

Caerus Oil and Gas

Sample Delivery Group: L1637974
Samples Received: 07/21/2023
Project Number:
Description: EL12 12-11D Flowline

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

Entire Report Reviewed By:



Chris Ward
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY

20230720-CHEVRON EL12 697-(FCWH1211DNW)@ L1637974-01
Solid

Collected by C. Mace Collected date/time 07/20/23 09:30 Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 17:53	07/28/23 17:53	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 11:49	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 15:48	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 11:50	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101425	1	07/25/23 08:39	07/25/23 23:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 18:29	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	1	07/26/23 20:48	07/27/23 12:13	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 04:44	AMM	Mt. Juliet, TN



20230720-CHEVRON EL12 697-(FCWH1211DEW)@ L1637974-02
Solid

Collected by C. Mace Collected date/time 07/20/23 09:40 Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 17:55	07/28/23 17:55	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 11:54	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 15:50	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 13:25	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101425	1	07/25/23 08:39	07/26/23 00:09	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 18:48	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	1	07/26/23 20:48	07/27/23 12:26	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 07:20	AMM	Mt. Juliet, TN



20230720-CHEVRON EL12 697-(FCWH1211DSW)@ L1637974-03
Solid

Collected by C. Mace Collected date/time 07/20/23 09:50 Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 17:58	07/28/23 17:58	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 12:09	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 15:53	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 13:28	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101425	1	07/25/23 08:39	07/26/23 00:32	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 19:07	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	1	07/26/23 20:48	07/27/23 12:40	KAP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	5	07/26/23 20:48	07/27/23 15:19	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 07:38	AMM	Mt. Juliet, TN

20230720-CHEVRON EL12 697-(FCWH1211DWW)@ L1637974-04
Solid

Collected by C. Mace Collected date/time 07/20/23 10:00 Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 18:01	07/28/23 18:01	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 12:15	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN

SAMPLE SUMMARY

20230720-CHEVRON EL12 697-(FCWH121DWW)@ L1637974-04
Solid

Collected by C. Mace
Collected date/time 07/20/23 10:00
Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 15:55	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 13:31	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101425	1	07/25/23 08:39	07/26/23 00:55	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 19:26	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	10	07/26/23 20:48	07/27/23 13:19	KAP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	100	07/26/23 20:48	07/27/23 15:32	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 06:28	AMM	Mt. Juliet, TN

20230720-CHEVRON EL12 697-(FCWH121DBA)@ L1637974-05
Solid

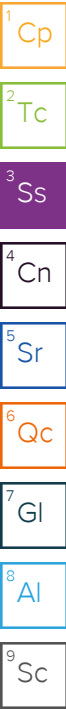
Collected by C. Mace
Collected date/time 07/20/23 10:10
Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 18:04	07/28/23 18:04	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 12:20	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 15:58	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 13:35	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101425	1	07/25/23 08:39	07/26/23 01:19	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 19:44	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	20	07/26/23 20:48	07/27/23 13:32	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 08:13	AMM	Mt. Juliet, TN

20230720-CHEVRON EL12 697-(FCWH121DSP)@ L1637974-06
Solid

Collected by C. Mace
Collected date/time 07/20/23 11:30
Received date/time 07/21/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2102794	1	07/28/23 18:07	07/28/23 18:07	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2101368	1	07/25/23 21:25	07/26/23 12:25	SET	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2101874	1	07/26/23 10:08	07/27/23 08:38	MCC	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2101724	1	07/26/23 09:20	07/26/23 12:45	NTG	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2102851	1	07/27/23 11:47	07/28/23 16:06	CCE	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2104344	5	07/31/23 07:59	08/01/23 13:38	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2101946	1	07/25/23 08:39	07/26/23 13:13	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2101261	1	07/25/23 08:39	07/25/23 20:03	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2101703	5	07/26/23 20:48	07/27/23 13:06	KAP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2101711	1	07/27/23 15:15	07/28/23 07:55	AMM	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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.38		1	07/28/2023 17:53	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.619	J	0.255	1.00	1	07/26/2023 11:49	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.24	T8	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-01 WG2101874: 8.24 at 23.7C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	371		10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-01 WG2101724: at 25C

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

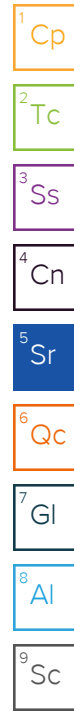
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.169	J	0.0167	0.200	1	07/28/2023 15:48	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.70		0.100	1.00	5	08/01/2023 11:50	WG2104344
Barium	246		0.152	2.50	5	08/01/2023 11:50	WG2104344
Cadmium	0.291	J	0.0855	1.00	5	08/01/2023 11:50	WG2104344
Copper	20.5		0.132	5.00	5	08/01/2023 11:50	WG2104344
Lead	13.2		0.0990	2.00	5	08/01/2023 11:50	WG2104344
Nickel	15.7		0.197	2.50	5	08/01/2023 11:50	WG2104344
Selenium	0.383	J	0.180	2.50	5	08/01/2023 11:50	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 11:50	WG2104344
Zinc	49.4		0.740	25.0	5	08/01/2023 11:50	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0445	B J	0.0217	0.100	1	07/25/2023 23:46	WG2101425
(S) a,a,a-Trifluorotoluene(FID)	89.1			77.0-120		07/25/2023 23:46	WG2101425



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	07/25/2023 18:29	WG2101261
Toluene	0.00158	U	0.00130	0.00500	1	07/25/2023 18:29	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 18:29	WG2101261
Xylenes, Total	U		0.000880	0.00650	1	07/25/2023 18:29	WG2101261
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/25/2023 18:29	WG2101261
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/25/2023 18:29	WG2101261
(S) Toluene-d8	113			75.0-131		07/25/2023 18:29	WG2101261
(S) 4-Bromofluorobenzene	98.7			67.0-138		07/25/2023 18:29	WG2101261
(S) 1,2-Dichloroethane-d4	74.0			70.0-130		07/25/2023 18:29	WG2101261

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	30.6		1.61	4.00	1	07/27/2023 12:13	WG2101703
C28-C36 Motor Oil Range	62.7		0.274	4.00	1	07/27/2023 12:13	WG2101703
(S) o-Terphenyl	29.3			18.0-148		07/27/2023 12:13	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 04:44	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 04:44	WG2101711
Benzo(a)anthracene	U		0.00173	0.00600	1	07/28/2023 04:44	WG2101711
Benzo(b)fluoranthene	U		0.00153	0.00600	1	07/28/2023 04:44	WG2101711
Benzo(k)fluoranthene	U		0.00215	0.00600	1	07/28/2023 04:44	WG2101711
Benzo(a)pyrene	U		0.00179	0.00600	1	07/28/2023 04:44	WG2101711
Chrysene	U		0.00232	0.00600	1	07/28/2023 04:44	WG2101711
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 04:44	WG2101711
Fluoranthene	U		0.00227	0.00600	1	07/28/2023 04:44	WG2101711
Fluorene	U		0.00205	0.00600	1	07/28/2023 04:44	WG2101711
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	07/28/2023 04:44	WG2101711
1-Methylnaphthalene	0.00624	U	0.00449	0.0200	1	07/28/2023 04:44	WG2101711
2-Methylnaphthalene	0.0129	U	0.00427	0.0200	1	07/28/2023 04:44	WG2101711
Naphthalene	0.00457	U	0.00408	0.0200	1	07/28/2023 04:44	WG2101711
Pyrene	0.00302	U	0.00200	0.00600	1	07/28/2023 04:44	WG2101711
(S) p-Terphenyl-d14	85.1			23.0-120		07/28/2023 04:44	WG2101711
(S) Nitrobenzene-d5	101			14.0-149		07/28/2023 04:44	WG2101711
(S) 2-Fluorobiphenyl	71.3			34.0-125		07/28/2023 04:44	WG2101711

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.84		1	07/28/2023 17:55	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.395	J	0.255	1.00	1	07/26/2023 11:54	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	8.05	T8	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-02 WG2101874: 8.05 at 24.1C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	453		10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-02 WG2101724: at 25C

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

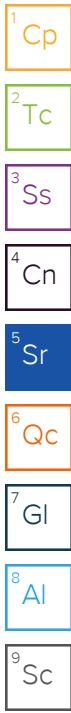
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.274		0.0167	0.200	1	07/28/2023 15:50	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.75		0.100	1.00	5	08/01/2023 13:25	WG2104344
Barium	303		0.152	2.50	5	08/01/2023 13:25	WG2104344
Cadmium	0.503	J	0.0855	1.00	5	08/01/2023 13:25	WG2104344
Copper	182		0.132	5.00	5	08/01/2023 13:25	WG2104344
Lead	15.8		0.0990	2.00	5	08/01/2023 13:25	WG2104344
Nickel	14.2		0.197	2.50	5	08/01/2023 13:25	WG2104344
Selenium	0.475	J	0.180	2.50	5	08/01/2023 13:25	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 13:25	WG2104344
Zinc	55.9		0.740	25.0	5	08/01/2023 13:25	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.259		0.0217	0.100	1	07/26/2023 00:09	WG2101425
(S) a,a,a-Trifluorotoluene(FID)	89.4			77.0-120		07/26/2023 00:09	WG2101425



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00156		0.000467	0.00100	1	07/25/2023 18:48	WG2101261
Toluene	0.00158	U	0.00130	0.00500	1	07/25/2023 18:48	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 18:48	WG2101261
Xylenes, Total	0.00144	U	0.000880	0.00650	1	07/25/2023 18:48	WG2101261
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/25/2023 18:48	WG2101261
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	07/25/2023 18:48	WG2101261
(S) Toluene-d8	114			75.0-131		07/25/2023 18:48	WG2101261
(S) 4-Bromofluorobenzene	98.8			67.0-138		07/25/2023 18:48	WG2101261
(S) 1,2-Dichloroethane-d4	77.3			70.0-130		07/25/2023 18:48	WG2101261

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	45.4		1.61	4.00	1	07/27/2023 12:26	WG2101703
C28-C36 Motor Oil Range	65.2		0.274	4.00	1	07/27/2023 12:26	WG2101703
(S) o-Terphenyl	18.9			18.0-148		07/27/2023 12:26	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 07:20	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 07:20	WG2101711
Benzo(a)anthracene	U		0.00173	0.00600	1	07/28/2023 07:20	WG2101711
Benzo(b)fluoranthene	U		0.00153	0.00600	1	07/28/2023 07:20	WG2101711
Benzo(k)fluoranthene	U		0.00215	0.00600	1	07/28/2023 07:20	WG2101711
Benzo(a)pyrene	U		0.00179	0.00600	1	07/28/2023 07:20	WG2101711
Chrysene	U		0.00232	0.00600	1	07/28/2023 07:20	WG2101711
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 07:20	WG2101711
Fluoranthene	U		0.00227	0.00600	1	07/28/2023 07:20	WG2101711
Fluorene	U		0.00205	0.00600	1	07/28/2023 07:20	WG2101711
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	07/28/2023 07:20	WG2101711
1-Methylnaphthalene	0.00953	U	0.00449	0.0200	1	07/28/2023 07:20	WG2101711
2-Methylnaphthalene	0.0187	U	0.00427	0.0200	1	07/28/2023 07:20	WG2101711
Naphthalene	0.00789	U	0.00408	0.0200	1	07/28/2023 07:20	WG2101711
Pyrene	0.00335	U	0.00200	0.00600	1	07/28/2023 07:20	WG2101711
(S) p-Terphenyl-d14	107			23.0-120		07/28/2023 07:20	WG2101711
(S) Nitrobenzene-d5	88.8			14.0-149		07/28/2023 07:20	WG2101711
(S) 2-Fluorobiphenyl	90.9			34.0-125		07/28/2023 07:20	WG2101711

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.37		1	07/28/2023 17:58	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/26/2023 12:09	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.96	<u>T8</u>	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-03 WG2101874: 7.96 at 24.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	312	<u>J3</u>	10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-03 WG2101724: at 25C

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

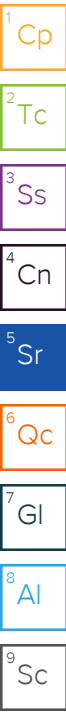
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.232		0.0167	0.200	1	07/28/2023 15:53	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.01		0.100	1.00	5	08/01/2023 13:28	WG2104344
Barium	369		0.152	2.50	5	08/01/2023 13:28	WG2104344
Cadmium	0.418	<u>J</u>	0.0855	1.00	5	08/01/2023 13:28	WG2104344
Copper	22.6		0.132	5.00	5	08/01/2023 13:28	WG2104344
Lead	16.9		0.0990	2.00	5	08/01/2023 13:28	WG2104344
Nickel	18.0		0.197	2.50	5	08/01/2023 13:28	WG2104344
Selenium	0.321	<u>J</u>	0.180	2.50	5	08/01/2023 13:28	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 13:28	WG2104344
Zinc	65.3		0.740	25.0	5	08/01/2023 13:28	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.265		0.0217	0.100	1	07/26/2023 00:32	WG2101425
(S) a,a,a-Trifluorotoluene(FID)	90.7			77.0-120		07/26/2023 00:32	WG2101425



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000675	U	0.000467	0.00100	1	07/25/2023 19:07	WG2101261
Toluene	U		0.00130	0.00500	1	07/25/2023 19:07	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 19:07	WG2101261
Xylenes, Total	0.00925		0.000880	0.00650	1	07/25/2023 19:07	WG2101261
1,2,4-Trimethylbenzene	0.00577		0.00158	0.00500	1	07/25/2023 19:07	WG2101261
1,3,5-Trimethylbenzene	0.0191		0.00200	0.00500	1	07/25/2023 19:07	WG2101261
(S) Toluene-d8	112			75.0-131		07/25/2023 19:07	WG2101261
(S) 4-Bromofluorobenzene	99.2			67.0-138		07/25/2023 19:07	WG2101261
(S) 1,2-Dichloroethane-d4	77.2			70.0-130		07/25/2023 19:07	WG2101261

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	121		1.61	4.00	1	07/27/2023 12:40	WG2101703
C28-C36 Motor Oil Range	173		1.37	20.0	5	07/27/2023 15:19	WG2101703
(S) o-Terphenyl	19.1			18.0-148		07/27/2023 12:40	WG2101703
(S) o-Terphenyl	26.5			18.0-148		07/27/2023 15:19	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 07:38	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 07:38	WG2101711
Benzo(a)anthracene	0.00305	U	0.00173	0.00600	1	07/28/2023 07:38	WG2101711
Benzo(b)fluoranthene	0.00414	U	0.00153	0.00600	1	07/28/2023 07:38	WG2101711
Benzo(k)fluoranthene	U		0.00215	0.00600	1	07/28/2023 07:38	WG2101711
Benzo(a)pyrene	0.00268	U	0.00179	0.00600	1	07/28/2023 07:38	WG2101711
Chrysene	0.00429	U	0.00232	0.00600	1	07/28/2023 07:38	WG2101711
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 07:38	WG2101711
Fluoranthene	0.00521	U	0.00227	0.00600	1	07/28/2023 07:38	WG2101711
Fluorene	0.00391	U	0.00205	0.00600	1	07/28/2023 07:38	WG2101711
Indeno(1,2,3-cd)pyrene	0.00226	U	0.00181	0.00600	1	07/28/2023 07:38	WG2101711
1-Methylnaphthalene	0.0153	U	0.00449	0.0200	1	07/28/2023 07:38	WG2101711
2-Methylnaphthalene	0.0349	U	0.00427	0.0200	1	07/28/2023 07:38	WG2101711
Naphthalene	0.0121	U	0.00408	0.0200	1	07/28/2023 07:38	WG2101711
Pyrene	0.00817		0.00200	0.00600	1	07/28/2023 07:38	WG2101711
(S) p-Terphenyl-d14	55.3			23.0-120		07/28/2023 07:38	WG2101711
(S) Nitrobenzene-d5	111			14.0-149		07/28/2023 07:38	WG2101711
(S) 2-Fluorobiphenyl	47.4			34.0-125		07/28/2023 07:38	WG2101711

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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.55		1	07/28/2023 18:01	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/26/2023 12:15	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.85	<u>T8</u>	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-04 WG2101874: 7.85 at 24.3C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	331		10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-04 WG2101724: at 25C

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.457		0.0167	0.200	1	07/28/2023 15:55	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.43		0.100	1.00	5	08/01/2023 13:31	WG2104344
Barium	333		0.152	2.50	5	08/01/2023 13:31	WG2104344
Cadmium	0.419	<u>J</u>	0.0855	1.00	5	08/01/2023 13:31	WG2104344
Copper	21.2		0.132	5.00	5	08/01/2023 13:31	WG2104344
Lead	23.2		0.0990	2.00	5	08/01/2023 13:31	WG2104344
Nickel	16.0		0.197	2.50	5	08/01/2023 13:31	WG2104344
Selenium	0.264	<u>J</u>	0.180	2.50	5	08/01/2023 13:31	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 13:31	WG2104344
Zinc	54.5		0.740	25.0	5	08/01/2023 13:31	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2.98		0.0217	0.100	1	07/26/2023 00:55	WG2101425
(S) a,a,a-Trifluorotoluene(FID)	94.8			77.0-120		07/26/2023 00:55	WG2101425

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	07/25/2023 19:26	WG2101261
Toluene	U		0.00130	0.00500	1	07/25/2023 19:26	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 19:26	WG2101261
Xylenes, Total	U		0.000880	0.00650	1	07/25/2023 19:26	WG2101261
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/25/2023 19:26	WG2101261
1,3,5-Trimethylbenzene	0.00616		0.00200	0.00500	1	07/25/2023 19:26	WG2101261
(S) Toluene-d8	115			75.0-131		07/25/2023 19:26	WG2101261
(S) 4-Bromofluorobenzene	109			67.0-138		07/25/2023 19:26	WG2101261
(S) 1,2-Dichloroethane-d4	78.4			70.0-130		07/25/2023 19:26	WG2101261

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	2630		16.1	40.0	10	07/27/2023 13:19	WG2101703
C28-C36 Motor Oil Range	4730		27.4	400	100	07/27/2023 15:32	WG2101703
(S) o-Terphenyl	0.000	<u>J7</u>		18.0-148		07/27/2023 15:32	WG2101703
(S) o-Terphenyl	129			18.0-148		07/27/2023 13:19	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 06:28	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 06:28	WG2101711
Benzo(a)anthracene	0.0121		0.00173	0.00600	1	07/28/2023 06:28	WG2101711
Benzo(b)fluoranthene	0.0204		0.00153	0.00600	1	07/28/2023 06:28	WG2101711
Benzo(k)fluoranthene	0.0169		0.00215	0.00600	1	07/28/2023 06:28	WG2101711
Benzo(a)pyrene	0.0157		0.00179	0.00600	1	07/28/2023 06:28	WG2101711
Chrysene	0.0110		0.00232	0.00600	1	07/28/2023 06:28	WG2101711
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 06:28	WG2101711
Fluoranthene	0.0201		0.00227	0.00600	1	07/28/2023 06:28	WG2101711
Fluorene	0.0114		0.00205	0.00600	1	07/28/2023 06:28	WG2101711
Indeno(1,2,3-cd)pyrene	0.00863		0.00181	0.00600	1	07/28/2023 06:28	WG2101711
1-Methylnaphthalene	0.0219		0.00449	0.0200	1	07/28/2023 06:28	WG2101711
2-Methylnaphthalene	0.0367		0.00427	0.0200	1	07/28/2023 06:28	WG2101711
Naphthalene	0.0170	<u>J</u>	0.00408	0.0200	1	07/28/2023 06:28	WG2101711
Pyrene	0.0243		0.00200	0.00600	1	07/28/2023 06:28	WG2101711
(S) p-Terphenyl-d14	107			23.0-120		07/28/2023 06:28	WG2101711
(S) Nitrobenzene-d5	207	<u>J1</u>		14.0-149		07/28/2023 06:28	WG2101711
(S) 2-Fluorobiphenyl	103			34.0-125		07/28/2023 06:28	WG2101711

Sample Narrative:

L1637974-04 WG2101711: Surrogate failure due to matrix interference

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

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.925		1	07/28/2023 18:04	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/26/2023 12:20	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.95	<u>T8</u>	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-05 WG2101874: 7.95 at 24C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	507		10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-05 WG2101724: at 25C

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.283		0.0167	0.200	1	07/28/2023 15:58	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.41		0.100	1.00	5	08/01/2023 13:35	WG2104344
Barium	313		0.152	2.50	5	08/01/2023 13:35	WG2104344
Cadmium	0.295	<u>J</u>	0.0855	1.00	5	08/01/2023 13:35	WG2104344
Copper	20.8		0.132	5.00	5	08/01/2023 13:35	WG2104344
Lead	18.0		0.0990	2.00	5	08/01/2023 13:35	WG2104344
Nickel	21.0		0.197	2.50	5	08/01/2023 13:35	WG2104344
Selenium	0.365	<u>J</u>	0.180	2.50	5	08/01/2023 13:35	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 13:35	WG2104344
Zinc	42.4		0.740	25.0	5	08/01/2023 13:35	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	2.58		0.0217	0.100	1	07/26/2023 01:19	WG2101425
(S) a,a,a-Trifluorotoluene(FID)	91.8			77.0-120		07/26/2023 01:19	WG2101425

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	07/25/2023 19:44	WG2101261
Toluene	U		0.00130	0.00500	1	07/25/2023 19:44	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 19:44	WG2101261
Xylenes, Total	0.00183	<u>J</u>	0.000880	0.00650	1	07/25/2023 19:44	WG2101261
1,2,4-Trimethylbenzene	0.00171	<u>J</u>	0.00158	0.00500	1	07/25/2023 19:44	WG2101261
1,3,5-Trimethylbenzene	0.00532		0.00200	0.00500	1	07/25/2023 19:44	WG2101261
(S) Toluene-d8	113			75.0-131		07/25/2023 19:44	WG2101261
(S) 4-Bromofluorobenzene	103			67.0-138		07/25/2023 19:44	WG2101261
(S) 1,2-Dichloroethane-d4	74.4			70.0-130		07/25/2023 19:44	WG2101261

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	422		32.2	80.0	20	07/27/2023 13:32	WG2101703
C28-C36 Motor Oil Range	675		5.48	80.0	20	07/27/2023 13:32	WG2101703
(S) o-Terphenyl	0.000	<u>J7</u>		18.0-148		07/27/2023 13:32	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 08:13	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 08:13	WG2101711
Benzo(a)anthracene	0.0128		0.00173	0.00600	1	07/28/2023 08:13	WG2101711
Benzo(b)fluoranthene	0.0157		0.00153	0.00600	1	07/28/2023 08:13	WG2101711
Benzo(k)fluoranthene	0.00609		0.00215	0.00600	1	07/28/2023 08:13	WG2101711
Benzo(a)pyrene	0.0106		0.00179	0.00600	1	07/28/2023 08:13	WG2101711
Chrysene	0.0142		0.00232	0.00600	1	07/28/2023 08:13	WG2101711
Dibenz(a,h)anthracene	0.00277	<u>J</u>	0.00172	0.00600	1	07/28/2023 08:13	WG2101711
Fluoranthene	0.0239		0.00227	0.00600	1	07/28/2023 08:13	WG2101711
Fluorene	0.0284		0.00205	0.00600	1	07/28/2023 08:13	WG2101711
Indeno(1,2,3-cd)pyrene	0.00841		0.00181	0.00600	1	07/28/2023 08:13	WG2101711
1-Methylnaphthalene	0.0625		0.00449	0.0200	1	07/28/2023 08:13	WG2101711
2-Methylnaphthalene	0.114		0.00427	0.0200	1	07/28/2023 08:13	WG2101711
Naphthalene	0.0659		0.00408	0.0200	1	07/28/2023 08:13	WG2101711
Pyrene	0.0607		0.00200	0.00600	1	07/28/2023 08:13	WG2101711
(S) p-Terphenyl-d14	73.4			23.0-120		07/28/2023 08:13	WG2101711
(S) Nitrobenzene-d5	138			14.0-149		07/28/2023 08:13	WG2101711
(S) 2-Fluorobiphenyl	72.0			34.0-125		07/28/2023 08:13	WG2101711

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.02		1	07/28/2023 18:07	WG2102794

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	U		0.255	1.00	1	07/26/2023 12:25	WG2101368

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	<u>T8</u>	1	07/27/2023 08:38	WG2101874

Sample Narrative:

L1637974-06 WG2101874: 7.9 at 23.9C

Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	RDL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	487		10.0	1	07/26/2023 12:45	WG2101724

Sample Narrative:

L1637974-06 WG2101724: at 25C

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

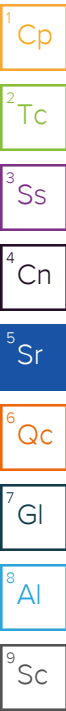
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.253		0.0167	0.200	1	07/28/2023 16:06	WG2102851

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	7.31		0.100	1.00	5	08/01/2023 13:38	WG2104344
Barium	321		0.152	2.50	5	08/01/2023 13:38	WG2104344
Cadmium	0.396	<u>J</u>	0.0855	1.00	5	08/01/2023 13:38	WG2104344
Copper	25.3		0.132	5.00	5	08/01/2023 13:38	WG2104344
Lead	24.0		0.0990	2.00	5	08/01/2023 13:38	WG2104344
Nickel	15.6		0.197	2.50	5	08/01/2023 13:38	WG2104344
Selenium	0.364	<u>J</u>	0.180	2.50	5	08/01/2023 13:38	WG2104344
Silver	U		0.0865	0.500	5	08/01/2023 13:38	WG2104344
Zinc	55.0		0.740	25.0	5	08/01/2023 13:38	WG2104344

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.235	<u>B</u>	0.0217	0.100	1	07/26/2023 13:13	WG2101946
(S) a,a,a-Trifluorotoluene(FID)	87.9			77.0-120		07/26/2023 13:13	WG2101946



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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000467	0.00100	1	07/25/2023 20:03	WG2101261
Toluene	U		0.00130	0.00500	1	07/25/2023 20:03	WG2101261
Ethylbenzene	U		0.000737	0.00250	1	07/25/2023 20:03	WG2101261
Xylenes, Total	U		0.000880	0.00650	1	07/25/2023 20:03	WG2101261
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	07/25/2023 20:03	WG2101261
1,3,5-Trimethylbenzene	0.00215	U	0.00200	0.00500	1	07/25/2023 20:03	WG2101261
(S) Toluene-d8	113			75.0-131		07/25/2023 20:03	WG2101261
(S) 4-Bromofluorobenzene	98.8			67.0-138		07/25/2023 20:03	WG2101261
(S) 1,2-Dichloroethane-d4	76.3			70.0-130		07/25/2023 20:03	WG2101261

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

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	487		8.05	20.0	5	07/27/2023 13:06	WG2101703
C28-C36 Motor Oil Range	371		1.37	20.0	5	07/27/2023 13:06	WG2101703
(S) o-Terphenyl	21.2			18.0-148		07/27/2023 13:06	WG2101703

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	07/28/2023 07:55	WG2101711
Anthracene	U		0.00230	0.00600	1	07/28/2023 07:55	WG2101711
Benzo(a)anthracene	0.00185	U	0.00173	0.00600	1	07/28/2023 07:55	WG2101711
Benzo(b)fluoranthene	0.00313	U	0.00153	0.00600	1	07/28/2023 07:55	WG2101711
Benzo(k)fluoranthene	U		0.00215	0.00600	1	07/28/2023 07:55	WG2101711
Benzo(a)pyrene	0.00190	U	0.00179	0.00600	1	07/28/2023 07:55	WG2101711
Chrysene	0.00240	U	0.00232	0.00600	1	07/28/2023 07:55	WG2101711
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	07/28/2023 07:55	WG2101711
Fluoranthene	0.00292	U	0.00227	0.00600	1	07/28/2023 07:55	WG2101711
Fluorene	0.00530	U	0.00205	0.00600	1	07/28/2023 07:55	WG2101711
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	07/28/2023 07:55	WG2101711
1-Methylnaphthalene	0.0243		0.00449	0.0200	1	07/28/2023 07:55	WG2101711
2-Methylnaphthalene	0.0457		0.00427	0.0200	1	07/28/2023 07:55	WG2101711
Naphthalene	0.0231		0.00408	0.0200	1	07/28/2023 07:55	WG2101711
Pyrene	0.00755		0.00200	0.00600	1	07/28/2023 07:55	WG2101711
(S) p-Terphenyl-d14	51.5			23.0-120		07/28/2023 07:55	WG2101711
(S) Nitrobenzene-d5	103			14.0-149		07/28/2023 07:55	WG2101711
(S) 2-Fluorobiphenyl	38.5			34.0-125		07/28/2023 07:55	WG2101711

Method Blank (MB)

(MB) R3952975-1 07/26/23 11:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Hexavalent Chromium	U		0.255	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1637974-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1637974-06 07/26/23 12:25 • (DUP) R3952975-7 07/26/23 12:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	U	U	1	0.000		20

L1637996-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1637996-02 07/26/23 13:12 • (DUP) R3952975-8 07/26/23 13:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Hexavalent Chromium	U	U	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3952975-2 07/26/23 11:12

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Hexavalent Chromium	10.0	11.1	111	80.0-120	

L1637305-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637305-01 07/26/23 11:23 • (MS) R3952975-3 07/26/23 11:28 • (MSD) R3952975-4 07/26/23 11:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Hexavalent Chromium	20.0	U	22.1	20.6	110	103	1	75.0-125			6.90	20

L1637305-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1637305-01 07/26/23 11:23 • (MS) R3952975-5 07/26/23 11:38

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Hexavalent Chromium	651	U	734	113	50	75.0-125	

L1636838-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1636838-27 07/27/23 08:38 • (DUP) R3953287-2 07/27/23 08:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
su	su			%		%
pH	8.26	8.27	1	0.121		1

Sample Narrative:

OS: 8.26 at 24.5C
 DUP: 8.27 at 24.4C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1637974-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1637974-03 07/27/23 08:38 • (DUP) R3953287-3 07/27/23 08:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
pH	7.96	7.98	1	0.251		1

Sample Narrative:

OS: 7.96 at 24.3C
 DUP: 7.98 at 24.3C

Laboratory Control Sample (LCS)

(LCS) R3953287-1 07/27/23 08:38

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 23.8C

Method Blank (MB)

(MB) R3952901-1 07/26/23 12:45

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Specific Conductance	U		10.0	10.0

Sample Narrative:

BLANK: at 25C

L1637974-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1637974-03 07/26/23 12:45 • (DUP) R3952901-3 07/26/23 12:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	312	382	1	20.2	J3	20

Sample Narrative:

OS: at 25C
DUP: at 25C

L1637996-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1637996-06 07/26/23 12:45 • (DUP) R3952901-4 07/26/23 12:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Specific Conductance	166	167	1	0.361		20

Sample Narrative:

OS: at 25C
DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R3952901-2 07/26/23 12:45

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Specific Conductance	732	732	100	85.0-115	

Sample Narrative:

LCS: at 25C

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3954161-1 07/28/23 14:58

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

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

(LCS) R3954161-2 07/28/23 15:00 • (LCSD) R3954161-3 07/28/23 15:03

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 %
Hot Water Sol. Boron	1.00	1.01	1.01	101	101	80.0-120			0.0979	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3955300-1 08/01/23 11:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Copper	U		0.133	5.00
Lead	U		0.0990	2.00
Nickel	U		0.197	2.50
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500
Zinc	U		0.740	25.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS)

(LCS) R3955300-2 08/01/23 11:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	91.8	91.8	80.0-120	
Barium	100	88.2	88.2	80.0-120	
Cadmium	100	90.8	90.8	80.0-120	
Copper	100	83.5	83.5	80.0-120	
Lead	100	87.1	87.1	80.0-120	
Nickel	100	89.1	89.1	80.0-120	
Selenium	100	92.8	92.8	80.0-120	
Silver	20.0	17.6	88.1	80.0-120	
Zinc	100	87.4	87.4	80.0-120	

⁷Gl

⁸Al

⁹Sc

L1637974-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637974-01 08/01/23 11:50 • (MS) R3955300-5 08/01/23 12:00 • (MSD) R3955300-6 08/01/23 12:03

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	5.70	92.2	102	86.5	96.4	5	75.0-125			10.1	20
Barium	100	246	348	409	102	163	5	75.0-125		J5	16.1	20
Cadmium	100	0.291	88.5	101	88.2	100	5	75.0-125			12.8	20
Copper	100	20.5	96.1	115	75.6	94.1	5	75.0-125			17.5	20
Lead	100	13.2	93.2	112	80.0	98.5	5	75.0-125			18.1	20
Nickel	100	15.7	95.9	113	80.2	97.2	5	75.0-125			16.3	20
Selenium	100	0.383	93.2	99.1	92.8	98.7	5	75.0-125			6.12	20
Silver	20.0	U	17.3	19.3	86.4	96.6	5	75.0-125			11.2	20
Zinc	100	49.4	120	141	70.5	92.1	5	75.0-125	J6		16.5	20

Method Blank (MB)

(MB) R3953885-2 07/25/23 22:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0241	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	97.1			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3953885-1 07/25/23 21:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.39	79.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			101	77.0-120	

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

Method Blank (MB)

(MB) R3953574-2 07/26/23 10:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0242	↓	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	96.9			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3953574-1 07/26/23 09:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.37	97.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			100	77.0-120	

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

Method Blank (MB)

(MB) R3954113-2 07/25/23 13:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	114			75.0-131
(S) 4-Bromofluorobenzene	97.9			67.0-138
(S) 1,2-Dichloroethane-d4	76.5			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3954113-1 07/25/23 11:55

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
Benzene	0.125	0.108	86.4	70.0-123	
Toluene	0.125	0.126	101	75.0-121	
Ethylbenzene	0.125	0.116	92.8	74.0-126	
Xylenes, Total	0.375	0.353	94.1	72.0-127	
1,2,4-Trimethylbenzene	0.125	0.0913	73.0	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.0955	76.4	73.0-127	
(S) Toluene-d8			107	75.0-131	
(S) 4-Bromofluorobenzene			98.3	67.0-138	
(S) 1,2-Dichloroethane-d4			86.4	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3953590-1 07/27/23 08:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.287	↓	0.274	4.00
(S) o-Terphenyl	61.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3953590-2 07/27/23 08:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
C10-C28 Diesel Range	50.0	28.5	57.0	50.0-150	
(S) o-Terphenyl			54.1	18.0-148	

L1637695-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637695-11 07/27/23 09:21 • (MS) R3953590-3 07/27/23 09:35 • (MSD) R3953590-4 07/27/23 09:48

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	48.6	U	34.1	30.5	70.2	62.0	1	50.0-150			11.1	20
(S) o-Terphenyl					56.0	48.5		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3954015-2 07/28/23 01:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	98.1			23.0-120
(S) Nitrobenzene-d5	92.4			14.0-149
(S) 2-Fluorobiphenyl	89.7			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3954015-1 07/28/23 01:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0622	77.8	50.0-120	
Anthracene	0.0800	0.0670	83.8	50.0-126	
Benzo(a)anthracene	0.0800	0.0701	87.6	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0670	83.8	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0657	82.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0708	88.5	42.0-120	
Chrysene	0.0800	0.0683	85.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0660	82.5	47.0-125	
Fluoranthene	0.0800	0.0666	83.3	49.0-129	
Fluorene	0.0800	0.0671	83.9	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0717	89.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0614	76.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0630	78.8	50.0-120	
Naphthalene	0.0800	0.0607	75.9	50.0-120	
Pyrene	0.0800	0.0699	87.4	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R3954015-1 07/28/23 01:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			102	23.0-120	
(S) Nitrobenzene-d5			93.9	14.0-149	
(S) 2-Fluorobiphenyl			94.1	34.0-125	

L1637974-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1637974-01 07/28/23 04:44 • (MS) R3954015-3 07/28/23 05:01 • (MSD) R3954015-4 07/28/23 05:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0772	U	0.0464	0.0387	60.1	50.1	1	14.0-127			18.1	27
Anthracene	0.0772	U	0.0500	0.0405	64.8	52.5	1	10.0-145			21.0	30
Benzo(a)anthracene	0.0772	U	0.0543	0.0441	70.3	57.1	1	10.0-139			20.7	30
Benzo(b)fluoranthene	0.0772	U	0.0476	0.0377	61.7	48.8	1	10.0-140			23.2	36
Benzo(k)fluoranthene	0.0772	U	0.0495	0.0408	64.1	52.8	1	10.0-137			19.3	31
Benzo(a)pyrene	0.0772	U	0.0556	0.0451	72.0	58.4	1	10.0-141			20.9	31
Chrysene	0.0772	U	0.0550	0.0450	71.2	58.3	1	10.0-145			20.0	30
Dibenz(a,h)anthracene	0.0772	U	0.0504	0.0422	65.3	54.7	1	10.0-132			17.7	31
Fluoranthene	0.0772	U	0.0502	0.0399	65.0	51.7	1	10.0-153			22.9	33
Fluorene	0.0772	U	0.0526	0.0421	68.1	54.5	1	11.0-130			22.2	29
Indeno(1,2,3-cd)pyrene	0.0772	U	0.0510	0.0412	66.1	53.4	1	10.0-137			21.3	32
1-Methylnaphthalene	0.0772	0.00624	0.0513	0.0447	58.4	49.8	1	10.0-142			13.8	28
2-Methylnaphthalene	0.0772	0.0129	0.0543	0.0474	53.6	44.7	1	10.0-137			13.6	28
Naphthalene	0.0772	0.00457	0.0526	0.0491	62.2	57.7	1	10.0-135			6.88	27
Pyrene	0.0772	0.00302	0.0516	0.0410	62.9	49.2	1	10.0-148			22.9	35
(S) p-Terphenyl-d14					77.3	55.7		23.0-120				
(S) Nitrobenzene-d5					94.2	102		14.0-149				
(S) 2-Fluorobiphenyl					73.7	56.6		34.0-125				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

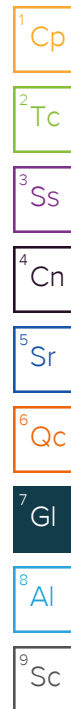
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
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.
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.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
T8	Sample(s) received past/too close to holding time expiration.



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	LA000356
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Company Name/Address: Caerus Oil & Gas 143 Diamond Ave Parachute, CO 81635		Billing Information: Same as left.		Pres Chk	Analysis / Container / Preservative										Chain of Custody Page ___ of ___	
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12065 Lebanon Rd Mount Juliet, TN 37122
 Phone: 615-758-5858 Alt: 800-767-5859
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report to: Blair Rollins	Email To: brollins@caerusoilandgas.com	
Project Description: EL12 12-11D Flowline	City/State Collected:	Please Circle: PT MT CT ET

Phone: (970) 640-6919	Client Project #	Lab Project #
Collected by (print): C. Mace	Site/Facility ID #	P.O. #
Collected by (signature): <i>C. Mace</i>	Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day	Quote # Date Results Needed
Immediately Packed on Ice N ___ Y <input checked="" type="checkbox"/>		No. of Cntrs

SDG # **163A24**

J189

Acctnum:
 Template:
 Prelogin:
 PM:
 PB:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	TABLE 915 GRO/DRO/ORO	TABLE 915 Metals	TABLE 915 VOCs	TABLE 915 pH, SPCON, SAR	TABLE 915 PAHs	Shipped Via:		
													Remarks	Sample # (lab only)
20230720-CHEVRON EL12 697-(FCWH1211DNW)@5	Grab	SS	5	2023-07-20	0930	4	X	X	X	X	X			-01
20230720-CHEVRON EL12 697-(FCWH1211DEW)@5	Grab	SS	5	2023-07-20	0940	4	X	X	X	X	X			-02
20230720-CHEVRON EL12 697-(FCWH1211DSW)@5	Grab	SS	5	2023-07-20	0950	4	X	X	X	X	X			-03
20230720-CHEVRON EL12 697-(FCWH1211DWW)@5	Grab	SS	5	2023-07-20	1000	4	X	X	X	X	X			-04
20230720-CHEVRON EL12 697-(FCWH1211DBASE)@7	Grab	SS	7	2023-07-20	1010	4	X	X	X	X	X			-05
20230720-CHEVRON EL12 697-(FCWH1211DSPOIL)@0.5	Comp	SS	0.5	2023-07-20	1130	4	X	X	X	X	X			-06

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

Remarks:

Samples returned via:
 UPS FedEx Courier

Tracking # **6525 5572 0391**

pH _____ Temp _____
 Flow _____ Other _____

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) <i>[Signature]</i>	Date: 2023 07 20	Time: 1700	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: Yes/No HCL/MeOH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 7/20/23	Time: 1730	Received by: (Signature) <i>[Signature]</i>	Temp: 6.6°C Bottles Received: 24
Relinquished by: (Signature) <i>[Signature]</i>	Date: 7-21-23	Time: 900	Received for lab by: (Signature) <i>[Signature]</i>	Hold: Condition: NCF / <input checked="" type="checkbox"/> OK