrene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Benzo(b)fluoranthene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Benzo(g,h,i)perylene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Benzo(k)fluoranthene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Chrysene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Dibenz(a,h)anthracene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Fluoranthene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Fluorene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Naphthalene	0.0768		0.0200	1	10/18/2019 03:26	WG1364022
Phenanthrene	ND		0.00600	1	10/18/2019 03:26	WG1364022
Pyrene	ND		0.00600	1	10/18/2019 03:26	WG1364022
1-Methylnaphthalene	ND		0.0200	1	10/18/2019 03:26	WG1364022
2-Methylnaphthalene	0.0345		0.0200	1	10/18/2019 03:26	WG1364022
2-Chloronaphthalene	ND		0.0200	1	10/18/2019 03:26	WG1364022
(S) p-Terphenyl-d14	*55.7*		*23.0-120*		*10/18/2019 03:26*	WG1364022
(S) Nitrobenzene-d5	*348*	J1	*14.0-149*		*10/18/2019 03:26*	WG1364022
(S) 2-Fluorobiphenyl	*58.9*		*34.0-125*		*10/18/2019 03:26*	WG1364022

Sample Narrative:

L1149073-01 WG1364022: Surrogate failure due to matrix interference

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.744		1	10/16/2019 21:59	WG1362697

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	22.4		1.00	1	10/16/2019 14:25	WG1362953

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/13/2019 20:30	WG1361796

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.42	T8	1	10/12/2019 19:47	WG1361953

Sample Narrative:

L1149073-02 WG1361953: 8.42 at 19.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	321		10.0	1	10/15/2019 21:11	WG1362887

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	10/15/2019 22:00	WG1363108

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.33		2.00	1	10/16/2019 14:25	WG1362953
Barium	1180		0.500	1	10/16/2019 14:25	WG1362953
Cadmium	ND		0.500	1	10/16/2019 14:25	WG1362953
Chromium	22.4		1.00	1	10/16/2019 14:25	WG1362953
Copper	14.4		2.00	1	10/16/2019 14:25	WG1362953
Lead	10.8		0.500	1	10/16/2019 14:25	WG1362953
Nickel	15.6		2.00	1	10/16/2019 14:25	WG1362953
Selenium	ND		2.00	1	10/16/2019 14:25	WG1362953
Silver	ND		1.00	1	10/16/2019 14:25	WG1362953
Zinc	44.0		5.00	1	10/16/2019 14:25	WG1362953

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	1080		100	1000	10/14/2019 20:58	WG1362552
(S) a,a,a-Trifluorotoluene(FID)	*95.3*		*77.0-120*		*10/14/2019 20:58*	WG1362552

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	1.53		0.0800	80	10/18/2019 02:16	WG1364858
Toluene	19.6		0.400	80	10/18/2019 02:16	WG1364858
Ethylbenzene	1.92		0.200	80	10/18/2019 02:16	WG1364858
Total Xylenes	22.2		0.520	80	10/18/2019 02:16	WG1364858
(S) Toluene-d8	*99.1*		*75.0-131*		*10/18/2019 02:16*	WG1364858
(S) 4-Bromofluorobenzene	*99.4*		*67.0-138*		*10/18/2019 02:16*	WG1364858
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*10/18/2019 02:16*	WG1364858

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	108		40.0	10	10/16/2019 22:02	WG1363762
(S) o-Terphenyl	*120*		*18.0-148*		*10/16/2019 22:02*	WG1363762

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	10/18/2019 03:47	WG1364022
Acenaphthene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Acenaphthylene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Benzo(a)anthracene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Benzo(a)pyrene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Benzo(b)fluoranthene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Benzo(g,h,i)perylene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Benzo(k)fluoranthene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Chrysene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Dibenz(a,h)anthracene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Fluoranthene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Fluorene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Naphthalene	0.0301		0.0200	1	10/18/2019 03:47	WG1364022
Phenanthrene	ND		0.00600	1	10/18/2019 03:47	WG1364022
Pyrene	ND		0.00600	1	10/18/2019 03:47	WG1364022
1-Methylnaphthalene	ND		0.0200	1	10/18/2019 03:47	WG1364022
2-Methylnaphthalene	ND		0.0200	1	10/18/2019 03:47	WG1364022
2-Chloronaphthalene	ND		0.0200	1	10/18/2019 03:47	WG1364022
(S) p-Terphenyl-d14	*70.5*		*23.0-120*		*10/18/2019 03:47*	WG1364022
(S) Nitrobenzene-d5	*66.7*		*14.0-149*		*10/18/2019 03:47*	WG1364022
(S) 2-Fluorobiphenyl	*79.2*		*34.0-125*		*10/18/2019 03:47*	WG1364022

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.696		1	10/16/2019 22:07	WG1362697

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	12.3		1.00	1	10/16/2019 14:33	WG1362953

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	6.69		2.00	1	10/13/2019 20:31	WG1361796

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.08	T8	1	10/12/2019 19:47	WG1361953

Sample Narrative:

L1149073-03 WG1361953: 8.08 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	383		10.0	1	10/15/2019 21:11	WG1362887

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0300	1	10/15/2019 22:02	WG1363108

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	12.8		2.00	1	10/16/2019 14:33	WG1362953
Barium	223		0.500	1	10/16/2019 14:33	WG1362953
Cadmium	ND		0.500	1	10/16/2019 14:33	WG1362953
Chromium	19.0		1.00	1	10/16/2019 14:33	WG1362953
Copper	16.1		2.00	1	10/16/2019 14:33	WG1362953
Lead	10.7		0.500	1	10/16/2019 14:33	WG1362953
Nickel	16.7		2.00	1	10/16/2019 14:33	WG1362953
Selenium	ND		2.00	1	10/16/2019 14:33	WG1362953
Silver	ND		1.00	1	10/16/2019 14:33	WG1362953
Zinc	41.0		5.00	1	10/16/2019 14:33	WG1362953

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	1820		25.0	250	10/14/2019 20:11	WG1362552
(S) a,a,a-Trifluorotoluene(FID)	*91.3*		*77.0-120*		*10/14/2019 20:11*	WG1362552

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	2.49		0.0200	20	10/18/2019 01:34	WG1364858
Toluene	25.3		0.100	20	10/18/2019 01:34	WG1364858
Ethylbenzene	2.16		0.0500	20	10/18/2019 01:34	WG1364858
Total Xylenes	21.7		0.130	20	10/18/2019 01:34	WG1364858
(S) Toluene-d8	*101*		*75.0-131*		*10/18/2019 01:34*	WG1364858
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*10/18/2019 01:34*	WG1364858
(S) 1,2-Dichloroethane-d4	*109*		*70.0-130*		*10/18/2019 01:34*	WG1364858

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	74.9		40.0	10	10/16/2019 22:15	WG1363762
(S) o-Terphenyl	*114*		*18.0-148*		*10/16/2019 22:15*	WG1363762

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	10/18/2019 04:08	WG1364022
Acenaphthene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Acenaphthylene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Benzo(a)anthracene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Benzo(a)pyrene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Benzo(b)fluoranthene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Benzo(g,h,i)perylene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Benzo(k)fluoranthene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Chrysene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Dibenz(a,h)anthracene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Fluoranthene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Fluorene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Naphthalene	ND		0.0200	1	10/18/2019 04:08	WG1364022
Phenanthrene	ND		0.00600	1	10/18/2019 04:08	WG1364022
Pyrene	ND		0.00600	1	10/18/2019 04:08	WG1364022
1-Methylnaphthalene	ND		0.0200	1	10/18/2019 04:08	WG1364022
2-Methylnaphthalene	ND		0.0200	1	10/18/2019 04:08	WG1364022
2-Chloronaphthalene	ND		0.0200	1	10/18/2019 04:08	WG1364022
(S) p-Terphenyl-d14	*71.4*		*23.0-120*		*10/18/2019 04:08*	WG1364022
(S) Nitrobenzene-d5	*209*	J1	*14.0-149*		*10/18/2019 04:08*	WG1364022
(S) 2-Fluorobiphenyl	*81.2*		*34.0-125*		*10/18/2019 04:08*	WG1364022

Sample Narrative:

L1149073-03 WG1364022: Surrogate failure due to matrix interference

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.00		1	10/16/2019 22:10	WG1362697

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	14.8		1.00	1	10/16/2019 14:36	WG1362953

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/13/2019 20:33	WG1361796

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10	T8	1	10/12/2019 19:47	WG1361953

Sample Narrative:

L1149073-04 WG1361953: 8.1 at 20C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	364		10.0	1	10/15/2019 21:11	WG1362887

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.112		0.0300	1	10/15/2019 22:05	WG1363108

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.15		2.00	1	10/16/2019 14:36	WG1362953
Barium	155		0.500	1	10/16/2019 14:36	WG1362953
Cadmium	ND		0.500	1	10/16/2019 14:36	WG1362953
Chromium	14.8		1.00	1	10/16/2019 14:36	WG1362953
Copper	12.5		2.00	1	10/16/2019 14:36	WG1362953
Lead	8.08		0.500	1	10/16/2019 14:36	WG1362953
Nickel	11.8		2.00	1	10/16/2019 14:36	WG1362953
Selenium	ND		2.00	1	10/16/2019 14:36	WG1362953
Silver	ND		1.00	1	10/16/2019 14:36	WG1362953
Zinc	33.2		5.00	1	10/16/2019 14:36	WG1362953

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	1090		50.0	500	10/14/2019 20:34	WG1362552
(S) a,a,a-Trifluorotoluene(FID)	*95.6*		*77.0-120*		*10/14/2019 20:34*	WG1362552

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	1.20		0.0400	40	10/18/2019 01:55	WG1364858
Toluene	15.5		0.200	40	10/18/2019 01:55	WG1364858
Ethylbenzene	1.01		0.100	40	10/18/2019 01:55	WG1364858
Total Xylenes	28.3		0.260	40	10/18/2019 01:55	WG1364858
(S) Toluene-d8	*102*		*75.0-131*		*10/18/2019 01:55*	WG1364858
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*10/18/2019 01:55*	WG1364858
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*10/18/2019 01:55*	WG1364858

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	115		20.0	5	10/16/2019 20:55	WG1363762
(S) o-Terphenyl	*59.0*		*18.0-148*		*10/16/2019 20:55*	WG1363762

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	10/18/2019 04:29	WG1364022
Acenaphthene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Acenaphthylene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Benzo(a)anthracene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Benzo(a)pyrene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Benzo(b)fluoranthene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Benzo(g,h,i)perylene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Benzo(k)fluoranthene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Chrysene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Dibenz(a,h)anthracene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Fluoranthene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Fluorene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Naphthalene	ND		0.0200	1	10/18/2019 04:29	WG1364022
Phenanthrene	ND		0.00600	1	10/18/2019 04:29	WG1364022
Pyrene	ND		0.00600	1	10/18/2019 04:29	WG1364022
1-Methylnaphthalene	ND		0.0200	1	10/18/2019 04:29	WG1364022
2-Methylnaphthalene	ND		0.0200	1	10/18/2019 04:29	WG1364022
2-Chloronaphthalene	ND		0.0200	1	10/18/2019 04:29	WG1364022
(S) p-Terphenyl-d14	*72.7*		*23.0-120*		*10/18/2019 04:29*	WG1364022
(S) Nitrobenzene-d5	*132*		*14.0-149*		*10/18/2019 04:29*	WG1364022
(S) 2-Fluorobiphenyl	*81.9*		*34.0-125*		*10/18/2019 04:29*	WG1364022

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.728		1	10/16/2019 22:13	WG1362697

Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Trivalent	19.0		1.00	1	10/16/2019 14:39	WG1362953

Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/13/2019 20:33	WG1361796

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.57	T8	1	10/12/2019 19:47	WG1361953

Sample Narrative:

L1149073-05 WG1361953: 8.57 at 20.2C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	200		10.0	1	10/15/2019 21:11	WG1362887

Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0409		0.0300	1	10/15/2019 22:07	WG1363108

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.91		2.00	1	10/16/2019 14:39	WG1362953
Barium	234		0.500	1	10/16/2019 14:39	WG1362953
Cadmium	ND		0.500	1	10/16/2019 14:39	WG1362953
Chromium	19.0		1.00	1	10/16/2019 14:39	WG1362953
Copper	13.6		2.00	1	10/16/2019 14:39	WG1362953
Lead	9.05		0.500	1	10/16/2019 14:39	WG1362953
Nickel	14.2		2.00	1	10/16/2019 14:39	WG1362953
Selenium	ND		2.00	1	10/16/2019 14:39	WG1362953
Silver	ND		1.00	1	10/16/2019 14:39	WG1362953
Zinc	39.6		5.00	1	10/16/2019 14:39	WG1362953

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	6340		500	5000	10/14/2019 21:45	WG1362552
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*77.0-120*		*10/14/2019 21:45*	WG1362552

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	10.7		0.400	400	10/18/2019 02:56	WG1364858
Toluene	188		2.00	400	10/18/2019 02:56	WG1364858
Ethylbenzene	19.1		1.00	400	10/18/2019 02:56	WG1364858
Total Xylenes	194		2.60	400	10/18/2019 02:56	WG1364858
(S) Toluene-d8	*101*		*75.0-131*		*10/18/2019 02:56*	WG1364858
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*10/18/2019 02:56*	WG1364858
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*10/18/2019 02:56*	WG1364858

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	397		40.0	10	10/16/2019 21:48	WG1363762
(S) o-Terphenyl	*141*		*18.0-148*		*10/16/2019 21:48*	WG1363762

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	10/18/2019 04:50	WG1364022
Acenaphthene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Acenaphthylene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Benzo(a)anthracene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Benzo(a)pyrene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Benzo(b)fluoranthene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Benzo(g,h,i)perylene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Benzo(k)fluoranthene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Chrysene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Dibenz(a,h)anthracene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Fluoranthene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Fluorene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Naphthalene	0.122		0.0200	1	10/18/2019 04:50	WG1364022
Phenanthrene	ND		0.00600	1	10/18/2019 04:50	WG1364022
Pyrene	ND		0.00600	1	10/18/2019 04:50	WG1364022
1-Methylnaphthalene	ND		0.0200	1	10/18/2019 04:50	WG1364022
2-Methylnaphthalene	0.0552		0.0200	1	10/18/2019 04:50	WG1364022
2-Chloronaphthalene	ND		0.0200	1	10/18/2019 04:50	WG1364022
(S) p-Terphenyl-d14	*73.7*		*23.0-120*		*10/18/2019 04:50*	WG1364022
(S) Nitrobenzene-d5	*337*	J1	*14.0-149*		*10/18/2019 04:50*	WG1364022
(S) 2-Fluorobiphenyl	*85.4*		*34.0-125*		*10/18/2019 04:50*	WG1364022

Sample Narrative:

L1149073-05 WG1364022: Surrogate failure due to matrix interference

Method Blank (MB)

(MB) R3460448-1 10/12/19 22:47

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

L1148616-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1148616-02 10/12/19 22:51 • (DUP) R3460448-3 10/12/19 22:51

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

L1149042-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1149042-05 10/12/19 22:53 • (DUP) R3460448-4 10/12/19 22:54

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	2.53	2.64	1	4.12		20

Laboratory Control Sample (LCS)

(LCS) R3460448-2 10/12/19 22:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	25.0	104	80.0-120	

L1149042-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149042-07 10/12/19 22:55 • (MS) R3460448-5 10/12/19 22:58 • (MSD) R3460448-6 10/12/19 22:58

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	20.0	ND	9.65	9.37	42.9	41.5	1	75.0-125	J6	J6	2.92	20

Sample Narrative:

OS: Sample is a reducer

MS: Sample is a reducer

L1149042-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1149042-07 10/12/19 22:55 • (MS) R3460448-7 10/12/19 22:59

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	651	ND	463	71.1	50	75.0-125	J6

Sample Narrative:

OS: Sample is a reducer

MS: Sample is a reducer

Method Blank (MB)

(MB) R3460575-1 10/13/19 20:27

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

L1149159-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1149159-01 10/13/19 20:34 • (DUP) R3460575-3 10/13/19 20:38

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

L1149263-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1149263-07 10/13/19 21:01 • (DUP) R3460575-7 10/13/19 21:01

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

Laboratory Control Sample (LCS)

(LCS) R3460575-2 10/13/19 20:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	24.0	23.5	97.8	80.0-120	

L1149263-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149263-04 10/13/19 20:56 • (MS) R3460575-8 10/13/19 21:11 • (MSD) R3460575-4 10/13/19 20:57

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 %
Chromium,Hexavalent	20.0	ND	15.2	15.3	76.1	76.3	1	75.0-125			0.243	20

L1149263-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1149263-04 10/13/19 20:56 • (MS) R3460575-5 10/13/19 20:58

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chromium,Hexavalent	650	ND	815	125	50	75.0-125	

L1149073-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1149073-05 10/12/19 19:47 • (DUP) R3460442-3 10/12/19 19:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.57	8.58	1	0.117		1

Sample Narrative:

OS: 8.57 at 20.2C

DUP: 8.58 at 19.8C

Laboratory Control Sample (LCS)

(LCS) R3460442-1 10/12/19 19:47

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

Sample Narrative:

LCS: 10 at 19.2C

Method Blank (MB)

(MB) R3461371-1 10/15/19 21:11

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

L1148798-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1148798-06 10/15/19 21:11 • (DUP) R3461371-3 10/15/19 21:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	umhos/cm	umhos/cm		%		%
Specific Conductance	888	885	1	0.338		20

L1149158-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1149158-02 10/15/19 21:11 • (DUP) R3461371-4 10/15/19 21:11

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	umhos/cm	umhos/cm		%		%
Specific Conductance	523	523	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3461371-2 10/15/19 21:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	umhos/cm	umhos/cm	%	%	
Specific Conductance	393	394	100	85.0-115	

Method Blank (MB)

(MB) R3461393-1 10/15/19 21:35

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

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

(LCS) R3461393-2 10/15/19 21:39 • (LCSD) R3461393-3 10/15/19 21:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.485	0.512	97.0	102	80.0-120			5.35	20

L1149748-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149748-03 10/15/19 21:51 • (MS) R3461393-4 10/15/19 21:54 • (MSD) R3461393-5 10/15/19 21:56

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.500	0.0468	0.776	0.789	146	148	1	75.0-125	J5	J5	1.66	20

Method Blank (MB)

(MB) R3461841-1 10/16/19 13:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Zinc	1.19	J	0.590	5.00

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

(LCS) R3461841-2 10/16/19 13:34 • (LCSD) R3461841-3 10/16/19 13:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	91.6	91.0	91.6	91.0	80.0-120			0.741	20
Barium	100	99.2	98.2	99.2	98.2	80.0-120			1.03	20
Cadmium	100	93.1	92.1	93.1	92.1	80.0-120			0.999	20
Chromium	100	95.5	94.2	95.5	94.2	80.0-120			1.32	20
Copper	100	95.6	94.4	95.6	94.4	80.0-120			1.33	20
Lead	100	93.3	92.9	93.3	92.9	80.0-120			0.489	20
Nickel	100	95.8	94.7	95.8	94.7	80.0-120			1.19	20
Selenium	100	93.0	92.2	93.0	92.2	80.0-120			0.813	20
Silver	20.0	17.6	17.4	88.1	86.8	80.0-120			1.46	20
Zinc	100	95.0	93.8	95.0	93.8	80.0-120			1.26	20

L1149058-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149058-09 10/16/19 13:39 • (MS) R3461841-6 10/16/19 13:46 • (MSD) R3461841-7 10/16/19 13:49

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	3.45	87.8	82.3	84.4	78.8	1	75.0-125			6.53	20
Barium	100	31.4	120	119	89.0	88.0	1	75.0-125			0.812	20
Cadmium	100	ND	86.1	80.5	86.0	80.3	1	75.0-125			6.79	20
Chromium	100	4.17	91.0	84.7	86.8	80.6	1	75.0-125			7.14	20
Copper	100	2.76	91.0	84.6	88.3	81.9	1	75.0-125			7.30	20
Lead	100	3.23	90.8	84.7	87.6	81.4	1	75.0-125			6.97	20
Nickel	100	11.3	98.4	92.9	87.1	81.7	1	75.0-125			5.70	20

L1149058-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149058-09 10/16/19 13:39 • (MS) R3461841-6 10/16/19 13:46 • (MSD) R3461841-7 10/16/19 13:49

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 %
Selenium	100	ND	86.2	80.1	86.2	80.1	1	75.0-125			7.32	20
Silver	20.0	ND	16.3	14.9	81.3	74.4	1	75.0-125		J6	8.87	20
Zinc	100	16.0	99.6	94.9	83.6	78.9	1	75.0-125			4.86	20

Method Blank (MB)

(MB) R3460905-2 10/14/19 13:09

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)	*96.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3460905-1 10/14/19 12:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.01	91.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*102*	*77.0-120*	

L1149073-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149073-05 10/14/19 21:45 • (MS) R3460905-3 10/14/19 22:09 • (MSD) R3460905-4 10/14/19 22:33

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	27000	6340	31900	30500	94.7	89.5	5000	10.0-151			4.49	28
(S) a,a,a-Trifluorotoluene(FID)					*99.7*	*99.9*		*77.0-120*				

Method Blank (MB)

(MB) R3462453-3 10/17/19 17:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*103*			*75.0-131*
(S) 4-Bromofluorobenzene	*97.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.1*			*70.0-130*

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

(LCS) R3462453-1 10/17/19 16:00 • (LCSD) R3462453-2 10/17/19 16:20

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	0.134	106	107	70.0-123			0.749	20
Ethylbenzene	0.125	0.120	0.125	96.0	100	74.0-126			4.08	20
Toluene	0.125	0.113	0.118	90.4	94.4	75.0-121			4.33	20
Xylenes, Total	0.375	0.319	0.320	85.1	85.3	72.0-127			0.313	20
(S) Toluene-d8				*98.8*	*100*	*75.0-131*				
(S) 4-Bromofluorobenzene				*99.0*	*98.5*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*108*	*106*	*70.0-130*				

L1149071-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149071-01 10/18/19 00:53 • (MS) R3462453-4 10/18/19 03:17 • (MSD) R3462453-5 10/18/19 03:37

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	1.00	0.0640	1.58	1.48	152	142	8	10.0-149	J5		6.54	37
Ethylbenzene	1.00	ND	1.42	1.34	134	126	8	10.0-160			5.80	38
Toluene	1.00	ND	1.69	1.57	156	144	8	10.0-156			7.36	38
Xylenes, Total	3.00	ND	5.12	4.89	171	163	8	10.0-160	J5	J5	4.60	38
(S) Toluene-d8					*103*	*101*		*75.0-131*				
(S) 4-Bromofluorobenzene					*104*	*106*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*111*	*111*		*70.0-130*				

Method Blank (MB)

(MB) R3461837-1 10/16/19 16:38

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	*63.7*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3461837-2 10/16/19 16:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	35.4	70.8	50.0-150	
(S) o-Terphenyl			*68.9*	*18.0-148*	

L1149073-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149073-01 10/16/19 21:09 • (MS) R3461837-3 10/16/19 21:22 • (MSD) R3461837-4 10/16/19 21:35

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	47.8	694	685	672	0.000	0.000	10	50.0-150	V	V	1.92	20
(S) o-Terphenyl					*97.3*	*88.8*		*18.0-148*				

Method Blank (MB)

(MB) R3462561-2 10/17/19 19:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	*120*			*14.0-149*
(S) 2-Fluorobiphenyl	*89.4*			*34.0-125*
(S) p-Terphenyl-d14	*75.3*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3462561-1 10/17/19 18:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0655	81.9	50.0-126	
Acenaphthene	0.0800	0.0673	84.1	50.0-120	
Acenaphthylene	0.0800	0.0720	90.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0654	81.8	45.0-120	
Benzo(a)pyrene	0.0800	0.0515	64.4	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0552	69.0	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0576	72.0	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0593	74.1	49.0-125	
Chrysene	0.0800	0.0649	81.1	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0610	76.3	47.0-125	
Fluoranthene	0.0800	0.0691	86.4	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3462561-1 10/17/19 18:39

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0684	85.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0600	75.0	46.0-125	
Naphthalene	0.0800	0.0645	80.6	50.0-120	
Phenanthrene	0.0800	0.0647	80.9	47.0-120	
Pyrene	0.0800	0.0543	67.9	43.0-123	
1-Methylnaphthalene	0.0800	0.0780	97.5	51.0-121	
2-Methylnaphthalene	0.0800	0.0752	94.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0638	79.8	50.0-120	
(S) Nitrobenzene-d5			*131*	*14.0-149*	
(S) 2-Fluorobiphenyl			*86.5*	*34.0-125*	
(S) p-Terphenyl-d14			*67.5*	*23.0-120*	

L1149058-33 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1149058-33 10/17/19 21:49 • (MS) R3462561-3 10/17/19 22:10 • (MSD) R3462561-4 10/17/19 22:31

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	0.0764	ND	0.0649	0.0784	84.9	102	1	10.0-145			18.8	30
Acenaphthene	0.0764	ND	0.0699	0.0665	91.5	86.1	1	14.0-127			4.99	27
Acenaphthylene	0.0764	ND	0.0753	0.0687	98.6	89.0	1	21.0-124			9.17	25
Benzo(a)anthracene	0.0764	ND	0.0669	0.0642	87.6	83.2	1	10.0-139			4.12	30
Benzo(a)pyrene	0.0764	ND	0.0636	0.0622	83.2	80.6	1	10.0-141			2.23	31
Benzo(b)fluoranthene	0.0764	ND	0.0509	0.0579	66.6	75.0	1	10.0-140			12.9	36
Benzo(g,h,i)perylene	0.0764	ND	0.0573	0.0613	75.0	79.4	1	10.0-140			6.75	33
Benzo(k)fluoranthene	0.0764	ND	0.0586	0.0680	76.7	88.1	1	10.0-137			14.8	31
Chrysene	0.0764	ND	0.0673	0.0674	88.1	87.3	1	10.0-145			0.148	30
Dibenz(a,h)anthracene	0.0764	ND	0.0577	0.0627	75.5	81.2	1	10.0-132			8.31	31
Fluoranthene	0.0764	ND	0.0757	0.0828	99.1	107	1	10.0-153			8.96	33
Fluorene	0.0764	ND	0.0711	0.0747	93.1	96.8	1	11.0-130			4.94	29
Indeno(1,2,3-cd)pyrene	0.0764	ND	0.0573	0.0625	75.0	81.0	1	10.0-137			8.68	32
Naphthalene	0.0764	ND	0.0643	0.0665	84.2	86.1	1	10.0-135			3.36	27
Phenanthrene	0.0764	ND	0.0665	0.0681	87.0	88.2	1	10.0-144			2.38	31
Pyrene	0.0764	ND	0.0592	0.0610	77.5	79.0	1	10.0-148			3.00	35
1-Methylnaphthalene	0.0764	ND	0.0747	0.0732	97.8	94.8	1	10.0-142			2.03	28
2-Methylnaphthalene	0.0764	ND	0.0725	0.0708	94.9	91.7	1	10.0-137			2.37	28
2-Chloronaphthalene	0.0764	ND	0.0688	0.0646	90.1	83.7	1	29.0-120			6.30	24
(S) Nitrobenzene-d5					*121*	*123*		*14.0-149*				
(S) 2-Fluorobiphenyl					*97.6*	*98.0*		*34.0-125*				
(S) p-Terphenyl-d14					*76.5*	*79.8*		*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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

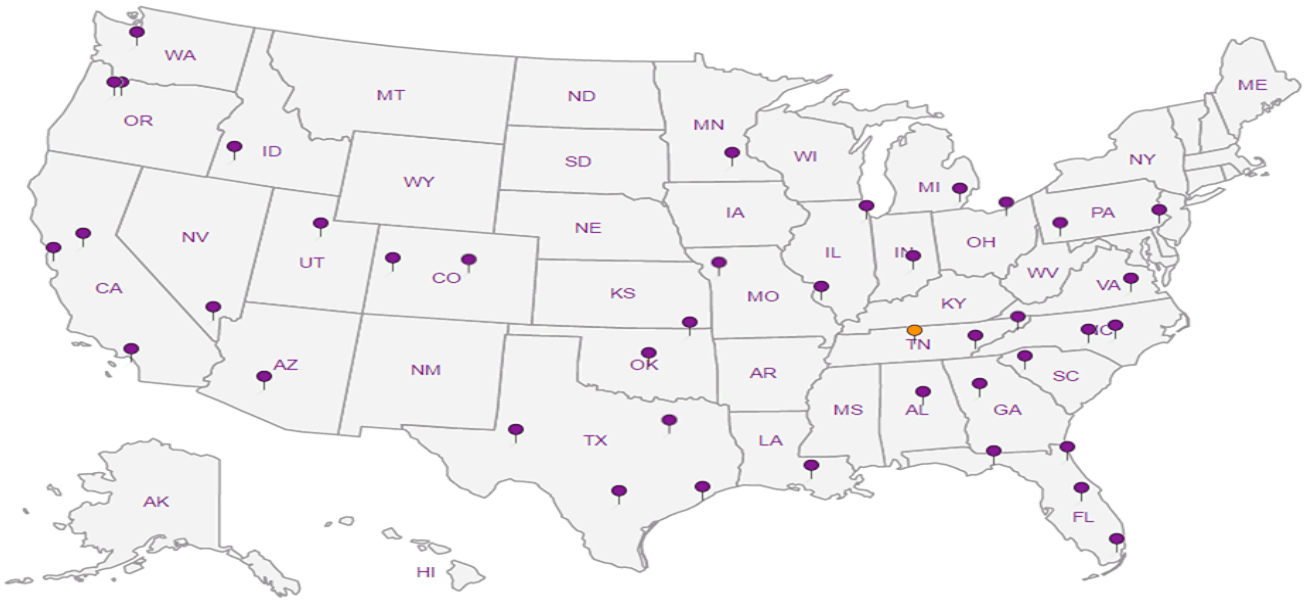
Third Party Federal Accreditations

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

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Documen[t]

H134

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately

Section A Required Client Information:
Company: Caerus Oil & Gas
Address: 143 Diamond Ave. Parachute, CO 81635
Email To: Brett Middleton & Jake Janicek
Phone: 970-285-2720 Fax:
Requested Due Date/TAT: Standard 5 day

Section B Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: K10-596 Gas Lift Release
Project Number: 050819022

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

Page: of

1690110

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location: K10-596
STATE: CO

Section D Required Client Information

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

1149073

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX	TPH (GRO/DRO)	EC/SAR/pH	Table 910 PAHs	Table 910 Metals							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	20191009-K10(NWALL)@11'	SL	G			10/9/19	1630		3	X									X	X	X	X	X								-01
2	20191009-K10(SWALL)@9'	SL	G			10/9/19	1640		3	X									X	X	X	X	X								02
3	20191009-K10 (EWALL)@10'	SL	G			10/9/19	1620		3	X									X	X	X	X	X								03
4	20191009-K10 (WWALL)@9'	SL	G			10/9/19	1625		3	X									X	X	X	X	X								04
5	20191009-K10 (BOTTOM)@13'	SL	G			10/9/19	1530		3	X									X	X	X	X	X								05
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Evan Mason	10/10/19	1300	[signature]						
	[signature]	10/10/19	1700	[signature]	10/11/19	0845	3.3			
							-.32		N	
							3.0			
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Evan Mason
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 10/10/19

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

RAD SCREEN: <0.5 mR/hr

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: ~~Cardinal Oil and Gas~~ CAERUSPCO	1149073	
Cooler Received/Opened On: 10/11/19 Temperature: 3.0		
Received By: Tanner Lv		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			