ANALYTICAL REPORT

February 28, 2023

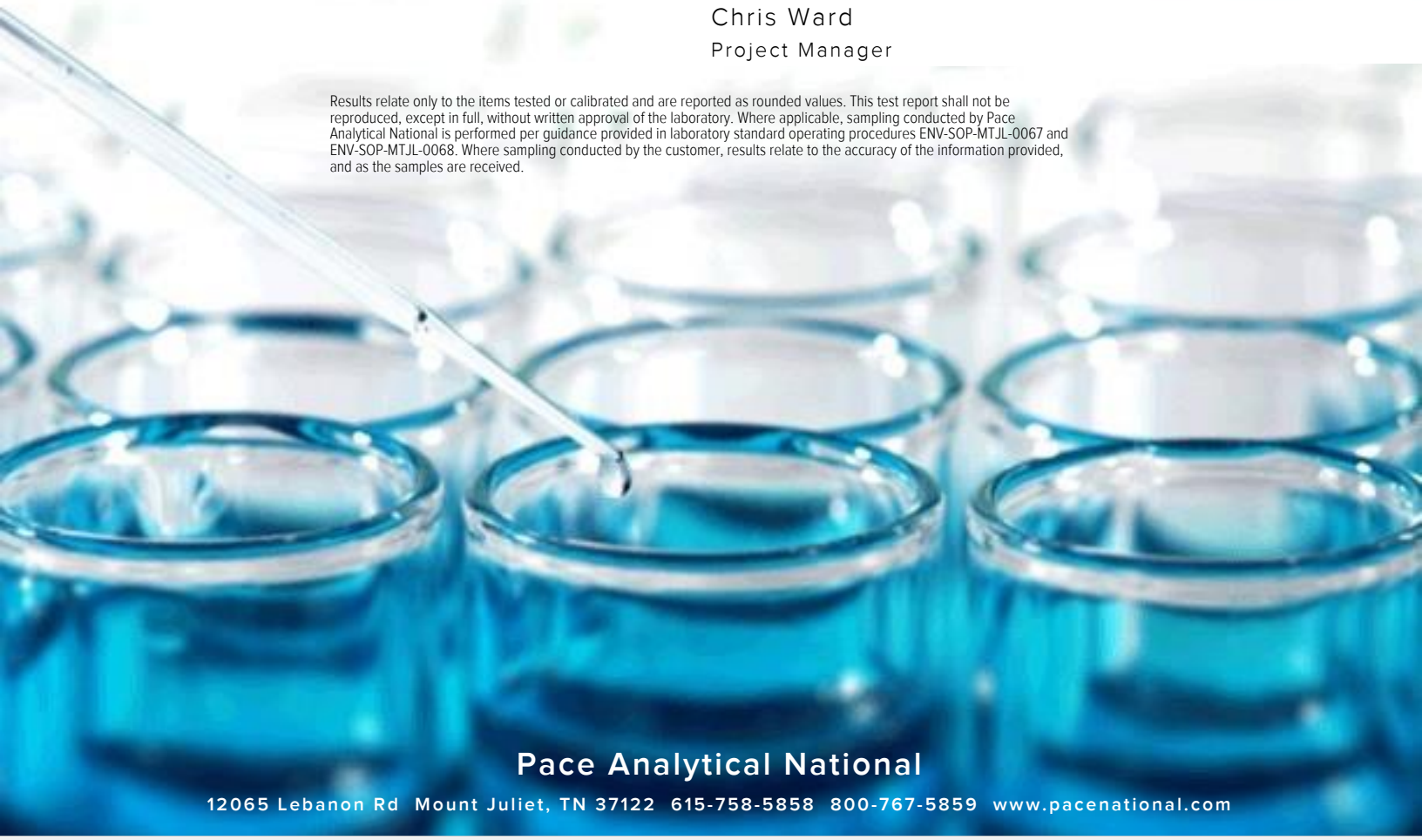
Caerus Oil and Gas

Sample Delivery Group:	L1588080
Samples Received:	02/22/2023
Project Number:	
Description:	909J

Report To: Blair Rollins
143 Diamond Avenue
Parachute, CO 81635

Entire Report Reviewed By:

Chris Ward
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

34C-TANK-WMFK L1588080-01 GW

Collected by: Will Harmon | Collected date/time: 02/21/23 11:40 | Received date/time: 02/22/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2011424	1	02/23/23 12:06	02/23/23 12:06	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2010238	1	02/23/23 12:49	02/23/23 12:49	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2012799	1	02/23/23 09:03	02/25/23 03:44	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2011241	1	02/22/23 22:27	02/22/23 22:27	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2011399	1	02/23/23 18:03	02/23/23 18:03	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	10	02/22/23 22:38	02/22/23 22:38	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	100	02/22/23 22:51	02/22/23 22:51	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2010818	10	02/23/23 10:00	02/24/23 11:54	SPL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2010818	20	02/23/23 10:00	02/27/23 11:12	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2011299	100	02/23/23 06:14	02/23/23 06:14	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2011726	50	02/23/23 17:50	02/23/23 17:50	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2012301	1000	02/24/23 19:52	02/24/23 19:52	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	1	02/24/23 18:30	02/25/23 02:39	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	5	02/24/23 18:30	02/25/23 15:46	HLJ	Mt. Juliet, TN

PG36-TANK-WMFK L1588080-02 GW

Collected by: Will Harmon | Collected date/time: 02/21/23 14:25 | Received date/time: 02/22/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2011424	1	02/23/23 12:09	02/23/23 12:09	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2010238	1	02/23/23 12:50	02/23/23 12:50	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2012799	1	02/23/23 09:03	02/25/23 03:45	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2011241	1	02/22/23 22:27	02/22/23 22:27	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2011399	1	02/23/23 18:03	02/23/23 18:03	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	10	02/22/23 23:05	02/22/23 23:05	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	100	02/22/23 23:18	02/22/23 23:18	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2011564	1	02/24/23 13:23	02/24/23 21:51	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2011564	10	02/24/23 13:23	02/25/23 00:46	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2012094	100	02/24/23 12:40	02/24/23 12:40	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2011726	100	02/23/23 18:09	02/23/23 18:09	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2012301	1000	02/24/23 20:11	02/24/23 20:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	1	02/24/23 18:30	02/25/23 03:01	MWS	Mt. Juliet, TN

26N-TANK-WMFK L1588080-03 GW

Collected by: Will Harmon | Collected date/time: 02/21/23 12:40 | Received date/time: 02/22/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2011424	1	02/23/23 12:14	02/23/23 12:14	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2010238	1	02/23/23 12:51	02/23/23 12:51	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2012799	1	02/23/23 09:03	02/25/23 03:47	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2011241	1	02/22/23 22:27	02/22/23 22:27	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2011399	1	02/23/23 18:03	02/23/23 18:03	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	10	02/22/23 23:32	02/22/23 23:32	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	100	02/22/23 23:45	02/22/23 23:45	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2010818	10	02/23/23 10:00	02/24/23 11:43	SPL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2011299	200	02/23/23 06:58	02/23/23 06:58	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2011726	200	02/23/23 18:28	02/23/23 18:28	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	1	02/24/23 18:30	02/25/23 03:24	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	5	02/24/23 18:30	02/25/23 16:30	HLJ	Mt. Juliet, TN

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

SAMPLE SUMMARY

PL28-TANK-WMFK L1588080-04 GW

Collected by: Will Harmon
Collected date/time: 02/21/23 13:30
Received date/time: 02/22/23 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2320 B-2011	WG2011424	1	02/23/23 12:19	02/23/23 12:19	ARD	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2010238	1	02/23/23 12:53	02/23/23 12:53	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.4	WG2012799	1	02/23/23 09:03	02/25/23 03:48	JCS	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2011241	1	02/22/23 22:27	02/22/23 22:27	KAD	Mt. Juliet, TN
Wet Chemistry by Method 9050A	WG2011399	1	02/23/23 18:03	02/23/23 18:03	NTG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	10	02/23/23 00:26	02/23/23 00:26	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2010977	100	02/23/23 00:39	02/23/23 00:39	GEB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2010818	10	02/23/23 10:00	02/24/23 11:57	SPL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2010818	20	02/23/23 10:00	02/27/23 11:15	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2011299	500	02/23/23 07:20	02/23/23 07:20	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2011726	500	02/23/23 18:47	02/23/23 18:47	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	1	02/24/23 18:30	02/25/23 03:46	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2012681	5	02/24/23 18:30	02/25/23 17:14	HLJ	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.

Chris Ward
Project Manager

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	1270		8.45	20.0	1	02/23/2023 12:06	WG2011424
Alkalinity,Bicarbonate	1270		8.45	20.0	1	02/23/2023 12:06	WG2011424
Alkalinity,Carbonate	U		8.45	20.0	1	02/23/2023 12:06	WG2011424

Sample Narrative:
L1588080-01 WG2011424: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0500	0.100	1	02/23/2023 12:49	WG2010238

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.489		0.0350	0.100	1	02/25/2023 03:44	WG2012799

Wet Chemistry by Method 9040C

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	6.81	T8	1	02/22/2023 22:27	WG2011241

Sample Narrative:
L1588080-01 WG2011241: 6.81 at 18.1C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	40200		10.0	1	02/23/2023 18:03	WG2011399

Sample Narrative:
L1588080-01 WG2011399: at 25C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	99.8		3.53	10.0	10	02/22/2023 22:38	WG2010977
Chloride	14300		37.9	100	100	02/22/2023 22:51	WG2010977
Fluoride	0.741	J	0.640	1.50	10	02/22/2023 22:38	WG2010977
Nitrate as (N)	0.676	B J	0.480	1.00	10	02/22/2023 22:38	WG2010977
Nitrite as (N)	U		0.420	1.00	10	02/22/2023 22:38	WG2010977
Sulfate	7.86	J	5.94	50.0	10	02/22/2023 22:38	WG2010977

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	70.1		0.00736	0.0500	10	02/24/2023 11:54	WG2010818
Boron	7.20		0.200	2.00	10	02/24/2023 11:54	WG2010818
Calcium	242		0.793	10.0	10	02/24/2023 11:54	WG2010818
Iron	52.4		0.180	1.00	10	02/24/2023 11:54	WG2010818
Magnesium	41.5		0.853	10.0	10	02/24/2023 11:54	WG2010818
Manganese	0.669		0.00934	0.100	10	02/24/2023 11:54	WG2010818
Potassium	186		2.61	20.0	10	02/24/2023 11:54	WG2010818

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Selenium	U		0.0735	0.100	10	02/24/2023 11:54	WG2010818
Sodium	9770		10.1	60.0	20	02/27/2023 11:12	WG2010818
Strontium	35.1		0.00640	0.100	10	02/24/2023 11:54	WG2010818

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	207		3.14	10.0	100	02/23/2023 06:14	WG2011299
(S) a,a,a-Trifluorotoluene(FID)	*106*			*78.0-120*		*02/23/2023 06:14*	WG2011299

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	16.5		0.0941	1.00	1000	02/24/2023 19:52	WG2012301
Toluene	42.1		0.278	1.00	1000	02/24/2023 19:52	WG2012301
Ethylbenzene	1.22		0.00685	0.0500	50	02/23/2023 17:50	WG2011726
Xylenes, Total	19.7		0.00870	0.150	50	02/23/2023 17:50	WG2011726
Naphthalene	U		0.0500	0.250	50	02/23/2023 17:50	WG2011726
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2023 17:50*	WG2011726
(S) Toluene-d8	*105*			*80.0-120*		*02/24/2023 19:52*	WG2012301
(S) 4-Bromofluorobenzene	*92.9*			*77.0-126*		*02/23/2023 17:50*	WG2011726
(S) 4-Bromofluorobenzene	*95.4*			*77.0-126*		*02/24/2023 19:52*	WG2012301
(S) 1,2-Dichloroethane-d4	*92.3*			*70.0-130*		*02/23/2023 17:50*	WG2011726
(S) 1,2-Dichloroethane-d4	*99.7*			*70.0-130*		*02/24/2023 19:52*	WG2012301

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	21.3		0.111	0.500	5	02/25/2023 15:46	WG2012681
C28-C36 Motor Oil Range	2.54		0.0118	0.100	1	02/25/2023 02:39	WG2012681
(S) o-Terphenyl	*0.000*	J2		*52.0-156*		*02/25/2023 02:39*	WG2012681
(S) o-Terphenyl	*290*	J1		*52.0-156*		*02/25/2023 15:46*	WG2012681

Sample Narrative:

L1588080-01 WG2012681: Surrogate failure due to matrix interference

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	2310		8.45	20.0	1	02/23/2023 12:09	WG2011424
Alkalinity,Bicarbonate	2310		8.45	20.0	1	02/23/2023 12:09	WG2011424
Alkalinity,Carbonate	U		8.45	20.0	1	02/23/2023 12:09	WG2011424

Sample Narrative:
L1588080-02 WG2011424: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0500	0.100	1	02/23/2023 12:50	WG2010238

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.295		0.0350	0.100	1	02/25/2023 03:45	WG2012799

Wet Chemistry by Method 9040C

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	7.48	T8	1	02/22/2023 22:27	WG2011241

Sample Narrative:
L1588080-02 WG2011241: 7.48 at 18.2C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	27000		10.0	1	02/23/2023 18:03	WG2011399

Sample Narrative:
L1588080-02 WG2011399: at 25C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	55.9	B	3.53	10.0	10	02/22/2023 23:05	WG2010977
Chloride	8710		37.9	100	100	02/22/2023 23:18	WG2010977
Fluoride	0.801	J	0.640	1.50	10	02/22/2023 23:05	WG2010977
Nitrate as (N)	0.668	B J	0.480	1.00	10	02/22/2023 23:05	WG2010977
Nitrite as (N)	U		0.420	1.00	10	02/22/2023 23:05	WG2010977
Sulfate	U		5.94	50.0	10	02/22/2023 23:05	WG2010977

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	44.8		0.000736	0.00500	1	02/24/2023 21:51	WG2011564
Boron	11.6		0.0200	0.200	1	02/24/2023 21:51	WG2011564
Calcium	74.8		0.0793	1.00	1	02/24/2023 21:51	WG2011564
Iron	34.5		0.0180	0.100	1	02/24/2023 21:51	WG2011564
Magnesium	9.71		0.0853	1.00	1	02/24/2023 21:51	WG2011564
Manganese	0.290		0.000934	0.0100	1	02/24/2023 21:51	WG2011564
Potassium	119		0.261	2.00	1	02/24/2023 21:51	WG2011564

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Selenium	U		0.00735	0.0100	1	02/24/2023 21:51	WG2011564
Sodium	5660		5.04	30.0	10	02/25/2023 00:46	WG2011564
Strontium	14.6		0.000640	0.0100	1	02/24/2023 21:51	WG2011564

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	150		3.14	10.0	100	02/24/2023 12:40	WG2012094
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*		*02/24/2023 12:40*	WG2012094

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	7.91		0.00941	0.100	100	02/23/2023 18:09	WG2011726
Toluene	26.3		0.278	1.00	1000	02/24/2023 20:11	WG2012301
Ethylbenzene	0.971		0.0137	0.100	100	02/23/2023 18:09	WG2011726
Xylenes, Total	17.6		0.0174	0.300	100	02/23/2023 18:09	WG2011726
Naphthalene	U		0.100	0.500	100	02/23/2023 18:09	WG2011726
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2023 18:09*	WG2011726
(S) Toluene-d8	*104*			*80.0-120*		*02/24/2023 20:11*	WG2012301
(S) 4-Bromofluorobenzene	*95.8*			*77.0-126*		*02/23/2023 18:09*	WG2011726
(S) 4-Bromofluorobenzene	*96.5*			*77.0-126*		*02/24/2023 20:11*	WG2012301
(S) 1,2-Dichloroethane-d4	*94.7*			*70.0-130*		*02/23/2023 18:09*	WG2011726
(S) 1,2-Dichloroethane-d4	*99.9*			*70.0-130*		*02/24/2023 20:11*	WG2012301

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	8.58		0.0222	0.100	1	02/25/2023 03:01	WG2012681
C28-C36 Motor Oil Range	0.363		0.0118	0.100	1	02/25/2023 03:01	WG2012681
(S) o-Terphenyl	*112*			*52.0-156*		*02/25/2023 03:01*	WG2012681

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

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	639		8.45	20.0	1	02/23/2023 12:14	WG2011424
Alkalinity,Bicarbonate	639		8.45	20.0	1	02/23/2023 12:14	WG2011424
Alkalinity,Carbonate	U		8.45	20.0	1	02/23/2023 12:14	WG2011424

Sample Narrative:

L1588080-03 WG2011424: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0500	0.100	1	02/23/2023 12:51	WG2010238

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.196		0.0350	0.100	1	02/25/2023 03:47	WG2012799

Wet Chemistry by Method 9040C

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	6.68	T8	1	02/22/2023 22:27	WG2011241

Sample Narrative:

L1588080-03 WG2011241: 6.68 at 18.6C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	41700		10.0	1	02/23/2023 18:03	WG2011399

Sample Narrative:

L1588080-03 WG2011399: at 25C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	127		3.53	10.0	10	02/22/2023 23:32	WG2010977
Chloride	15200		37.9	100	100	02/22/2023 23:45	WG2010977
Fluoride	U		0.640	1.50	10	02/22/2023 23:32	WG2010977
Nitrate as (N)	0.699	B J	0.480	1.00	10	02/22/2023 23:32	WG2010977
Nitrite as (N)	U		0.420	1.00	10	02/22/2023 23:32	WG2010977
Sulfate	9.69	J	5.94	50.0	10	02/22/2023 23:32	WG2010977

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	78.1	V	0.00736	0.0500	10	02/24/2023 11:43	WG2010818
Boron	4.78	V	0.200	2.00	10	02/24/2023 11:43	WG2010818
Calcium	288	V	0.793	10.0	10	02/24/2023 11:43	WG2010818
Iron	55.2	V	0.180	1.00	10	02/24/2023 11:43	WG2010818
Magnesium	36.0	J5	0.853	10.0	10	02/24/2023 11:43	WG2010818
Manganese	0.598		0.00934	0.100	10	02/24/2023 11:43	WG2010818
Potassium	116	V	2.61	20.0	10	02/24/2023 11:43	WG2010818

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Selenium	U	J3	0.0735	0.100	10	02/24/2023 11:43	WG2010818
Sodium	9350	V	5.04	30.0	10	02/24/2023 11:43	WG2010818
Strontium	36.9	V	0.00640	0.100	10	02/24/2023 11:43	WG2010818

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	183		6.28	20.0	200	02/23/2023 06:58	WG2011299
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*02/23/2023 06:58*	WG2011299

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	15.4		0.0188	0.200	200	02/23/2023 18:28	WG2011726
Toluene	35.5		0.0556	0.200	200	02/23/2023 18:28	WG2011726
Ethylbenzene	1.05		0.0274	0.200	200	02/23/2023 18:28	WG2011726
Xylenes, Total	16.9		0.0348	0.600	200	02/23/2023 18:28	WG2011726
Naphthalene	U		0.200	1.00	200	02/23/2023 18:28	WG2011726
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2023 18:28*	WG2011726
(S) 4-Bromofluorobenzene	*94.2*			*77.0-126*		*02/23/2023 18:28*	WG2011726
(S) 1,2-Dichloroethane-d4	*97.0*			*70.0-130*		*02/23/2023 18:28*	WG2011726

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
C10-C28 Diesel Range	17.5		0.111	0.500	5	02/25/2023 16:30	WG2012681
C28-C36 Motor Oil Range	1.57		0.0118	0.100	1	02/25/2023 03:24	WG2012681
(S) o-Terphenyl	*67.2*			*52.0-156*		*02/25/2023 16:30*	WG2012681
(S) o-Terphenyl	*142*			*52.0-156*		*02/25/2023 03:24*	WG2012681

Sample Narrative:

L1588080-03 WG2012681: Surrogate failure due to matrix interference

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	940		8.45	20.0	1	02/23/2023 12:19	WG2011424
Alkalinity,Bicarbonate	940		8.45	20.0	1	02/23/2023 12:19	WG2011424
Alkalinity,Carbonate	U		8.45	20.0	1	02/23/2023 12:19	WG2011424

Sample Narrative:
L1588080-04 WG2011424: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 353.2

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0500	0.100	1	02/23/2023 12:53	WG2010238

Wet Chemistry by Method 365.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Phosphorus,Total	0.342		0.0350	0.100	1	02/25/2023 03:48	WG2012799

Wet Chemistry by Method 9040C

Analyte	Result pH	Qualifier	Dilution	Analysis date / time	Batch
pH	6.81	T8	1	02/22/2023 22:27	WG2011241

Sample Narrative:
L1588080-04 WG2011241: 6.81 at 19.6C

Wet Chemistry by Method 9050A

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	38100		10.0	1	02/23/2023 18:03	WG2011399

Sample Narrative:
L1588080-04 WG2011399: at 25C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Bromide	109		3.53	10.0	10	02/23/2023 00:26	WG2010977
Chloride	13500		37.9	100	100	02/23/2023 00:39	WG2010977
Fluoride	0.656	J	0.640	1.50	10	02/23/2023 00:26	WG2010977
Nitrate as (N)	0.677	B J	0.480	1.00	10	02/23/2023 00:26	WG2010977
Nitrite as (N)	U		0.420	1.00	10	02/23/2023 00:26	WG2010977
Sulfate	U		5.94	50.0	10	02/23/2023 00:26	WG2010977

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	107		0.00736	0.0500	10	02/24/2023 11:57	WG2010818
Boron	5.25		0.200	2.00	10	02/24/2023 11:57	WG2010818
Calcium	218		0.793	10.0	10	02/24/2023 11:57	WG2010818
Iron	104		0.180	1.00	10	02/24/2023 11:57	WG2010818
Magnesium	30.9		0.853	10.0	10	02/24/2023 11:57	WG2010818
Manganese	0.961		0.00934	0.100	10	02/24/2023 11:57	WG2010818
Potassium	84.7		2.61	20.0	10	02/24/2023 11:57	WG2010818

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Selenium	0.0785	J	0.0735	0.100	10	02/24/2023 11:57	WG2010818
Sodium	8850		10.1	60.0	20	02/27/2023 11:15	WG2010818
Strontium	33.2		0.00640	0.100	10	02/24/2023 11:57	WG2010818

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	194	B	15.7	50.0	500	02/23/2023 07:20	WG2011299
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*02/23/2023 07:20*	WG2011299

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	13.3		0.0471	0.500	500	02/23/2023 18:47	WG2011726
Toluene	32.3		0.139	0.500	500	02/23/2023 18:47	WG2011726
Ethylbenzene	0.872		0.0685	0.500	500	02/23/2023 18:47	WG2011726
Xylenes, Total	13.4		0.0870	1.50	500	02/23/2023 18:47	WG2011726
Naphthalene	U		0.500	2.50	500	02/23/2023 18:47	WG2011726
(S) Toluene-d8	*106*			*80.0-120*		*02/23/2023 18:47*	WG2011726
(S) 4-Bromofluorobenzene	*96.7*			*77.0-126*		*02/23/2023 18:47*	WG2011726
(S) 1,2-Dichloroethane-d4	*97.5*			*70.0-130*		*02/23/2023 18:47*	WG2011726

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	13.8		0.111	0.500	5	02/25/2023 17:14	WG2012681
C28-C36 Motor Oil Range	1.41		0.0118	0.100	1	02/25/2023 03:46	WG2012681
(S) o-Terphenyl	*249*	J1		*52.0-156*		*02/25/2023 17:14*	WG2012681
(S) o-Terphenyl	*151*			*52.0-156*		*02/25/2023 03:46*	WG2012681

Sample Narrative:

L1588080-04 WG2012681: Surrogate failure due to matrix interference

Method Blank (MB)

(MB) R3894185-1 02/23/23 10:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1586443-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1586443-06 02/23/23 10:33 • (DUP) R3894185-4 02/23/23 10:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	6230	6190	1	0.581		20
Alkalinity,Bicarbonate	6230	6190	1	0.581		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1588080-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1588080-04 02/23/23 12:19 • (DUP) R3894185-5 02/23/23 12:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	940	947	1	0.740		20
Alkalinity,Bicarbonate	940	947	1	0.740		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3894185-3 02/23/23 10:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	109	109	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3894119-1 02/23/23 12:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	U		0.0500	0.100

L1585128-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1585128-03 02/23/23 13:05 • (DUP) R3894119-3 02/23/23 12:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.832	0.830	1	0.241		20

L1588074-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1588074-02 02/23/23 12:41 • (DUP) R3894119-6 02/23/23 12:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.0843	0.0818	1	3.01	J	20

Laboratory Control Sample (LCS)

(LCS) R3894119-2 02/23/23 12:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.57	103	90.0-110	

L1585128-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1585128-03 02/23/23 13:05 • (MS) R3894119-4 02/23/23 12:26 • (MSD) R3894119-5 02/23/23 12:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	0.832	3.36	3.39	101	102	1	90.0-110			0.889	20

L1588074-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1588074-02 02/23/23 12:41 • (MS) R3894119-7 02/23/23 12:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.0843	2.75	107	1	90.0-110	

Method Blank (MB)

(MB) R3894786-1 02/25/23 03:13

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

L1587937-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1587937-01 02/25/23 03:24 • (DUP) R3894786-3 02/25/23 03:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	U	U	1	0.000		20

L1587963-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1587963-01 02/25/23 03:33 • (DUP) R3894786-6 02/25/23 03:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	2.16	1.99	1	8.19		20

Laboratory Control Sample (LCS)

(LCS) R3894786-2 02/25/23 03:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	2.47	2.31	93.5	83.2-116	

L1587937-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1587937-01 02/25/23 03:24 • (MS) R3894786-4 02/25/23 03:29 • (MSD) R3894786-5 02/25/23 03:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	U	2.28	2.29	91.2	91.6	1	90.0-110			0.438	20

L1587963-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1587963-01 02/25/23 03:33 • (MS) R3894786-7 02/25/23 03:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Phosphorus,Total	2.50	2.16	4.54	95.2	1	90.0-110	

L1588017-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1588017-01 02/22/23 22:27 • (DUP) R3893815-2 02/22/23 22:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.90	6.90	1	0.000		1

Sample Narrative:

OS: 6.9 at 18.2C

DUP: 6.9 at 18.3C

L1588314-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1588314-01 02/22/23 22:27 • (DUP) R3893815-3 02/22/23 22:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.27	7.28	1	0.137		1

Sample Narrative:

OS: 7.27 at 19.3C

DUP: 7.28 at 19.5C

Laboratory Control Sample (LCS)

(LCS) R3893815-1 02/22/23 22:27

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 21.6C

Method Blank (MB)

(MB) R3894321-1 02/23/23 18:03

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

L1587147-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1587147-01 02/23/23 18:03 • (DUP) R3894321-3 02/23/23 18:03

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	683	675	1	1.18		20

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

L1588080-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1588080-01 02/23/23 18:03 • (DUP) R3894321-4 02/23/23 18:03

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	40200	40400	1	0.496		20

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

Laboratory Control Sample (LCS)

(LCS) R3894321-2 02/23/23 18:03

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	1120	1140	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R3894330-1 02/22/23 17:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Bromide	0.577	J	0.353	1.00
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate	0.0750	J	0.0480	0.100
Nitrite	0.0452	J	0.0420	0.100
Sulfate	U		0.594	5.00

L1588053-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1588053-10 02/22/23 19:39 • (DUP) R3894330-3 02/22/23 19:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	1.15	1.12	1	2.91		15
Chloride	34.5	34.2	1	0.802		15
Fluoride	0.193	0.200	1	3.57		15
Nitrate	0.109	0.110	1	1.46		15
Nitrite	0.0471	0.0442	1	6.35	J	15
Sulfate	63.6	63.7	1	0.0861		15

L1588078-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1588078-04 02/22/23 20:46 • (DUP) R3894330-4 02/22/23 21:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Bromide	0.764	0.745	1	2.60	J	15
Chloride	38.6	38.4	1	0.730		15
Fluoride	0.283	0.289	1	1.96		15
Nitrate	6.81	6.79	1	0.331		15
Nitrite	0.209	0.212	1	1.14		15
Sulfate	15.9	16.2	1	1.38		15

Laboratory Control Sample (LCS)

(LCS) R3894330-2 02/22/23 18:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromide	40.0	39.9	99.8	80.0-120	
Chloride	40.0	40.3	101	80.0-120	
Fluoride	8.00	8.42	105	80.0-120	
Nitrate	8.00	8.05	101	80.0-120	
Nitrite	8.00	8.24	103	80.0-120	
Sulfate	40.0	40.1	100	80.0-120	

L1588078-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588078-04 02/22/23 20:46 • (MS) R3894330-5 02/22/23 21:44 • (MSD) R3894330-6 02/22/23 21:57

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50.0	0.764	50.0	49.9	98.6	98.3	1	80.0-120			0.299	15
Chloride	50.0	38.6	88.2	87.3	99.2	97.3	1	80.0-120			1.06	15
Fluoride	5.00	0.283	5.70	5.60	108	106	1	80.0-120			1.87	15
Nitrate	5.00	6.81	11.8	11.8	98.8	98.9	1	80.0-120			0.0179	15
Nitrite	5.00	0.209	5.46	5.43	105	104	1	80.0-120			0.586	15
Sulfate	50.0	15.9	66.6	66.3	101	101	1	80.0-120			0.424	15

L1588167-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588167-01 02/23/23 02:14 • (MS) R3894330-7 02/23/23 02:27 • (MSD) R3894330-8 02/23/23 03:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromide	50.0	0.823	48.9	48.8	96.1	96.0	1	80.0-120			0.0295	15
Chloride	50.0	296	332	332	71.8	71.8	1	80.0-120	E V	E V	0.000362	15
Fluoride	5.00	0.523	5.80	5.79	106	105	1	80.0-120			0.141	15
Nitrate	5.00	3.75	8.64	8.68	97.6	98.5	1	80.0-120			0.494	15
Nitrite	5.00	U	5.16	5.17	103	103	1	80.0-120			0.143	15
Sulfate	50.0	157	201	202	86.8	89.2	1	80.0-120	E	E	0.613	15

Method Blank (MB)

(MB) R3894700-6 02/24/23 11:38

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	U		0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	0.410	J	0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	0.575	J	0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3894700-7 02/24/23 11:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.02	102	80.0-120	
Boron	1.00	1.00	100	80.0-120	
Calcium	10.0	10.1	101	80.0-120	
Iron	10.0	10.2	102	80.0-120	
Magnesium	10.0	10.2	102	80.0-120	
Manganese	1.00	0.960	96.0	80.0-120	
Potassium	10.0	9.94	99.4	80.0-120	
Selenium	1.00	0.969	96.9	80.0-120	
Sodium	10.0	10.4	104	80.0-120	
Strontium	1.00	0.996	99.6	80.0-120	

L1588080-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588080-03 02/24/23 11:43 • (MS) R3894700-9 02/24/23 11:48 • (MSD) R3894700-10 02/24/23 11:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	78.1	86.5	72.6	841	0.000	10	75.0-125	V	V	17.5	20
Boron	1.00	4.78	6.17	5.46	138	67.9	10	75.0-125	V	V	12.1	20
Calcium	10.0	288	319	280	306	0.000	10	75.0-125	V	V	12.9	20
Iron	10.0	55.2	71.8	63.0	166	78.1	10	75.0-125	V		13.0	20
Magnesium	10.0	36.0	49.9	43.8	139	78.5	10	75.0-125	J5		12.9	20
Manganese	1.00	0.598	1.68	1.43	108	82.7	10	75.0-125			16.5	20
Potassium	10.0	116	132	116	159	0.000	10	75.0-125	V	V	12.9	20

L1588080-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588080-03 02/24/23 11:43 • (MS) R3894700-9 02/24/23 11:48 • (MSD) R3894700-10 02/24/23 11:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Selenium	1.00	U	1.24	1.01	124	101	10	75.0-125		J3	21.1	20
Sodium	10.0	9350	10100	8790	7280	0.000	10	75.0-125	E V	V	13.7	20
Strontium	1.00	36.9	40.8	35.6	396	0.000	10	75.0-125	V	V	13.6	20

Method Blank (MB)

(MB) R3894983-1 02/24/23 21:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000736	0.00500
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00
Iron	0.0219	J	0.0180	0.100
Magnesium	U		0.0853	1.00
Manganese	U		0.000934	0.0100
Potassium	U		0.261	2.00
Selenium	U		0.00735	0.0100
Sodium	U		0.504	3.00
Strontium	U		0.000640	0.0100

Laboratory Control Sample (LCS)

(LCS) R3894983-2 02/24/23 21:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	1.00	1.03	103	80.0-120	
Boron	1.00	0.998	99.8	80.0-120	
Calcium	10.0	10.0	100	80.0-120	
Iron	10.0	10.1	101	80.0-120	
Magnesium	10.0	9.95	99.5	80.0-120	
Manganese	1.00	0.948	94.8	80.0-120	
Potassium	10.0	9.44	94.4	80.0-120	
Selenium	1.00	0.979	97.9	80.0-120	
Sodium	10.0	9.83	98.3	80.0-120	
Strontium	1.00	0.966	96.6	80.0-120	

L1588464-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1588464-01 02/24/23 21:40 • (MS) R3894983-4 02/24/23 21:45 • (MSD) R3894983-5 02/24/23 21:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.0373	1.10	1.10	106	106	1	75.0-125			0.443	20
Boron	1.00	30.3	31.2	31.0	89.5	71.9	1	75.0-125		V	0.568	20
Calcium	10.0	281	283	284	23.7	27.4	1	75.0-125	V	V	0.129	20
Iron	10.0	0.0343	8.83	8.84	88.0	88.1	1	75.0-125			0.159	20
Magnesium	10.0	27.8	33.6	33.7	58.0	59.5	1	75.0-125	J6	J6	0.449	20
Selenium	1.00	0.477	1.77	1.75	130	127	1	75.0-125	J5	J5	1.26	20
Strontium	1.00	5.25	6.15	6.01	90.3	76.2	1	75.0-125			2.32	20

Method Blank (MB)

(MB) R3894384-2 02/22/23 22:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0487	J	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3894384-1 02/22/23 21:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	6.10	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*114*	*78.0-120*	

Method Blank (MB)

(MB) R3895595-3 02/24/23 10:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0646	J	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*

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

(LCS) R3895595-1 02/24/23 09:41 • (LCSD) R3895595-2 02/24/23 10:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.40	5.59	98.2	102	72.0-127			3.46	20
(S) a,a,a-Trifluorotoluene(FID)				*98.3*	*113*	*78.0-120*				

Method Blank (MB)

(MB) R3894493-2 02/23/23 12:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
Ethylbenzene	U		0.000137	0.00100
Xylenes, Total	U		0.000174	0.00300
Naphthalene	U		0.00100	0.00500
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*92.7*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*95.3*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3894493-1 02/23/23 09:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00512	102	70.0-123	
Toluene	0.00500	0.00505	101	79.0-120	
Ethylbenzene	0.00500	0.00468	93.6	79.0-123	
Xylenes, Total	0.0150	0.0142	94.7	79.0-123	
Naphthalene	0.00500	0.00360	72.0	54.0-135	
(S) Toluene-d8			*100*	*80.0-120*	
(S) 4-Bromofluorobenzene			*93.7*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*99.8*	*70.0-130*	

Method Blank (MB)

(MB) R3895235-3 02/24/23 18:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Toluene	U		0.000278	0.00100
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*91.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.8*			*70.0-130*

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

(LCS) R3895235-1 02/24/23 17:08 • (LCSD) R3895235-2 02/24/23 17:27

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 %
Benzene	0.00500	0.00531	0.00508	106	102	70.0-123			4.43	20
Toluene	0.00500	0.00529	0.00501	106	100	79.0-120			5.44	20
(S) Toluene-d8				*101*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.2*	*93.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*101*	*100*	*70.0-130*				

Method Blank (MB)

(MB) R3894811-1 02/24/23 22:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
C10-C28 Diesel Range	0.0337	J	0.0222	0.100
C28-C36 Motor Oil Range	0.0284	J	0.0118	0.100
(S) o-Terphenyl	*113*			*52.0-156*

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

(LCS) R3894811-2 02/24/23 22:37 • (LCSD) R3894811-3 02/24/23 22:59

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 %
C10-C28 Diesel Range	1.50	1.65	1.64	110	109	50.0-150			0.608	20
(S) o-Terphenyl				*99.5*	*101*	*52.0-156*				

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.
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
B	The same analyte is found in the associated blank.
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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
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.

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.

Company Name/Address:
Caerus Oil and Gas

143 Diamond Avenue
Parachute, CO 81635

Billing Information:
Accounts Payable
1001 17th St., Ste. 1600
Denver, CO 80202

Report to:
Brett Middleton

Email To:
JJanicek@caerusoilandgas.com;brollins@caerus

Project Description: 909J

City/State Collected: Parachute, CO

Please Circle: PT MT CT ET

Phone: **970-285-2653**

Client Project #

Lab Project #

Collected by (print): Will Harmon

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
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

SDG # L1580080
B124

Acctnum: **CAERUSPCO**
Template: **T215555**
Prelogin: **P963757**
PM: **824 - Chris Ward**
PB:
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,ALKBI,ALKCA 250mlHDPE-NoPres	Br,Cl,F,SO4 250mlHDPE-NoPres	DRONMLVI 40mlAmb-HCl-BT	GRO 40mlAmb HCl	PT 250mlHDPE-H2SO4	RA-226/228 1L-HDPE-Add-HNO3	SPCON 250mlHDPE-NoPres	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	Total Metals 250mlHDPE-HNO3	Remarks	Sample # (lab only)
34C-TANK-WMFK	Grab	GW	Surface	2/21/23	1140	17	X	X	X	X	X	X	X	X	X	X		-01
PG36-TANK-WMFK	Grab	GW	Surface	2/21/23	1425	17	X	X	X	X	X	X	X	X	X	X		-02
26N-TANK-WMFK	Grab	GW	Surface	2/21/23	1240	17	X	X	X	X	X	X	X	X	X	X		-03
PL28-TANK-WMFK	Grab	GW	Surface	2/21/23	1330	17	X	X	X	X	X	X	X	X	X	X		-04
		GW				17	X	X	X	X	X	X	X	X	X	X		
		GW				17	X	X	X	X	X	X	X	X	X	X		
		GW				17	X	X	X	X	X	X	X	X	X	X		
		GW				17	X	X	X	X	X	X	X	X	X	X		
		GW				17	X	X	X	X	X	X	X	X	X	X		
		GW				17	X	X	X	X	X	X	X	X	X	X		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:Metals - Ba,B,Ca,Fe,K,Mg,Mn,Na,Se,Sr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	2/21/23	1615			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
	2/21/23	1700		68	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: / Condition: NCF / OK
			D-Ramsey	02-22-23 0845	

Company Name/Address:
Caerus Oil and Gas

143 Diamond Avenue
Parachute, CO 81635

Billing Information:
Accounts Payable
1001 17th St., Ste. 1600
Denver, CO 80202

Pres Chk

Report to:
Brett Middleton

Email To:
JJanicek@caerusoilandgas.com;brollins@caerus

Project Description: 909J

City/State Collected: Parachute, CO

Please Circle: PT MT CT ET

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P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260BTEXN 40mlAmb-HCl	V8260BTEXN 40mlAmb-HCl-Blk	pH 125mlHDPE-NoPres	Remarks	Sample # (lab only)
34C - TANK - WMFK	Grab	GW	Surface	2/21/23	1140	17	X	X	X		-01
PL36 - TANK - WMFK	Grab	GW	Surface	2/21/23	1425	17	X		X		-02
26N - TANK - WMFK	Grab	GW	Surface	2/21/23	1240	17	X	X	X		-03
PL28 - TANK - WMFK	Grab	GW	Surface	2/21/23	1330	17	X		X		-04
		GW				17	X		X		
		GW				17	X		X		
		GW				17	X		X		
		GW				17	X		X		
		GW				17	X		X		
		GW				17	X		X		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:Metals - Ba,B,Ca,Fe,K,Mg,Mn,Na,Se,Sr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
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

SDG # L1588080

Table #

Acctnum: **CAERUSPCO**

Template: **T215555**

Prelogin: **P963757**

PM: **824 - Chris Ward**

PB:

Shipped Via: **FedEx Ground**

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date: 2/21/23	Time: 1615	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date: 2-21-23	Time: 1700	Received by: (Signature)	Temp: °C Bottles Received:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) DReeves	Date: 02-22-23 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

L1588080

Tracking Numbers	Temperature
NSA 6.2+-0=.2	6126 6537 4769
NSA 6 2.=+.02=2.5	6126 6537 4828