






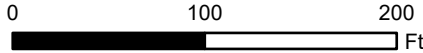



Legend  Approximate Spill Path  Background Sample  Soil Sample Location		 1 inch = 100 ft		
Project No: 021-205	AC McLaughlin 65X Riser Spill Scout Energy Partners NWNW Section 23, T2N R103W, 6th PM Rio Blanco County, Colorado	 330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015		Figure
Map By: RRM		 100 Chevron Road Rangely, CO 81648 970-501-5157		1
Date: 1/16/2025				

Table 1
AC McLaughlin 65X Spill
Soil Data Summary

SAMPLE SUMMARY	
Location Description	AC McLaughlin 65X Spill
Sample Type	Soil

LABORATORY DATA SUMMARY						
Sample ID	ACM 65X-SS1	ACM 65X-SS2	ACM 65X-BG1	ECMC TABLE 915-1 CONCENTRATION LEVELS		UNITS
Depth	0-6"	0-6"	0-1'			
Sample Date	10/14/2024	10/14/2024	10/14/2024			
Analytical Parameters				Residential Soil Screening Level	Protection of Groundwater Screening Level	
TPH						
TPH (C6-C10)	0.122	292	NT	500		mg/kg
TPH (C10-C28)	21	746	NT			
TPH (C28-C36)	46.80	441	NT			
Volatile Organic Compounds						
1,2,4-Trimethylbenzene	<0.005	1.6	NT	30	0.0081	mg/kg
1,3,5-Trimethylbenzene	<0.005	0.689	NT	27	0.0087	mg/kg
Benzene	<0.001	<0.008	NT	1.2	0.0026	mg/kg
Toluene	0.00176 J	<0.04	NT	490	0.69	mg/kg
Ethylbenzene	<0.0025	0.0746	NT	5.8	0.78	mg/kg
Total Xylene	<0.0065	0.642	NT	58	9.9	mg/kg
Metals						
Arsenic	6.21	5.19	7.21	0.68	0.29	mg/kg
Barium	452	395	93.5	15,000	82	mg/kg
Cadmium	0.241 J	0.195 J	0.264 J	71	0.38	mg/kg
Chromium, Hexavalent	<1.00	<1.00	<1.00	0.3	0.00067	mg/kg
Copper	10.7	9.81	11.9	3,100	46	mg/kg
Lead	16.1	13.3	13.4	400	14	mg/kg
Nickel	15.5	12.2	17.5	1,500	26	mg/kg
Selenium	1.07 J	0.835 J	1.23 J	390	0.26	mg/kg
Silver	0.0993 J	<0.5	0.13 J	390	0.8	mg/kg
Zinc	69.2	56.9	70.9	23,000	370	mg/kg
Soil Suitability for Reclamation						
Sodium Adsorption Ratio (SAR)	23.1	60.1	0.197	<6	<6	ratio
Electrical Conductivity (EC)	0.349	35.70	2.40	<4	<4	mmhos/cm
pH	7.94	7.80	7.73	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	1.27	3.35	0.682	2	2	mg/l
Polynuclear Aromatic Hydrocarbons						
1-Methylnaphthalene	0.00727 J	1.12	NT	18	0.006	mg/kg
2-Methylnaphthalene	0.0108 J	1.21	NT	24	0.019	mg/kg
Acenaphthene	<0.006	0.0443	NT	360	0.55	mg/kg
Anthracene	<0.006	<0.006	NT	1,800	5.8	mg/kg
Benzo(a)anthracene	0.00275 J	<0.006	NT	1.1	0.011	mg/kg
Benzo(a)pyrene	<0.006	<0.006	NT	0.11	0.24	mg/kg
Benzo(b)fluoranthene	0.00334 J	<0.006	NT	1.1	0.3	mg/kg
Benzo(k)fluoranthene	<0.006	<0.006	NT	11	2.9	mg/kg
Chrysene	0.00486 J	<0.006	NT	110	9	mg/kg
Dibenzo(a,h)anthracene	<0.006	<0.006	NT	0.11	0.096	mg/kg
Fluoranthene	0.0405	0.0177	NT	240	8.9	mg/kg
Fluorene	<0.006	0.155	NT	240	0.54	mg/kg
Indeno(1,2,3-cd)pyrene	<0.006	<0.006	NT	1.1	0.98	mg/kg
Napthalene	0.00516 J	0.457	NT	2	0.0038	mg/kg
Pyrene	0.0218	0.0169	NT	180	1.3	mg/kg

mg/kg - milligrams per kilogram
mg/L - milligrams per liter
B - analyte detected in the associated Method Blank above the Reporting Limit
J - indicates an estimated value
H - analyzed outside of holding time
mmhos/cm - millimhos per centimeter
mv - millivolts
su - standard units
NA - not applicable
NT - parameter was not tested

Over ECMC Table 915-1 concentration levels but under BACKGROUND level.
Over ECMC Table 915-1 concentration levels and not within BACKGROUND level.
Over ECMC Table 915-1 concentration levels

October 28, 2024

Scout Energy - Rangely, CO

Sample Delivery Group: L1789492
Samples Received: 10/16/2024
Project Number:
Description: A.C. McLaughlin 65X

Report To: Chris Patterson
100 Chevron Road
Rangely, CO 81648

Entire Report Reviewed By:



Shane Gambill
Project Manager

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

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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¹ Cp

² Tc

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⁹ Sc

SAMPLE SUMMARY

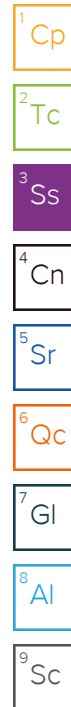
ACM 65X-SS1 L1789492-01 Solid

Collected by
M. Schlageter

Collected date/time
10/14/24 11:20

Received date/time
10/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2385526	1	10/21/24 17:16	10/21/24 17:16	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2384027	1	10/20/24 17:02	10/21/24 13:03	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2386527	1	10/21/24 15:15	10/22/24 09:45	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2386535	1	10/21/24 15:19	10/22/24 11:22	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2385530	1	10/19/24 11:39	10/22/24 11:41	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2384865	5	10/18/24 10:54	10/18/24 23:05	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2386466	1	10/17/24 01:01	10/21/24 22:19	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2389056	1	10/17/24 01:01	10/25/24 10:36	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2389184	1	10/25/24 08:07	10/26/24 11:26	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2387960	1	10/23/24 18:46	10/24/24 07:44	JCH	Mt. Juliet, TN



ACM 65X-SS2 L1789492-02 Solid

Collected by
M. Schlageter

Collected date/time
10/14/24 11:10

Received date/time
10/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2385526	1	10/22/24 11:53	10/22/24 11:53	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2384027	1	10/20/24 17:02	10/21/24 13:22	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2386527	1	10/21/24 15:15	10/22/24 09:45	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2386535	1	10/21/24 15:19	10/22/24 11:22	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2385530	1	10/19/24 11:39	10/22/24 11:43	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2384865	5	10/18/24 10:54	10/18/24 23:17	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2386636	100	10/17/24 01:01	10/22/24 18:31	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2389056	8	10/17/24 01:01	10/25/24 10:56	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2389184	5	10/25/24 08:07	10/26/24 14:10	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2387960	1	10/23/24 18:46	10/24/24 08:03	JCH	Mt. Juliet, TN

ACM 65X-BG1 L1789492-03 Solid

Collected by
M. Schlageter

Collected date/time
10/14/24 11:40

Received date/time
10/16/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2385526	1	10/21/24 17:19	10/21/24 17:19	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2384027	1	10/20/24 17:02	10/21/24 13:28	ANW	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2386527	1	10/21/24 15:15	10/22/24 09:45	BRT	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2386535	1	10/21/24 15:19	10/22/24 11:22	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2385530	1	10/19/24 11:39	10/22/24 11:44	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2384865	5	10/18/24 10:54	10/18/24 23:20	UNP	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.



Shane Gambill
Project Manager



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	23.1		1	10/21/2024 17:16	WG2385526

1
Cp

2
Tc

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	10/21/2024 13:03	WG2384027

3
Ss

4
Cn

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.94	T8	1	10/22/2024 09:45	WG2386527

5
Sr

6
Qc

Sample Narrative:

L1789492-01 WG2386527: 7.94 at 19.2C

7
Gl

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Specific Conductance	349	umhos/cm		10.0	1	10/22/2024 11:22	WG2386535

8
Al

Sample Narrative:

L1789492-01 WG2386535: at 25C

9
Sc

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	1.27		0.0167	0.200	1	10/22/2024 11:41	WG2385530

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.21		0.100	1.00	5	10/18/2024 23:05	WG2384865
Barium	452		0.152	2.50	5	10/18/2024 23:05	WG2384865
Cadmium	0.241	J	0.0855	1.00	5	10/18/2024 23:05	WG2384865
Copper	10.7		0.132	5.00	5	10/18/2024 23:05	WG2384865
Lead	16.1		0.0990	2.00	5	10/18/2024 23:05	WG2384865
Nickel	15.5		0.197	2.50	5	10/18/2024 23:05	WG2384865
Selenium	1.07	J	0.180	2.50	5	10/18/2024 23:05	WG2384865
Silver	0.0993	J	0.0865	0.500	5	10/18/2024 23:05	WG2384865
Zinc	69.2		0.740	25.0	5	10/18/2024 23:05	WG2384865

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	0.122	B	0.0217	0.100	1	10/21/2024 22:19	WG2386466
(S) a,a,a-Trifluorotoluene(FID)	98.1			77.0-120		10/21/2024 22:19	WG2386466

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	10/25/2024 10:36	WG2389056
Toluene	0.00176	U	0.00130	0.00500	1	10/25/2024 10:36	WG2389056
Ethylbenzene	U		0.000737	0.00250	1	10/25/2024 10:36	WG2389056
Xylenes, Total	U		0.000880	0.00650	1	10/25/2024 10:36	WG2389056
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	10/25/2024 10:36	WG2389056
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	10/25/2024 10:36	WG2389056
(S) Toluene-d8	97.5			75.0-131		10/25/2024 10:36	WG2389056
(S) 4-Bromofluorobenzene	89.4			67.0-138		10/25/2024 10:36	WG2389056
(S) 1,2-Dichloroethane-d4	99.4			70.0-130		10/25/2024 10:36	WG2389056

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	21.0		1.61	4.00	1	10/26/2024 11:26	WG2389184
C28-C36 Motor Oil Range	46.8		0.274	4.00	1	10/26/2024 11:26	WG2389184
(S) o-Terphenyl	68.8			18.0-148		10/26/2024 11:26	WG2389184

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	10/24/2024 07:44	WG2387960
Anthracene	U		0.00230	0.00600	1	10/24/2024 07:44	WG2387960
Benzo(a)anthracene	0.00275	U	0.00173	0.00600	1	10/24/2024 07:44	WG2387960
Benzo(b)fluoranthene	0.00334	U	0.00153	0.00600	1	10/24/2024 07:44	WG2387960
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/24/2024 07:44	WG2387960
Benzo(a)pyrene	U		0.00179	0.00600	1	10/24/2024 07:44	WG2387960
Chrysene	0.00486	U	0.00232	0.00600	1	10/24/2024 07:44	WG2387960
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/24/2024 07:44	WG2387960
Fluoranthene	0.0405		0.00227	0.00600	1	10/24/2024 07:44	WG2387960
Fluorene	U		0.00205	0.00600	1	10/24/2024 07:44	WG2387960
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/24/2024 07:44	WG2387960
1-Methylnaphthalene	0.00727	U	0.00449	0.0200	1	10/24/2024 07:44	WG2387960
2-Methylnaphthalene	0.0108	U	0.00427	0.0200	1	10/24/2024 07:44	WG2387960
Naphthalene	0.00516	U	0.00408	0.0200	1	10/24/2024 07:44	WG2387960
Pyrene	0.0218		0.00200	0.00600	1	10/24/2024 07:44	WG2387960
(S) p-Terphenyl-d14	101			23.0-120		10/24/2024 07:44	WG2387960
(S) Nitrobenzene-d5	98.3			14.0-149		10/24/2024 07:44	WG2387960
(S) 2-Fluorobiphenyl	98.9			34.0-125		10/24/2024 07:44	WG2387960

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	60.1		1	10/22/2024 11:53	WG2385526

1
Cp

2
Tc

Wet Chemistry by Method 7199

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Hexavalent Chromium	U		0.255	1.00	1	10/21/2024 13:22	WG2384027

3
Ss

4
Cn

Wet Chemistry by Method 9045D

	Result su	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
pH	7.80	T8	1	10/22/2024 09:45	WG2386527

5
Sr

6
Qc

Sample Narrative:

L1789492-02 WG2386527: 7.8 at 19.3C

7
Gl

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	35700	umhos/cm		10.0	1	10/22/2024 11:22	WG2386535

8
Al

Sample Narrative:

L1789492-02 WG2386535: at 25C

9
Sc

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

	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Analyte							
Hot Water Sol. Boron	3.35		0.0167	0.200	1	10/22/2024 11:43	WG2385530

Metals (ICPMS) by Method 6020

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Arsenic	5.19		0.100	1.00	5	10/18/2024 23:17	WG2384865
Barium	395		0.152	2.50	5	10/18/2024 23:17	WG2384865
Cadmium	0.195	J	0.0855	1.00	5	10/18/2024 23:17	WG2384865
Copper	9.81		0.132	5.00	5	10/18/2024 23:17	WG2384865
Lead	13.3		0.0990	2.00	5	10/18/2024 23:17	WG2384865
Nickel	12.2		0.197	2.50	5	10/18/2024 23:17	WG2384865
Selenium	0.835	J	0.180	2.50	5	10/18/2024 23:17	WG2384865
Silver	U		0.0865	0.500	5	10/18/2024 23:17	WG2384865
Zinc	56.9		0.740	25.0	5	10/18/2024 23:17	WG2384865

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
TPH (GC/FID) Low Fraction	292		2.17	10.0	100	10/22/2024 18:31	WG2386636
(S) a,a,a-Trifluorotoluene(FID)	98.0			77.0-120		10/22/2024 18:31	WG2386636

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		0.00374	0.00800	8	10/25/2024 10:56	WG2389056
Toluene	U		0.0104	0.0400	8	10/25/2024 10:56	WG2389056
Ethylbenzene	0.0746		0.00590	0.0200	8	10/25/2024 10:56	WG2389056
Xylenes, Total	0.642		0.00704	0.0520	8	10/25/2024 10:56	WG2389056
1,2,4-Trimethylbenzene	1.60		0.0126	0.0400	8	10/25/2024 10:56	WG2389056
1,3,5-Trimethylbenzene	0.689		0.0160	0.0400	8	10/25/2024 10:56	WG2389056
(S) Toluene-d8	96.8			75.0-131		10/25/2024 10:56	WG2389056
(S) 4-Bromofluorobenzene	103			67.0-138		10/25/2024 10:56	WG2389056
(S) 1,2-Dichloroethane-d4	109			70.0-130		10/25/2024 10:56	WG2389056

Sample Narrative:
L1789492-02 WG2389056: Non-target compounds too high to run at a lower dilution.

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	746		8.05	20.0	5	10/26/2024 14:10	WG2389184
C28-C36 Motor Oil Range	441		1.37	20.0	5	10/26/2024 14:10	WG2389184
(S) o-Terphenyl	0.000	J2		18.0-148		10/26/2024 14:10	WG2389184

Sample Narrative:
L1789492-02 WG2389184: Surrogate failure due to matrix interference

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	0.0443		0.00209	0.00600	1	10/24/2024 08:03	WG2387960
Anthracene	U		0.00230	0.00600	1	10/24/2024 08:03	WG2387960
Benzo(a)anthracene	U		0.00173	0.00600	1	10/24/2024 08:03	WG2387960
Benzo(b)fluoranthene	U		0.00153	0.00600	1	10/24/2024 08:03	WG2387960
Benzo(k)fluoranthene	U		0.00215	0.00600	1	10/24/2024 08:03	WG2387960
Benzo(a)pyrene	U		0.00179	0.00600	1	10/24/2024 08:03	WG2387960
Chrysene	U		0.00232	0.00600	1	10/24/2024 08:03	WG2387960
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	10/24/2024 08:03	WG2387960
Fluoranthene	0.0177		0.00227	0.00600	1	10/24/2024 08:03	WG2387960
Fluorene	0.155		0.00205	0.00600	1	10/24/2024 08:03	WG2387960
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	10/24/2024 08:03	WG2387960
1-Methylnaphthalene	1.12		0.00449	0.0200	1	10/24/2024 08:03	WG2387960
2-Methylnaphthalene	1.21		0.00427	0.0200	1	10/24/2024 08:03	WG2387960
Naphthalene	0.457		0.00408	0.0200	1	10/24/2024 08:03	WG2387960
Pyrene	0.0169		0.00200	0.00600	1	10/24/2024 08:03	WG2387960
(S) p-Terphenyl-d14	94.2			23.0-120		10/24/2024 08:03	WG2387960
(S) Nitrobenzene-d5	0.000	J2		14.0-149		10/24/2024 08:03	WG2387960
(S) 2-Fluorobiphenyl	99.3			34.0-125		10/24/2024 08:03	WG2387960

Sample Narrative:
L1789492-02 WG2387960: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	0.197		1	10/21/2024 17:19	WG2385526

Wet Chemistry by Method 7199

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Hexavalent Chromium	U		0.255	1.00	1	10/21/2024 13:28	WG2384027

Wet Chemistry by Method 9045D

	Result su	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
pH	7.73	T8	1	10/22/2024 09:45	WG2386527

Sample Narrative:
L1789492-03 WG2386527: 7.73 at 19.4C

Wet Chemistry by Method 9050AMod

	Result	Units	Qualifier	RDL	Dilution	Analysis date / time	Batch
Analyte							
Specific Conductance	2400	umhos/cm		10.0	1	10/22/2024 11:22	WG2386535

Sample Narrative:
L1789492-03 WG2386535: at 25C

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

	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Analyte							
Hot Water Sol. Boron	0.682		0.0167	0.200	1	10/22/2024 11:44	WG2385530

Metals (ICPMS) by Method 6020

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Arsenic	7.21		0.100	1.00	5	10/18/2024 23:20	WG2384865
Barium	93.5		0.152	2.50	5	10/18/2024 23:20	WG2384865
Cadmium	0.264	J	0.0855	1.00	5	10/18/2024 23:20	WG2384865
Copper	11.9		0.132	5.00	5	10/18/2024 23:20	WG2384865
Lead	13.4		0.0990	2.00	5	10/18/2024 23:20	WG2384865
Nickel	17.5		0.197	2.50	5	10/18/2024 23:20	WG2384865
Selenium	1.23	J	0.180	2.50	5	10/18/2024 23:20	WG2384865
Silver	0.130	J	0.0865	0.500	5	10/18/2024 23:20	WG2384865
Zinc	70.9		0.740	25.0	5	10/18/2024 23:20	WG2384865

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4135539-1 10/21/24 10:51

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

L1789489-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1789489-01 10/21/24 11:06 • (DUP) R4135539-3 10/21/24 11:12

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

L1789495-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1789495-04 10/21/24 13:40 • (DUP) R4135539-8 10/21/24 13:47

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

Laboratory Control Sample (LCS)

(LCS) R4135539-2 10/21/24 11:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Hexavalent Chromium	10.0	10.2	102	80.0-120	

L1789489-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789489-05 10/21/24 11:37 • (MS) R4135539-4 10/21/24 11:43 • (MSD) R4135539-5 10/21/24 11:49

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Hexavalent Chromium	20.0	U	16.5	17.5	82.5	87.4	1	75.0-125			5.70	20

L1789489-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1789489-05 10/21/24 11:37 • (MS) R4135539-6 10/21/24 12:08

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Hexavalent Chromium	651	U	720	111	50	75.0-125	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1789489-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1789489-01 10/22/24 09:45 • (DUP) R4135718-2 10/22/24 09:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.97	7.94	1	0.377		1

Sample Narrative:

OS: 7.97 at 19.9C

DUP: 7.94 at 20C

L1789492-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1789492-03 10/22/24 09:45 • (DUP) R4135718-3 10/22/24 09:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	su	su		%		%
pH	7.73	7.74	1	0.129		1

Sample Narrative:

OS: 7.73 at 19.4C

DUP: 7.74 at 19.5C

Laboratory Control Sample (LCS)

(LCS) R4135718-1 10/22/24 09:45

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

Sample Narrative:

LCS: 9.95 at 19.3C

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4135800-1 10/22/24 11:22

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

L1789489-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1789489-01 10/22/24 11:22 • (DUP) R4135800-3 10/22/24 11:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	946	964	1	1.88		20

Sample Narrative:

OS: at 25C

DUP: at 25C

L1789492-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1789492-03 10/22/24 11:22 • (DUP) R4135800-4 10/22/24 11:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2400	2430	1	1.45		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4135800-2 10/22/24 11:22

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	765	104	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) R4135852-1 10/22/24 11:13

Analyte	MB Result mg/l	<u>MB Qualifier</u>	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) R4135852-2 10/22/24 11:14 • (LCSD) R4135852-3 10/22/24 11:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.02	1.01	102	101	80.0-120			1.04	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4134833-1 10/18/24 21:48

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	0.219	J	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

Laboratory Control Sample (LCS)

(LCS) R4134833-2 10/18/24 21:51

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	95.6	95.6	80.0-120	
Barium	100	92.3	92.3	80.0-120	
Cadmium	100	97.0	97.0	80.0-120	
Copper	100	92.8	92.8	80.0-120	
Lead	100	92.2	92.2	80.0-120	
Nickel	100	98.7	98.7	80.0-120	
Selenium	100	91.4	91.4	80.0-120	
Silver	20.0	19.2	96.1	80.0-120	
Zinc	100	96.8	96.8	80.0-120	

L1789495-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789495-02 10/18/24 21:54 • (MS) R4134833-5 10/18/24 22:03 • (MSD) R4134833-6 10/18/24 22:06

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	5.88	92.5	92.7	86.7	86.8	5	75.0-125			0.160	20
Barium	100	140	219	210	79.2	70.3	5	75.0-125		J6	4.13	20
Cadmium	100	0.0975	88.7	87.7	88.6	87.6	5	75.0-125			1.23	20
Copper	100	6.96	91.1	88.0	84.2	81.1	5	75.0-125			3.44	20
Lead	100	8.95	91.6	90.3	82.6	81.4	5	75.0-125			1.38	20
Nickel	100	14.1	103	100	89.3	85.9	5	75.0-125			3.37	20
Selenium	100	0.409	84.5	84.7	84.0	84.3	5	75.0-125			0.310	20
Silver	20.0	U	17.7	17.6	88.5	87.8	5	75.0-125			0.834	20
Zinc	100	35.7	121	119	85.1	83.5	5	75.0-125			1.36	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4135726-2 10/21/24 14:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0252	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120

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

(LCS) R4135726-1 10/21/24 13:18 • (LCSD) R4135726-3 10/21/24 20:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	5.02	5.83	100	117	72.0-127			14.9	20
(S) a,a,a-Trifluorotoluene(FID)				110	110	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4135862-3 10/22/24 07:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	U		0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	95.4			77.0-120

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

(LCS) R4135862-1 10/22/24 03:21 • (LCSD) R4135862-2 10/22/24 03:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.00	5.53	5.84	111	117	72.0-127			5.45	20
(S) a,a,a-Trifluorotoluene(FID)				106	107	77.0-120				

L1789683-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789683-25 10/22/24 18:12 • (MS) R4135862-4 10/22/24 18:51 • (MSD) R4135862-5 10/22/24 19:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	118	0.715	129	136	109	115	25	10.0-151			5.28	28
(S) a,a,a-Trifluorotoluene(FID)					105	105		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4137456-3 10/25/24 06:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	101			75.0-131
(S) 4-Bromofluorobenzene	90.2			67.0-138
(S) 1,2-Dichloroethane-d4	99.6			70.0-130

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

(LCS) R4137456-1 10/25/24 04:42 • (LCSD) R4137456-2 10/25/24 05:01

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.122	0.120	97.6	96.0	70.0-123			1.65	20
Toluene	0.125	0.117	0.115	93.6	92.0	75.0-121			1.72	20
Ethylbenzene	0.125	0.110	0.106	88.0	84.8	74.0-126			3.70	20
Xylenes, Total	0.375	0.313	0.319	83.5	85.1	72.0-127			1.90	20
1,2,4-Trimethylbenzene	0.125	0.0981	0.0991	78.5	79.3	70.0-126			1.01	20
1,3,5-Trimethylbenzene	0.125	0.106	0.108	84.8	86.4	73.0-127			1.87	20
(S) Toluene-d8				96.7	98.9	75.0-131				
(S) 4-Bromofluorobenzene				93.6	98.0	67.0-138				
(S) 1,2-Dichloroethane-d4				109	112	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4137897-1 10/25/24 20:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	U		0.274	4.00
(S) o-Terphenyl	59.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4137897-2 10/25/24 21:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	42.0	84.0	50.0-150	
(S) o-Terphenyl			82.7	18.0-148	

L1789197-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1789197-13 10/26/24 09:55 • (MS) R4137897-3 10/26/24 10:08 • (MSD) R4137897-4 10/26/24 10:21

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	U	32.3	34.8	64.6	69.6	1	50.0-150			7.45	20
(S) o-Terphenyl					58.6	61.4		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4137178-2 10/24/24 01:13

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	104			23.0-120
(S) Nitrobenzene-d5	90.0			14.0-149
(S) 2-Fluorobiphenyl	96.2			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4137178-1 10/24/24 00:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0724	90.5	50.0-120	
Anthracene	0.0800	0.0692	86.5	50.0-126	
Benzo(a)anthracene	0.0800	0.0729	91.1	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0820	103	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0802	100	49.0-125	
Benzo(a)pyrene	0.0800	0.0697	87.1	42.0-120	
Chrysene	0.0800	0.0844	105	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0853	107	47.0-125	
Fluoranthene	0.0800	0.0767	95.9	49.0-129	
Fluorene	0.0800	0.0773	96.6	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0752	94.0	46.0-125	
1-Methylnaphthalene	0.0800	0.0775	96.9	51.0-121	
2-Methylnaphthalene	0.0800	0.0728	91.0	50.0-120	
Naphthalene	0.0800	0.0750	93.8	50.0-120	
Pyrene	0.0800	0.0790	98.8	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4137178-1 10/24/24 00:53

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
(S) p-Terphenyl-d14			109	23.0-120	
(S) Nitrobenzene-d5			100	14.0-149	
(S) 2-Fluorobiphenyl			104	34.0-125	

L1790818-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1790818-15 10/24/24 03:49 • (MS) R4137178-3 10/24/24 04:09 • (MSD) R4137178-4 10/24/24 04:28

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0772	0.0546	0.0881	0.119	43.4	83.4	1	14.0-127		J3	29.8	27
Anthracene	0.0772	0.00880	0.0565	0.0681	61.8	76.8	1	10.0-145			18.6	30
Benzo(a)anthracene	0.0772	0.00676	0.0583	0.0692	66.8	80.9	1	10.0-139			17.1	30
Benzo(b)fluoranthene	0.0772	0.00729	0.0558	0.0652	62.8	75.0	1	10.0-140			15.5	36
Benzo(k)fluoranthene	0.0772	U	0.0546	0.0626	70.7	81.1	1	10.0-137			13.7	31
Benzo(a)pyrene	0.0772	0.00330	0.0558	0.0637	68.0	78.2	1	10.0-141			13.2	31
Chrysene	0.0772	0.00654	0.0638	0.0730	74.2	86.1	1	10.0-145			13.5	30
Dibenz(a,h)anthracene	0.0772	U	0.0565	0.0640	73.2	82.9	1	10.0-132			12.4	31
Fluoranthene	0.0772	0.0425	0.0735	0.101	40.2	75.8	1	10.0-153			31.5	33
Fluorene	0.0772	0.0393	0.0810	0.109	54.0	90.3	1	11.0-130		J3	29.5	29
Indeno(1,2,3-cd)pyrene	0.0772	0.00183	0.0516	0.0616	64.5	77.4	1	10.0-137			17.7	32
1-Methylnaphthalene	0.0772	0.0249	0.0834	0.0956	75.8	91.6	1	10.0-142			13.6	28
2-Methylnaphthalene	0.0772	0.0355	0.101	0.117	84.8	106	1	10.0-137			14.7	28
Naphthalene	0.0772	0.0698	0.197	0.222	165	197	1	10.0-135	J5	J5	11.9	27
Pyrene	0.0772	0.0277	0.0605	0.0815	42.5	69.7	1	10.0-148			29.6	35
(S) p-Terphenyl-d14					77.0	92.7		23.0-120				
(S) Nitrobenzene-d5					96.4	104		14.0-149				
(S) 2-Fluorobiphenyl					82.2	97.0		34.0-125				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

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.

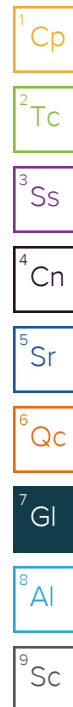
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. 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.
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.



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.



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