Rodman Bruntz 26H-D266 Facility

SWNW, Sec 26, T2N, R66W, 6PM

Facility ID: 330697

Remediation Project #: 35918

Decommissioning Package

Prepared by Quandary Consultants, Inc.

On behalf of Crestone Peak Resources Operating, LLC

FIELD NOTES AND PHOTO LOG

Decommissioning Field Form
Background Assessment

QUANDARY CONSULTANTS

SITE NAME: Rodman Bruntz 26H-D266 FAC	**DATE: 9/10/2024**	**REM. PROJECT # 35918**	**WEATHER: Sunny, clear**
SITE DIRECTIONS: Weld County Road 18 & 31, East 0.75, South into		**CLIENT: Cresone Peak Resources Operating, LLC**	
LAT/LONG: 40.112060, -104.750210		**PERSONNEL: Brandon VanHorn and Ruffin Henry**	
SURROUNDING LAND USE:		**SURFACE GRADIENT: 0-1%**	
SOIL TYPE: Silty Sands			

						Observations					
Sample I.D.	**Approx. Depth (ft. bgs)**	**Date**	**Time**	**Soil Type**	**PID (ppm)**	**Visual (Y/N)**	**Olfactory (Y/N)**	**Photo (Y/N)**	**Lab (Y/N)**	**Latitude**	**Longitude**
22-26-WH-B01@6'	6'	9/10/2024	1257	SM	0.0	N	N	Y	Y	40.11196249	-104.7505288
22-26-WH-N01@5'	5'	9/10/2024	1300	SM	0.0	N	N	Y	N	40.11197726	-104.7505144
22-26-WH-S01@5'	5'	9/10/2024	1303	SM	0.0	N	N	Y	N	40.1119604	-104.750537
22-26-FL-B01@3'	3'	9/10/2024	1306	SM	0.0	N	N	Y	Y	40.11195533	-104.7505324
22-26-FL-B02@3'	3'	9/10/2024	1606	SM	0.1	N	N	Y	Y	40.1118005	-104.7506515
0-2-26-WH-B01@6'	6'	9/10/2024	1015	SM	0.0	N	N	Y	Y	40.11205387	-104.7506726
0-2-26-WH-N01@5'	5'	9/10/2024	1018	SM	0.1	N	N	Y	N	40.11206497	-104.7506633
0-2-26-WH-W01@5'	5'	9/10/2024	1021	SM	0.0	N	N	Y	N	40.11205974	-104.7506815
0-2-26-WH-S01@5'	5'	9/10/2024	1024	SM	0.1	N	N	Y	N	40.11204317	-104.7506713
0-2-26-FL-B01@3'	3'	9/10/2024	1027	SM	0.1	N	N	Y	Y	40.1120434	-104.7506826
0-2-26-FL-B02@3'	3'	9/10/2024	1600	SM	0.3	N	N	Y	Y	40.11179573	-104.7506694
0-4-26-WH-B01@6'	6'	9/10/2024	1312	SM	0.1	N	N	Y	Y	40.11203213	-104.7506343

Decommissioning Field Form
Background Assessment

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0-4-26-WH-N01@5'	5'	9/10/2024	1315	SM	0.1	N	N	Y	N	40.11204764	-104.7506308
0-4-26-WH-S01@5'	5'	9/10/2024	1318	SM	0.0	N	N	Y	N	40.11202999	-104.7506408
0-4-26-FL-B01@3'	3'	9/10/2024	1321	SM	0.0	N	N	Y	Y	40.11202592	-104.750654
0-4-26-FL-B02@3'	3'	9/10/2024	1609	SM	0.4	N	N	Y	Y	40.1118027	-104.7506709
2-0-26-WH-B01@6'	6'	9/10/2024	1244	SM	0.0	N	N	Y	Y	40.11198593	-104.7505496
2-0-26-WH-N01@5'	5'	9/10/2024	1247	SM	0.0	N	N	Y	N	40.11199685	-104.7505471
2-0-26-WH-S01@5'	5'	9/10/2024	1250	SM	0.0	N	N	Y	N	40.11197516	-104.7505656
2-0-26-FL-B01@5	5'	9/10/2024	1253	SM	0.0	N	N	Y	Y	40.11196352	-104.7505499
2-0-26-FL-B02@3'	3'	9/10/2024	1604	SM	0.6	N	N	Y	Y	40.11179589	-104.750651
2-4-26-WH-B01@6'	6'	9/10/2024	1234	SM	0.0	N	N	Y	Y	40.11200187	-104.7505779
2-4-26-WH-N01@5'	5'	9/10/2024	1237	SM	0.0	N	N	Y	N	40.11201037	-104.7505635
2-4-26-WH-S01@5'	5'	9/10/2024	1240	SM	0.0	N	N	Y	N	40.11199108	-104.7505861
2-4-26-FL-B01@3'	3'	9/10/2024	1243	SM	0.0	N	N	Y	Y	40.11197806	-104.7505824
2-4-26-FL-B02@3'	3'	9/10/2024	1604	SM	0.6	N	N	Y	Y	40.11180404	-104.7506498
11-26-WH-B01@8'	8'	9/10/2024	1304	SM	0.0	N	N	Y	Y	40.11201466	-104.750608
11-26-WH-N01@5'	7'	9/10/2024	1307	SM	0.0	N	N	Y	N	40.11202318	-104.750591
11-26-WH-S01@5'	7'	9/10/2024	1310	SM	0.0	N	N	Y	N	40.11201049	-104.7506136
11-26-FL-B01@3'	3'	9/10/2024	1313	SM	0.0	N	N	Y	Y	40.11199543	-104.7505977
11-26-WH-E01@5'	7'	9/10/2024	1316	SM	0.0	N	N	Y	N	40.11201112	-104.7505966
11-26-WH-W01@5'	7'	9/10/2024	1319	SM	0.0	N	N	Y	N	40.11202295	-104.7506101
11-26-FL-B02@3'	3'	9/10/2024	1607	SM	0.1	N	N	Y	Y	40.11184206	-104.7506986
11-26-FL-B03@3'	3'	9/10/2024	1609	SM	0.3	N	N	Y	Y	40.11180242	-104.7506586
12-26-WH-B01@6'	6'	9/10/2024	1320	SM	0.3	N	N	Y	Y	40.11195391	-104.7504956

Decommissioning Field Form
Background Assessment

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12-26-WH-N01@5'	5'	9/10/2024	1323	SM	0.0	N	N	Y	N	40.11196262	-104.750489
12-26-WH-S01@5	5'	9/10/2024	1326	SM	0.0	N	N	Y	N	40.11194517	-104.7505111
12-26-FL-B01@4'	4'	9/10/2024	1329	SM	0.1	N	N	Y	Y	40.11193743	-104.7505
12-26-WH-E01@5'	5'	9/10/2024	1332	SM	0.0	N	N	Y	N	40.11194823	-104.7504868
12-26-FL-B02@3'	3'	9/10/2024	1611	SM	0.1	N	N	Y	Y	40.11180214	-104.7506578
BG01@3'	3'	9/10/2024	1614	SM	0.0	N	N	Y	Y	40.11191245	-104.7503285
BG01@6'	6	9/10/2024	1617	SM	0.0	N	N	Y	Y	40.11191245	-104.7503285
BG02@3'	3'	9/10/2024	1620	SM	0.1	N	N	Y	Y	40.11227234	-104.7505088
BG02@6'	6'	9/10/2024	1623	SM	0.1	N	N	Y	Y	40.11227234	-104.7505088
BG03@3'	3'	9/10/2024	1626	SM	0.4	N	N	Y	Y	40.11218626	-104.7508826
BG03@6'	6'	9/10/2024	1629	SM	0.0	N	N	Y	Y	40.11218626	-104.7508826
BG04@3'	3'	9/10/2024	1632	SM	0.3	N	N	Y	Y	40.11193098	-104.7510649
BG04@6'	6'	9/10/2024	1635	SM	0.3	N	N	Y	Y	40.11193098	-104.7510649
AST-B01@3"	3"	9/10/2024	1550	SM	0.2	N	N	Y	Y	40.11146415	-104.749826
AST-B02@3"	3"	9/10/2024	1553	SM	0.3	N	N	Y	Y	40.11142195	-104.7498243
DL-B01@4'	4'	9/10/2024	1556	SM	5.5	Y	Y	Y	Y	40.11148639	-104.7498862
DL-B02@4'	4'	9/10/2024	1559	SM	0.1	N	N	Y	N	40.11149523	-104.7500521
DL-B03@4'	4'	9/10/2024	1602	SM	0.0	N	N	Y	N	40.11152953	-104.7502767
DL-B04@4'	4'	9/10/2024	1605	SM	3.6	Y	Y	Y	Y	40.11158535	-104.7504817
DL-B05@4'	4'	9/10/2024	1608	SM	1.2	N	N	Y	N	40.11166094	-104.7506515
DL-B06@4'	4'	9/10/2024	1611	SM	0.1	N	N	Y	N	40.11177071	-104.7507031
MH-B01@3"	3"	9/10/2024	1604	SM	0.2	N	N	Y	N	40.11173007	-104.750678
ECD-B01@3"	3"	9/10/2024	1607	SM	0.3	N	N	Y	N	40.111861	-104.750815

Decommissioning Field Form
Background Assessment

SEP-B01@1'	1'	9/10/2024	1620	SM	0.0	N	N	Y	Y	40.11180251	-104.7507033
SEP-B02@1'	1'	9/10/2024	1623	SM	0.0	N	N	Y	Y	40.11178488	-104.7506584
SEP-B03@3"	3"	9/10/2024	1626	SM	0.0	N	N	Y	Y	40.11177903	-104.7507154
SEP-B04@3"	3"	9/10/2024	1629	SM	0.0	N	N	Y	Y	40.11176183	-104.750679

Groundwater	
Date Encountered: NA	**Depth:**
GW Contact w/ Impacted Soil (Y/N)	N/A
LNAPL or Sheen (Y/N)	N/A
Sample I.D.(s):	N/A
Photo (Y/N)	N/A

Material Management	
# Test Pits/Boreholes	46
Material Backfilled in Place (Y/N)	Y
Volume Soil Removed (cy)	N
Name of Disposal Facility	N/A

ft. bgs = feet below ground surface
PID = photoionization detector
ppm = parts per million
cy = cubic yards
Visual - if Yes, indicate staining (S) or free product (FP)
Olfactory - if Yes, indicates presence of hydrocarbon odo
LNAPL = Light non-aqueous phase liquid
NA - Not applicable

Sample ID Designations	
Wellhead	WH
Flowline	FL
Separator	SEP
Aboveground Storage Tank	AST
Dumpline	DL
Emission Control Device	ECD
Produced Water Vessel	PWV
Meter House	MH
Background	BG

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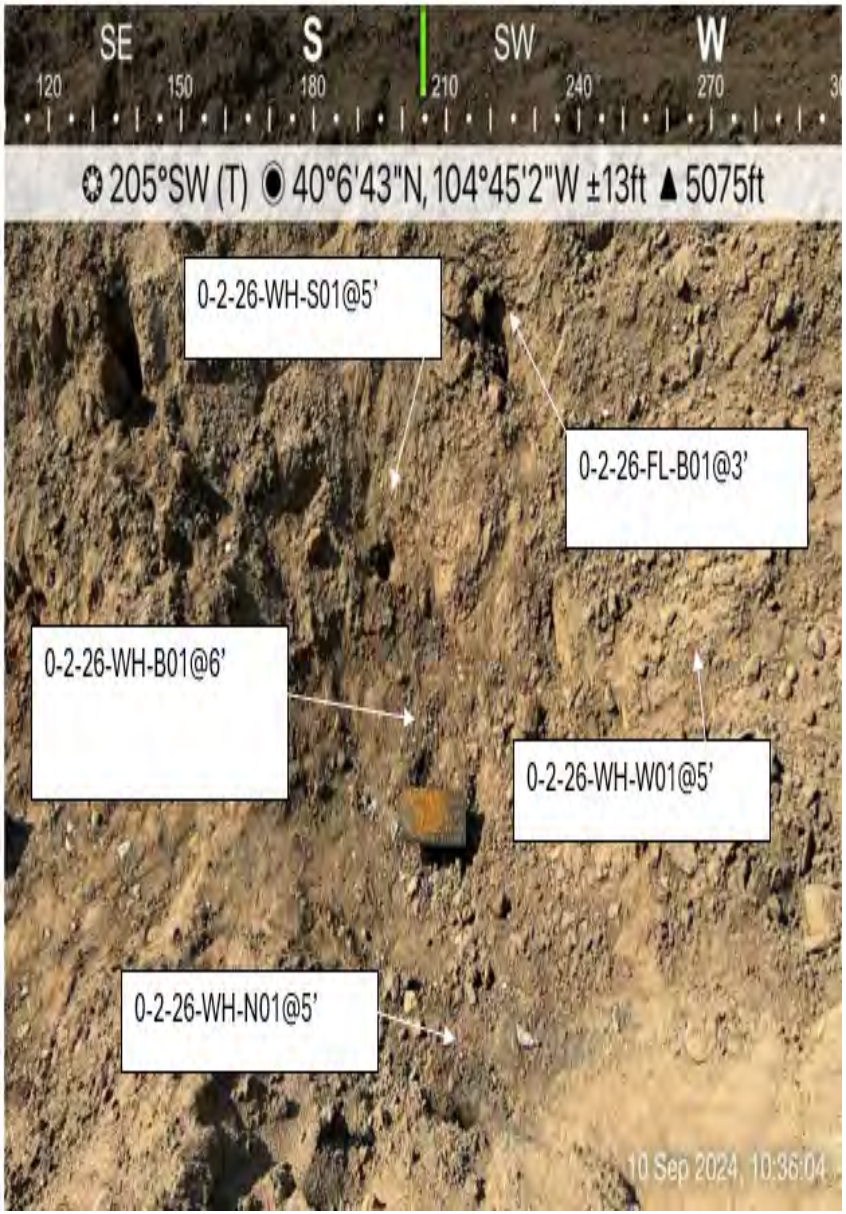
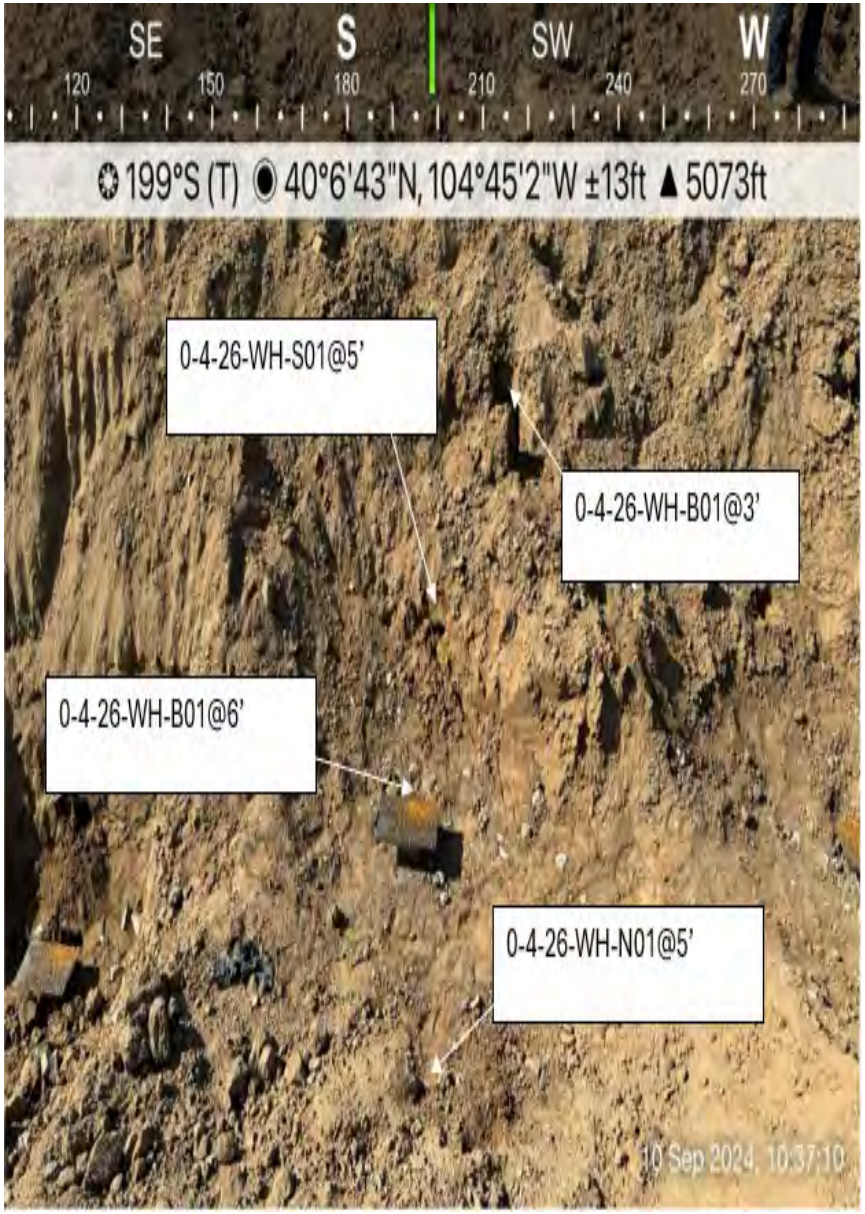
Photographic Log





QUANDARY CONSULTANTS

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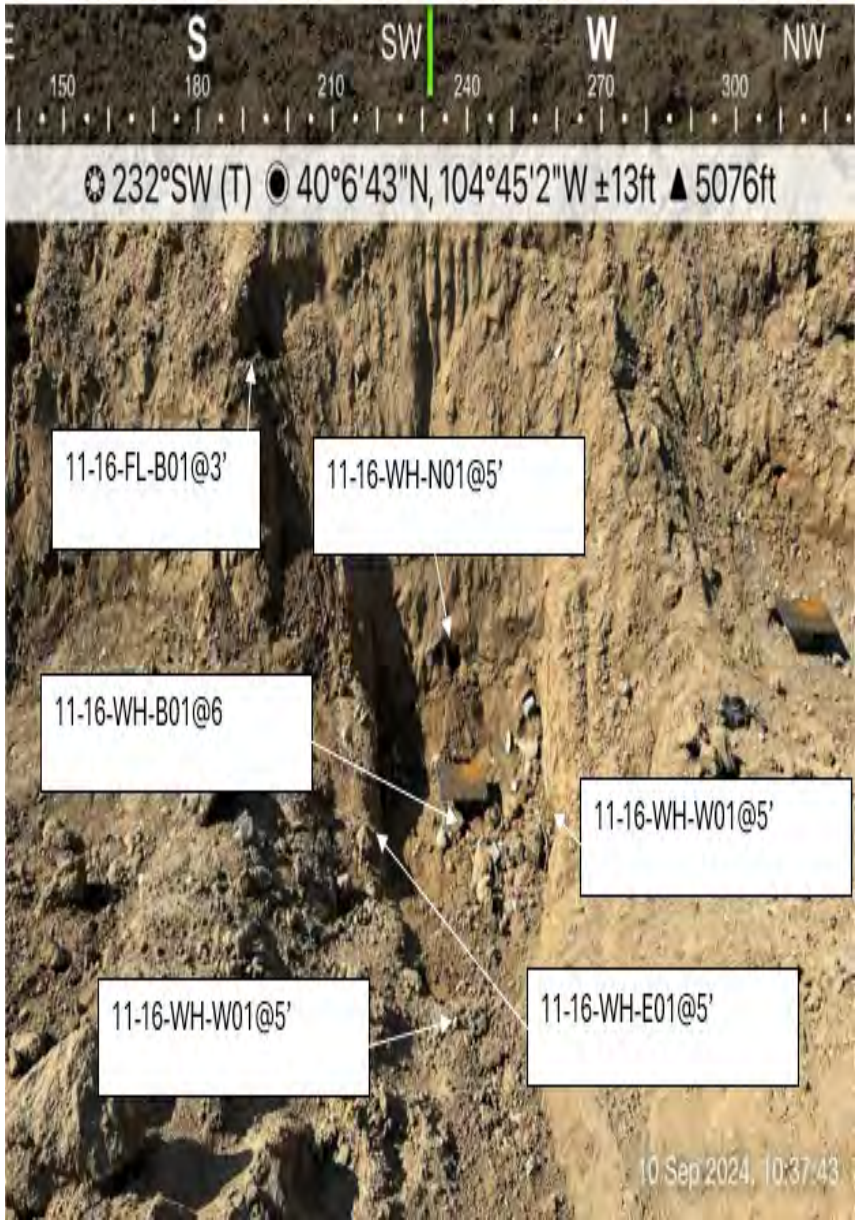

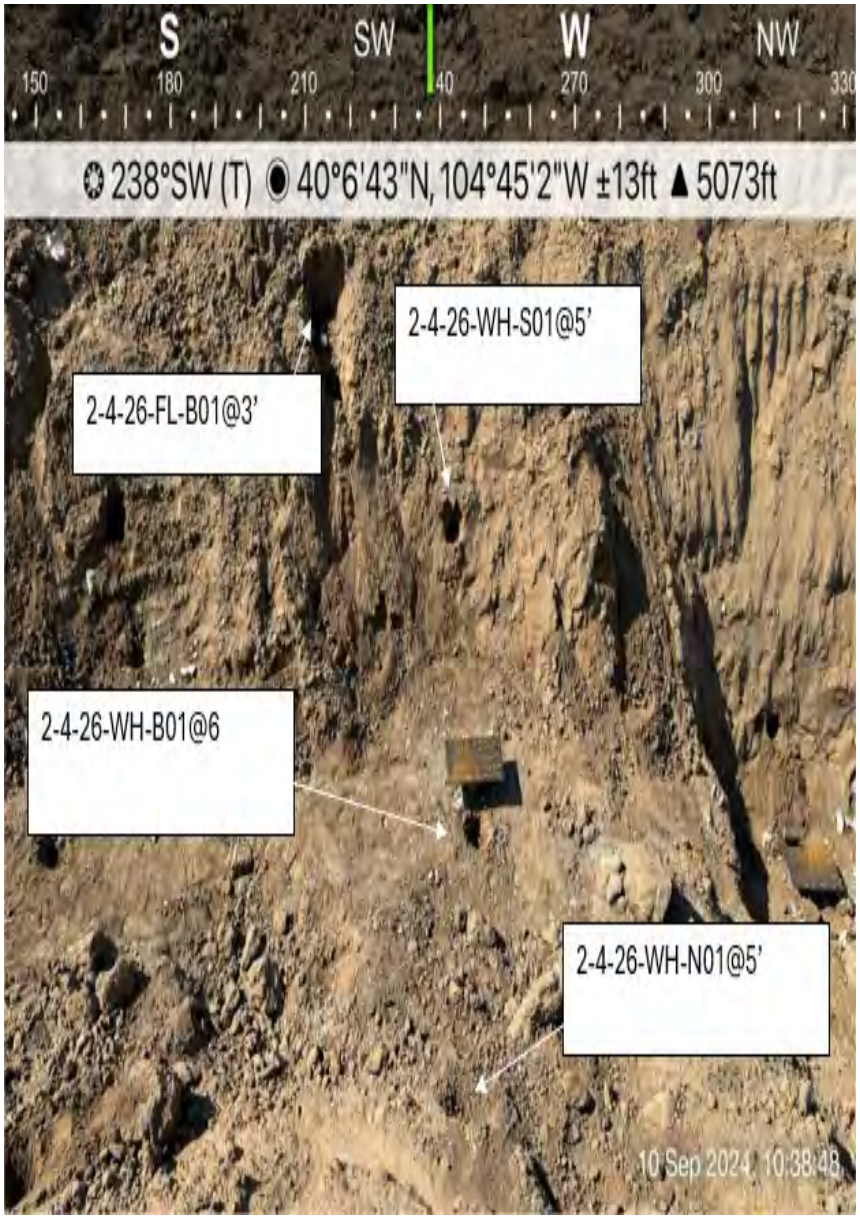

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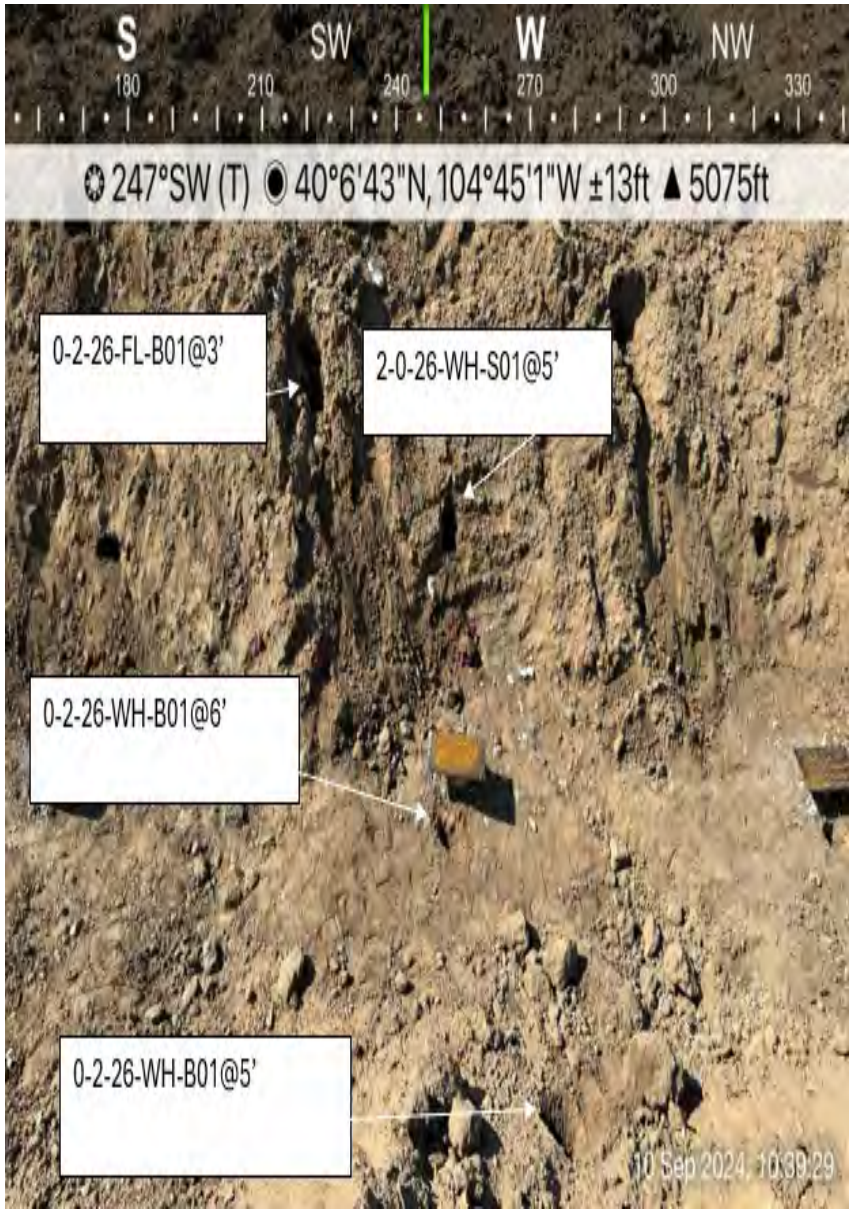

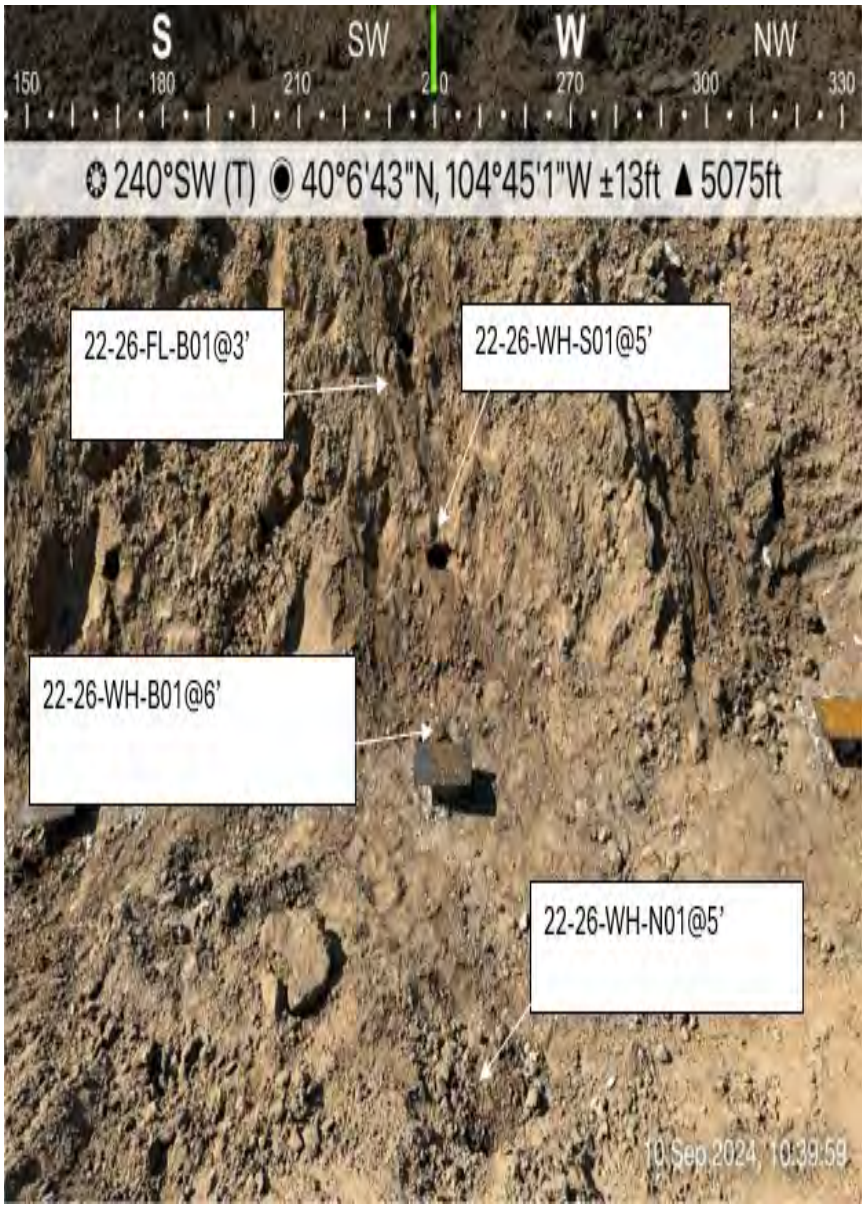

QUANDARY CONSULTANTS

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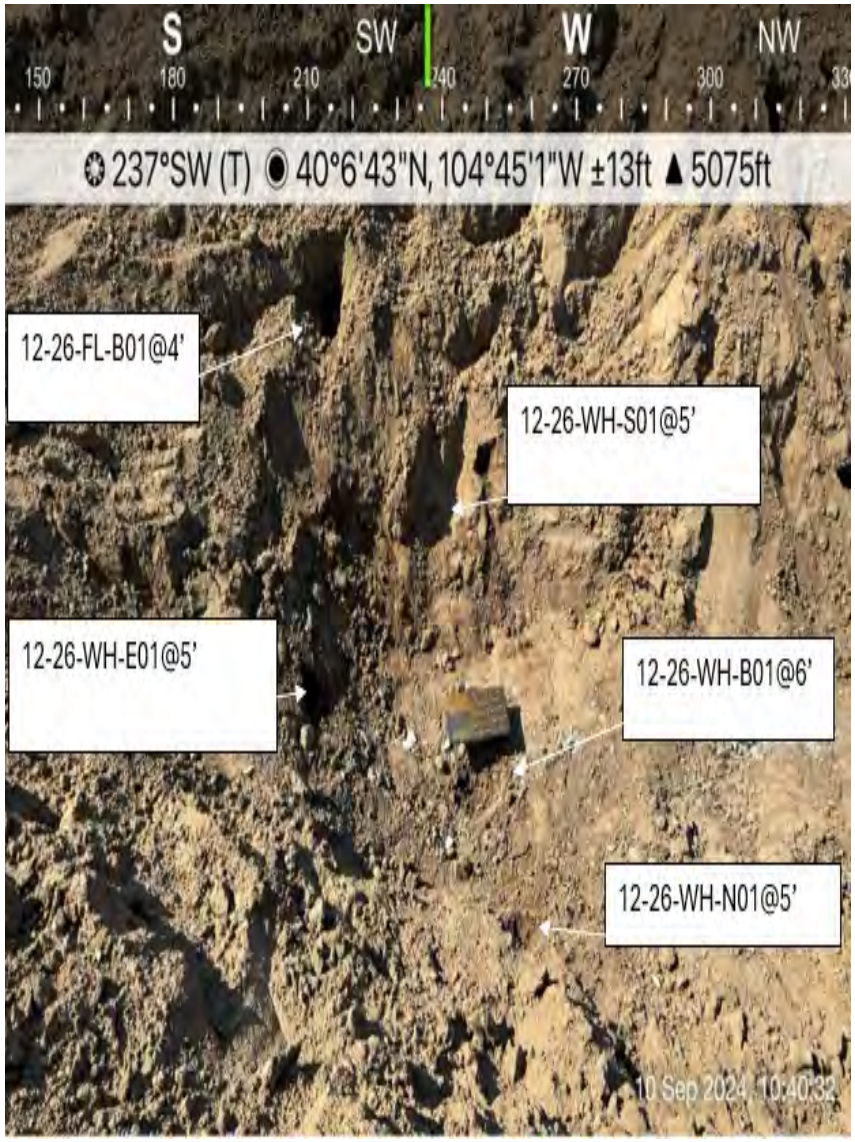

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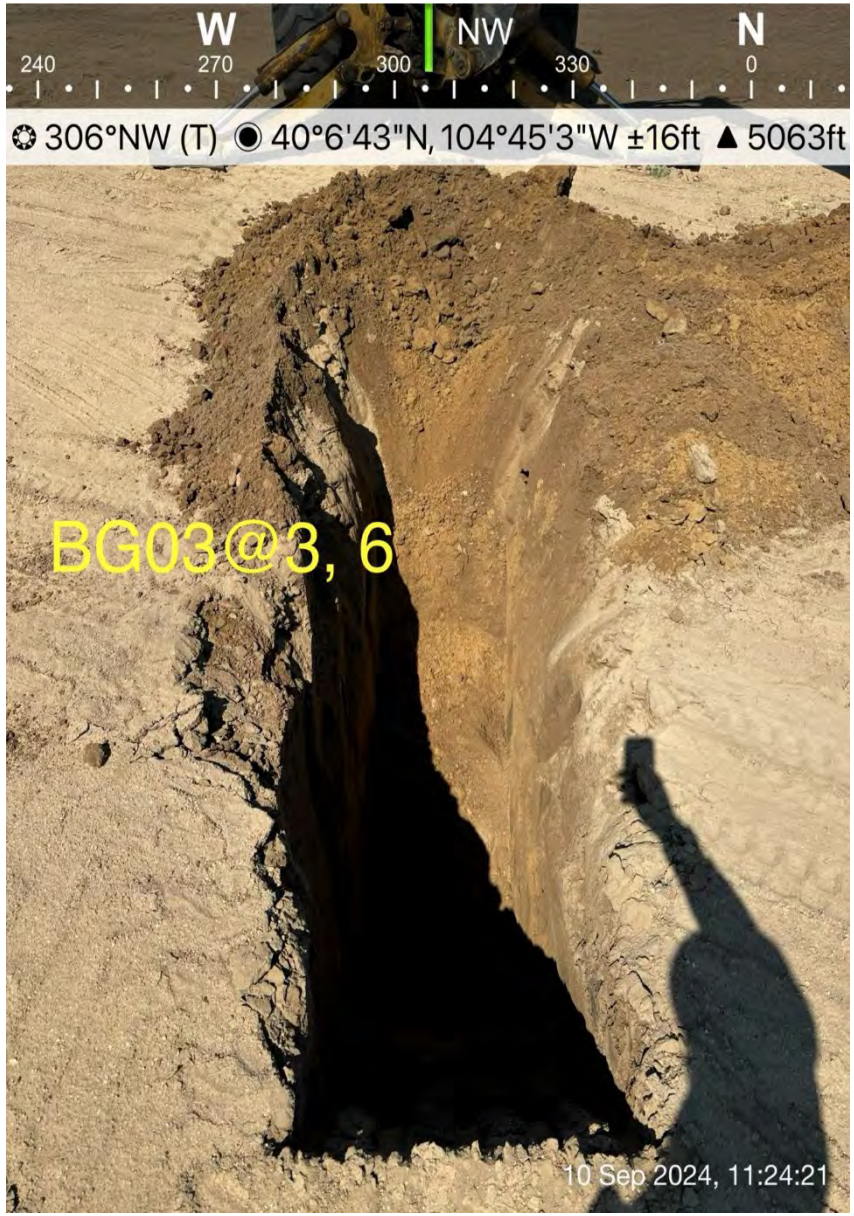

QUANDARY CONSULTANTS

Photographic Log

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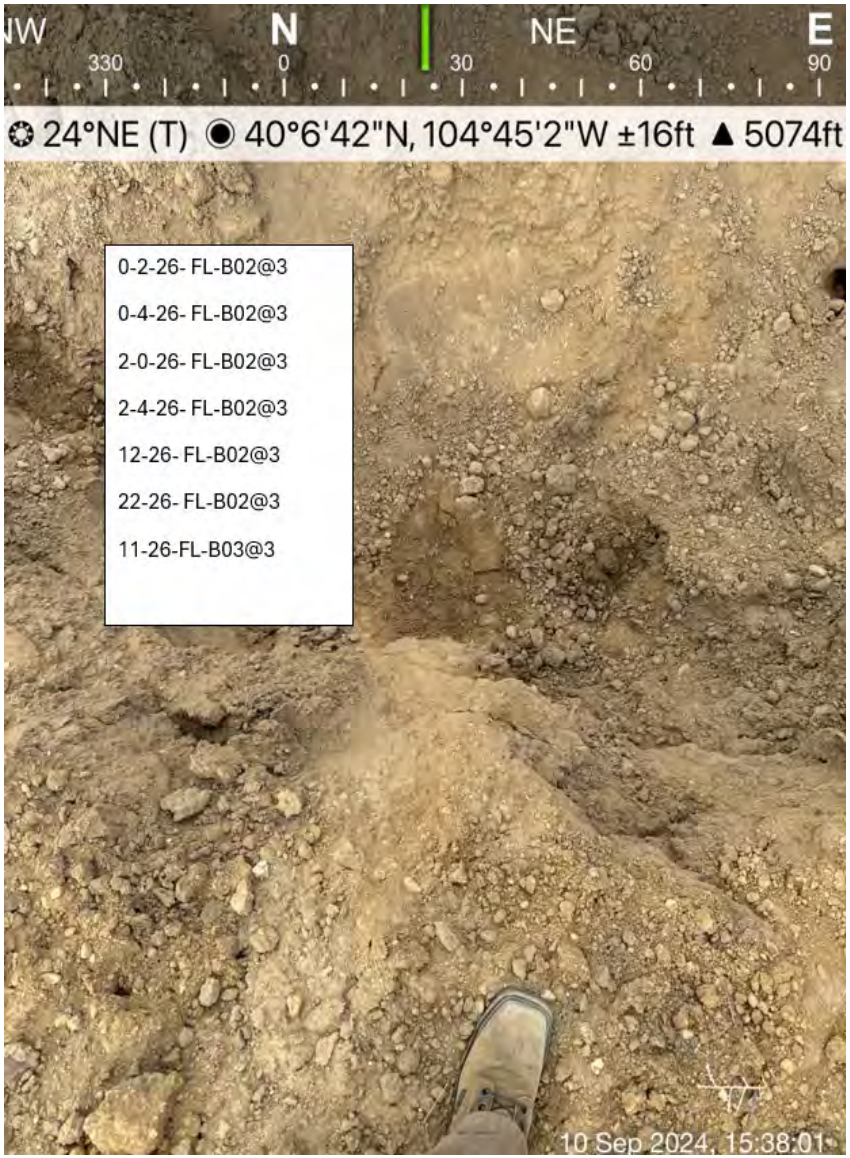

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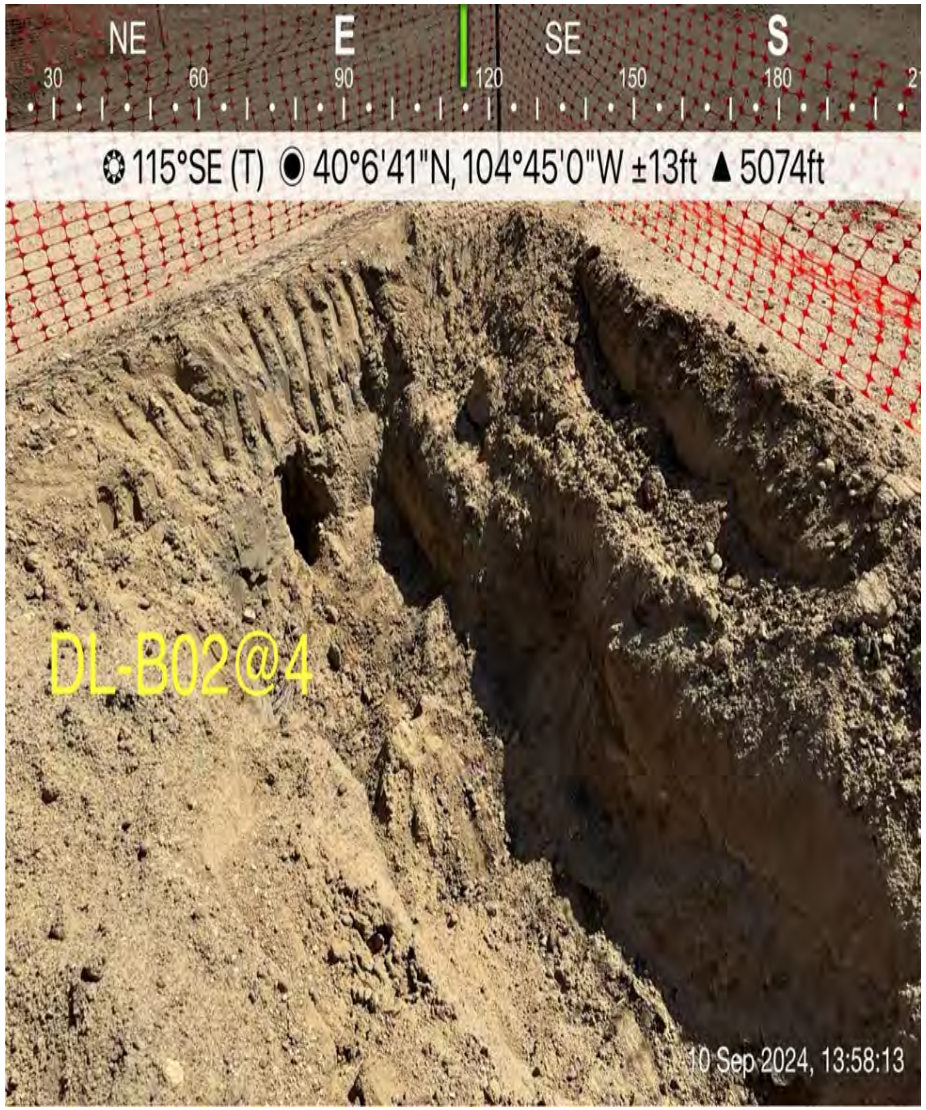
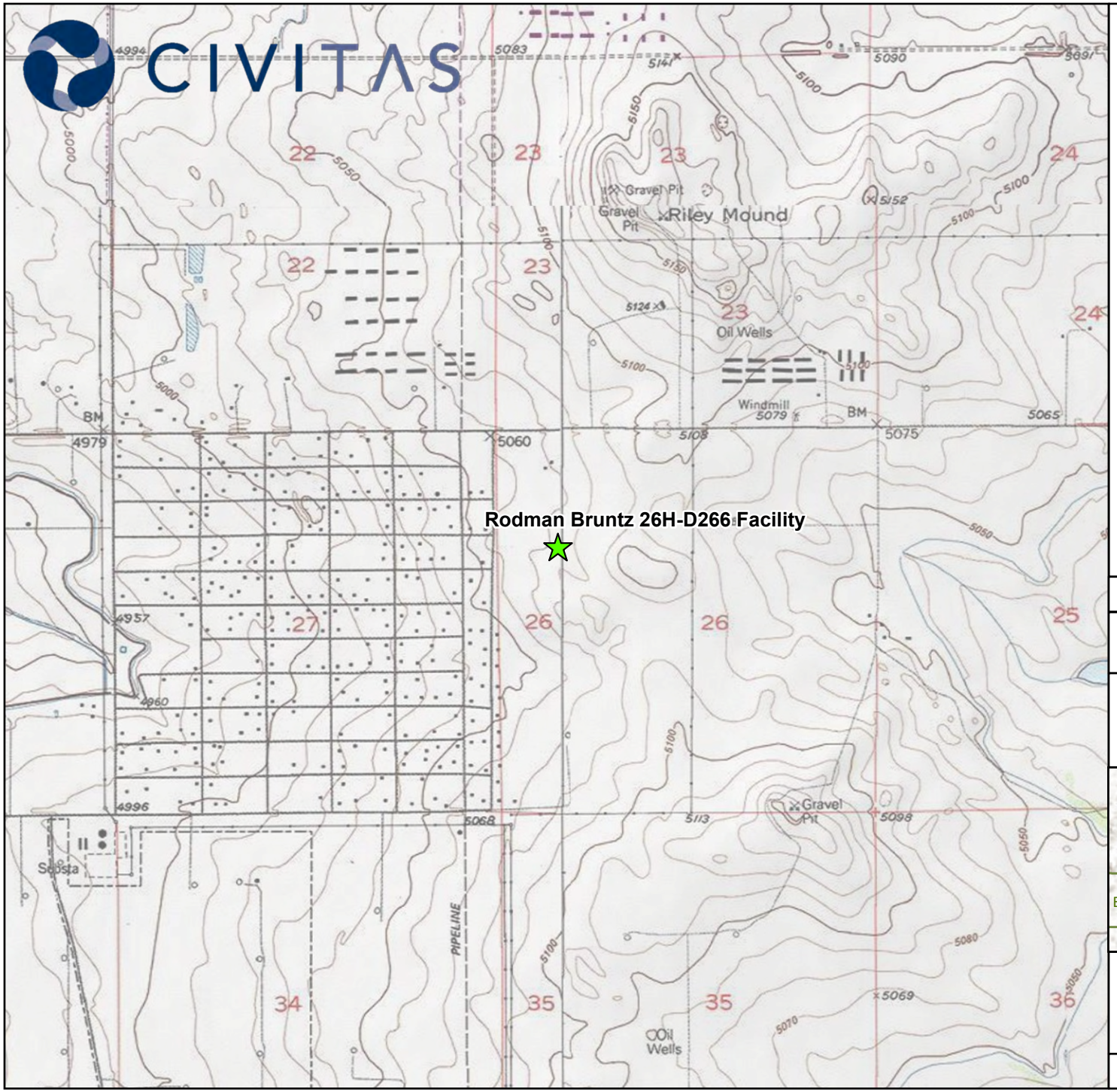


FIGURES



Legend

★ Rodman Bruntz 26H-D266 Facility Site Location

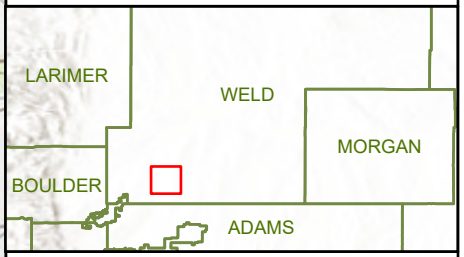
0 1,000 2,000 Feet

N

CIVITAS RESOURCES

Figure 1. Rodman Bruntz 26H-D266 Facility Topographic Site Location Map

40.111945, -104.750509
SWNW, Sec 26, T2N, R66W, 6PM
Weld County, CO



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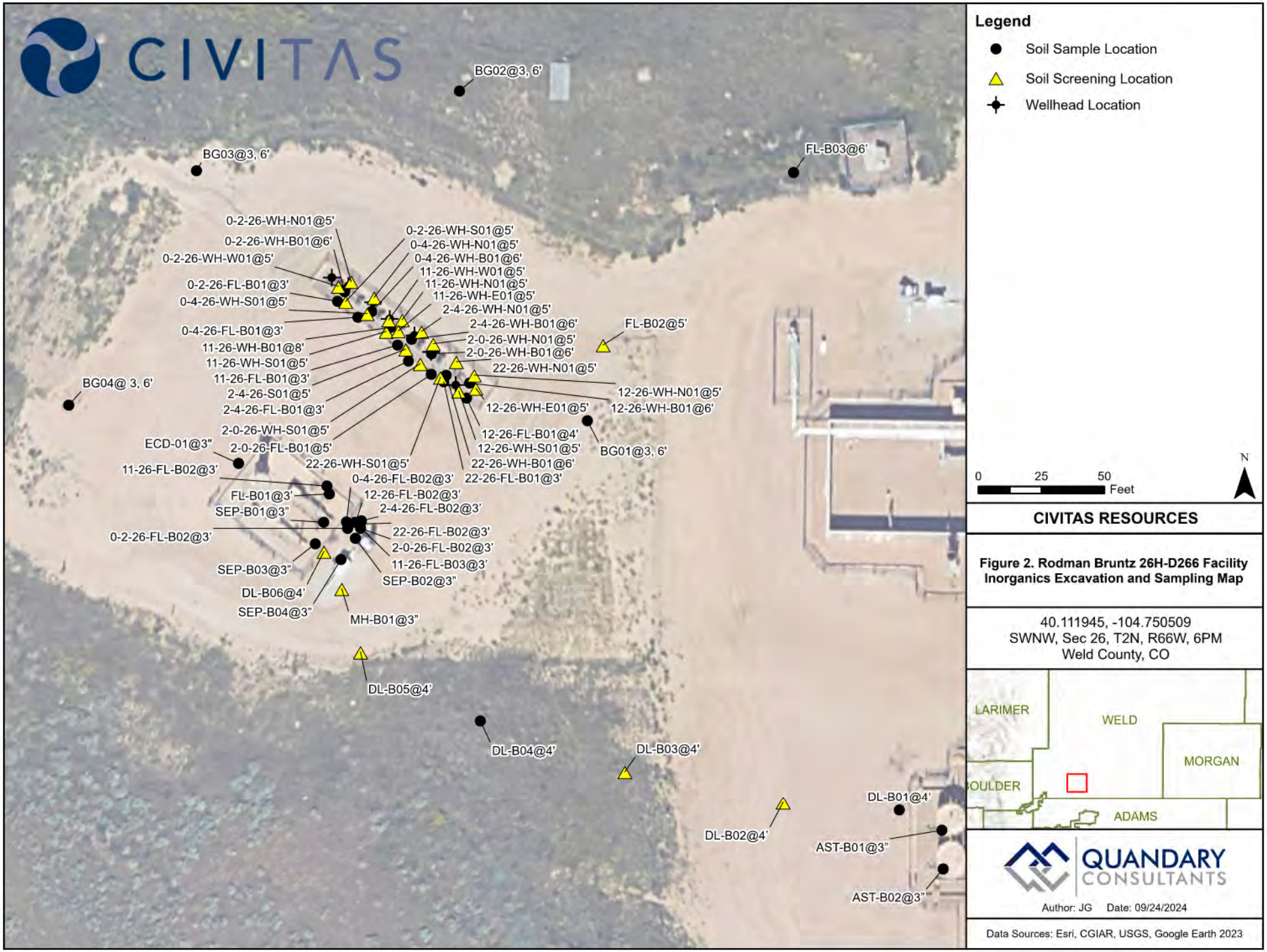
Author: JG Date: 09/24/2024

Data Sources: Esri, CGIAR, USGS, Maxar



CIVITAS RESOURCES

Figure 2. Rodman Bruntz 26H-D266 Facility Inorganics Excavation and Sampling Map

40.111945, -104.750509
SWNW, Sec 26, T2N, R66W, 6PM
Weld County, CO

QUANDARY CONSULTANTS

Author: JG Date: 09/24/2024

Data Sources: Esri, CGIAR, USGS, Google Earth 2023

TABLES

TABLE 1
SOIL SAMPLE FIELD DATA SUMMARY TABLE
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

				Observations				
Sample ID	**Approx. Depth (ft bgs)**	**Date**	**PID (ppm-v)**	**Visual (Y/N)**	**Olfactory (Y/N)**	**Lab (Y/N)**	**Lat**	**Long**
22-26-WH-B01@6'	6	9/10/2024	0.0	N	N	Y	40.11196249	-104.7505288
22-26-WH-N01@5'	5	9/10/2024	0.0	N	N	N	40.11197726	-104.7505144
22-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.1119604	-104.750537
22-26-FL-B01@3'	3	9/10/2024	0.0	N	N	Y	40.11195533	-104.7505324
22-26-FL-B02@3'	3	9/10/2024	0.1	N	N	Y	40.1118005	-104.7506515
0-2-26-WH-B01@6'	6	9/10/2024	0.0	N	N	Y	40.11205387	-104.7506726
0-2-26-WH-N01@5'	5	9/10/2024	0.1	N	N	N	40.11206497	-104.7506633
0-2-26-WH-W01@5'	5	9/10/2024	0.0	N	N	N	40.11205974	-104.7506815
0-2-26-WH-S01@5'	5	9/10/2024	0.1	N	N	N	40.11204317	-104.7506713
0-2-26-FL-B01@3'	3	9/10/2024	0.1	N	N	Y	40.1120434	-104.7506826
0-2-26-FL-B02@3'	3	9/10/2024	0.3	N	N	Y	40.11179573	-104.7506694
0-4-26-WH-B01@6'	6	9/10/2024	0.1	N	N	Y	40.11203213	-104.7506343
0-4-26-WH-N01@5'	5	9/10/2024	0.1	N	N	N	40.11204764	-104.7506308
0-4-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.11202999	-104.7506408
0-4-26-FL-B01@3'	3	9/10/2024	0.0	N	N	Y	40.11202592	-104.750654
0-4-26-FL-B02@3'	3	9/10/2024	0.4	N	N	Y	40.1118027	-104.7506709
2-0-26-WH-B01@6'	6	9/10/2024	0.0	N	N	Y	40.11198593	-104.7505496
2-0-26-WH-N01@5'	5	9/10/2024	0.0	N	N	N	40.11199685	-104.7505471
2-0-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.11197516	-104.7505656
2-0-26-FL-B01@5'	5	9/10/2024	0.0	N	N	Y	40.11196352	-104.7505499
2-0-26-FL-B02@3'	3	9/10/2024	0.6	N	N	Y	40.11179589	-104.750651
2-4-26-WH-B01@6'	6	9/10/2024	0.0	N	N	Y	40.11200187	-104.7505779
2-4-26-WH-N01@5'	5	9/10/2024	0.0	N	N	N	40.11201037	-104.7505635
2-4-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.11199108	-104.7505861
2-4-26-FL-B01@3'	3	9/10/2024	0.0	N	N	Y	40.11197806	-104.7505824
2-4-26-FL-B02@3'	3	9/10/2024	0.6	N	N	Y	40.11180404	-104.7506498
11-26-WH-B01@8'	8	9/10/2024	0.0	N	N	Y	40.11201466	-104.750608
11-26-WH-N01@5'	5	9/10/2024	0.0	N	N	N	40.11202318	-104.750591
11-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.11201049	-104.7506136
11-26-FL-B01@3'	3	9/10/2024	0.0	N	N	Y	40.11199543	-104.7505977
11-26-WH-E01@5'	5	9/10/2024	0.0	N	N	N	40.11201112	-104.7505966
11-26-WH-W01@5'	5	9/10/2024	0.0	N	N	N	40.11202295	-104.7506101
11-26-FL-B02@3'	3	9/10/2024	0.1	N	N	Y	40.11184206	-104.7506986
11-26-FL-B03@3'	3	9/10/2024	0.3	N	N	Y	40.11180242	-104.7506586
12-26-WH-B01@6'	6	9/10/2024	0.3	N	N	Y	40.11195391	-104.7504956
12-26-WH-N01@5'	5	9/10/2024	0.0	N	N	N	40.11196262	-104.750489
12-26-WH-S01@5'	5	9/10/2024	0.0	N	N	N	40.11194517	-104.7505111
12-26-FL-B01@4'	4	9/10/2024	0.1	N	N	Y	40.11193743	-104.7505
12-26-WH-E01@5'	5	9/10/2024	0.0	N	N	N	40.11194823	-104.7504868
12-26-FL-B02@3'	3	9/10/2024	0.1	N	N	Y	40.11180214	-104.7506578

TABLE 1
SOIL SAMPLE FIELD DATA SUMMARY TABLE
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

AST-B01@3"	3"	9/10/2024	0.2	N	N	Y	40.11146415	-104.749826
AST-B02@3"	3"	9/10/2024	0.3	N	N	Y	40.11142195	-104.7498243
DL-B01@4'	4	9/10/2024	5.5	Y	Y	Y	40.11148639	-104.7498862
DL-B02@4'	4	9/10/2024	0.1	N	N	N	40.11149523	-104.7500521
DL-B03@4'	4	9/10/2024	0.0	N	N	N	40.11152953	-104.7502767
DL-B04@4'	4	9/10/2024	3.6	Y	Y	Y	40.11158535	-104.7504817
DL-B05@4'	4	9/10/2024	1.2	N	N	N	40.11166094	-104.7506515
DL-B06@4'	4	9/10/2024	0.1	N	N	N	40.11177071	-104.7507031
MH-B01@3"	3"	9/10/2024	0.2	N	N	N	40.11173007	-104.750678
ECD-B01@3"	3"	9/10/2024	0.3	N	N	N	40.111861	-104.750815
SEP-B01@1'	1	9/10/2024	0.0	N	N	Y	40.11180251	-104.7507033
SEP-B02@1'	1	9/10/2024	0.0	N	N	Y	40.11178488	-104.7506584
SEP-B03@3"	3"	9/10/2024	0.0	N	N	Y	40.11177903	-104.7507154
SEP-B04@3"	3"	9/10/2024	0.0	N	N	Y	40.11176183	-104.750679

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY - VOCs
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample ID	Date	Depth (ft. bgs)	TPH-GRO* (mg/kg)	TPH-DRO* (mg/kg)	TPH-RRO* (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	Naphthalene (mg/kg)
GSSL (1)			**500**			**0.0026**	**0.69**	**0.78**	**9.9**	**0.0081**	**0.0087**	**0.0038**
RSSL (2)			**500**			**1.2**	**490**	**5.8**	**9.9**	**30**	**27**	**2**
22-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
22-26-FL-B01@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
22-26-F-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
0-2-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	**0.0308**
0-2-26-FL-B01@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
0-2-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
0-4-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
0-4-26-FL-B01@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
0-4-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
2-0-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
2-0-26-FL-B01@5'	9/10/2024	5	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
2-0-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
2-4-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
2-4-26-FL-B01@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	**0.0045**
2-4-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
11-26-WH-B01@8'	9/10/2024	8	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
11-26-FL-B01@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
11-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
11-26-FL-B03@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
12-26-WH-B01@6'	9/10/2024	6	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
12-26-FL-B01@4'	9/10/2024	4	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
12-26-FL-B02@3'	9/10/2024	3	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
AST-B01@3"	9/10/2024	3"	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
AST-B02@3"	9/10/2024	3"	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
DL-B01@4'	9/10/2024	4	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
DL-B04@4'	9/10/2024	4	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
SEP-B01@1'	9/10/2024	1	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
SEP-B02@1'	9/10/2024	1	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
SEP-B03@3"	9/10/2024	3"	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408
SEP-B04@3"	9/10/2024	3"	<0.500	<50.0	<50.0	<0.00200	<0.00500	<0.00500	<0.0100	<0.00500	<0.00500	<0.00408

Notes:

ECMC - Energy and Carbon Management Commission
(1) Standards for soil are taken from ECMC Table 915-1 Organic Compounds in Soils - Protection of Groundwater
(2) Standards for soil are taken from ECMC Table 915-1 Organic Compounds in Soils - Residential Soil Screening Level
TPH - total petroleum hydrocarbons
GRO - gasoline range organics
DRO - diesel range organics
RRO - residual range organics
[+]Allowable level for TPH is 500 mg/kg for combined GRO, DRO, ORO
Bold - exceeds ECMC Table 915-1 allowable level and background

ft - feet
bgs - below ground surface

mg/kg - milligrams per kilogram
< - less than laboratory reporting limit

TABLE 4
SOIL SAMPLE RESULTS SUMMARY TABLE - PAHs
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample ID	Date	1-Methyl-naphthalene (mg/kg)	2-Methyl-naphthalene (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)-anthracene (mg/kg)	Benzo(a)-pyrene (mg/kg)	Benzo(b)-fluoranthene (mg/kg)	Benzo(k)-fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(a,h)-anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Ideno(1,2,3-cd)-pyrene (mg/kg)	Pyrene (mg/kg)
GSSL (1)		**0.006**	**0.019**	**0.55**	**5.8**	**0.011**	**0.24**	**0.3**	**2.9**	**9**	**0.096**	**8.9**	**0.54**	**0.98**	**1.3**
RSSL (1)		**18**	**24**	**360**	**1,800**	**1.1**	**0.11**	**1.1**	**11**	**110**	**0.11**	**240**	**240**	**1.1**	**180**
22-26-WH-B01@6'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
22-26-FL-B01@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
22-26-F-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-2-26-WH-B01@6'	9/10/2024	**0.0476**	**0.0469**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-2-26-FL-B01@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-2-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-4-26-WH-B01@6'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-4-26-FL-B01@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
0-4-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-0-26-WH-B01@6'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-0-26-FL-B01@5'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-0-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-4-26-WH-B01@6'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-4-26-FL-B01@3'	9/10/2024	**0.00626**	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2-4-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
11-26-WH-B01@8'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
11-26-FL-B01@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
11-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
11-26-FL-B03@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
12-26-WH-B01@6'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
12-26-FL-B01@4'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
12-26-FL-B02@3'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST-B01@3"	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST-B02@3"	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
DL-B01@4'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
DL-B04@4'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP-B01@1'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP-B02@1'	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP-B03@3"	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP-B04@3"	9/10/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

(1) Standards are taken from ECMC Table 915-1:Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

(2) Standards for soil are taken from ECMC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

ECMC = Energy and Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit

mg/kg = milligrams per kilogram

PAH = Polycyclic Aromatic Hydrocarbons

TABLE 5
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY TABLE - METALS
BERNHARD 4-23A WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample ID	Date Sampled	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)	Chromium VI (mg/kg)
GSSL (1)			**0.29**	**82**	**0.38**	**46**	**14**	**26**	**0.26**	**0.8**	**370**	**0.000067**
RSSL (2)			**0.68**	**15000**	**71**	**3100**	**400**	**1500**	**390**	**390**	**23000**	**0.3**
Max Bkg x 1.25			**4.5375**	**126.25**	**0**	**9.175**	**12.2875**	**16.125**	**0.71**	**0**	**30.5**	**0**
22-26-WH-B01@6'	9/10/2024	6	3.79	125	<0.200	9.09	9.87	10.4	0.602	<0.0865	47.4	<0.300
22-26-FL-B01@3'	9/10/2024	3	1.33	39.9	<0.200	3.45	4.06	3.54	0.315	<0.0865	14.3	<0.300
22-26-F-B02@3'	9/10/2024	3	2.5	79.1	<0.200	7.87	7.66	10.1	0.461	<0.0865	95.3	<0.300
0-2-26-WH-B01@6'	9/10/2024	6	8.01	108	<0.200	20.6	**15.8**	17.7	**0.800**	<0.0865	63.4	<0.300
0-2-26-FL-B01@3'	9/10/2024	3	1.22	50.7	<0.200	3.63	4.44	3.12	<0.260	<0.0865	14.3	<0.300
0-2-26-FL-B02@3'	9/10/2024	3	2.09	65.7	<0.200	7.78	6.64	7.03	<0.260	<0.0865	71.2	<0.300
0-4-26-WH-B01@6'	9/10/2024	6	2.21	96.6	<0.200	8.44	9.43	7.98	0.455	<0.0865	31.1	<0.300
0-4-26-FL-B01@3'	9/10/2024	3	1.9	69.9	<0.200	5.53	10.3	4.79	0.33	<0.0865	23.9	<0.300
0-4-26-FL-B02@3'	9/10/2024	3	2.79	84.1	<0.200	8.56	8.46	9.07	0.432	<0.0865	60.1	<0.300
2-0-26-WH-B01@6'	9/10/2024	6	1.71	106	<0.200	5.16	7.01	4.15	<0.260	<0.0865	20.3	<0.300
2-0-26-FL-B01@5'	9/10/2024	5	1.21	41.8	<0.200	4.07	8.47	3.00	<0.260	<0.0865	16	<0.300
2-0-26-FL-B02@3'	9/10/2024	3	1.84	53.8	<0.200	5.94	6.18	3.00	<0.260	<0.0865	70.8	<0.300
2-4-26-WH-B01@6'	9/10/2024	6	1.39	102	<0.200	5.49	7.51	4.58	<0.260	<0.0865	19.3	<0.300
2-4-26-FL-B01@3'	9/10/2024	3	0.662	25.6	<0.200	2.86	9.95	1.69	<0.260	<0.0865	9.32	<0.300
2-4-26-FL-B02@3'	9/10/2024	3	1.54	58.2	<0.200	5.74	5.28	5.96	<0.260	<0.0865	68.1	<0.300
11-26-WH-B01@8'	9/10/2024	8	2.18	78.3	<0.200	18.4	7.96	9.27	0.372	<0.0865	25.8	<0.300
11-26-FL-B01@3'	9/10/2024	3	2.07	109	<0.200	5.33	6.47	5.27	0.38	<0.0865	25.3	<0.300
11-26-FL-B02@3'	9/10/2024	3	2	67.6	0.278	5.65	6.47	4.86	0.288	<0.0865	24.6	<0.300
11-26-FL-B03@3'	9/10/2024	3	3.21	86.1	0.205	9.33	8.89	14.5	0.439	<0.0865	60.2	<0.300
12-26-WH-B01@6'	9/10/2024	6	1.58	76.9	<0.200	6.09	7.62	5.34	0.534	<0.0865	23.5	**0.524**
12-26-FL-B01@4'	9/10/2024	4	1.18	69.1	<0.200	5.82	12.2	3.49	0.306	<0.0865	21.1	<0.300
12-26-FL-B02@3'	9/10/2024	3	2.09	64.3	<0.200	6.76	7.21	6.56	0.354	<0.0865	69.2	<0.300
AST-B01@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
AST-B02@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
DL-B01@4'	9/10/2024	4	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
DL-B04@4'	9/10/2024	4	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B01@1'	9/10/2024	1	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*

TABLE 5
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY TABLE - METALS
BERNHARD 4-23A WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

SEP-B02@1'	9/10/2024	1	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B03@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B04@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*	*Pending*
BACKGROUND												
BG01@3'	9/10/2024	3	1.07	36.3	<0.200	2.85	3.54	2.73	0.394	<0.0865	10.9	<0.300
BG01@6'	9/10/2024	6	3.63	48.9	<0.200	7.06	9.83	12.9	0.556	<0.0865	19.9	<0.300
BG02@3'	9/10/2024	3	1.09	55.6	<0.200	3.36	4.1	3.63	0.426	<0.0865	14.8	<0.300
BG02@6'	9/10/2024	6	1.74	85	<0.200	7.34	6.97	6.12	0.568	<0.0865	21.2	<0.300
BG03@3'	9/10/2024	3	0.62	30.1	<0.200	1.92	2.21	2.27	<0.260	<0.0865	7.54	<0.300
BG03@6'	9/10/2024	6	1.82	61.2	<0.200	4.29	4.16	4.61	0.354	<0.0865	19.2	<0.300
BG04@3'	9/10/2024	3	1.23	48.5	<0.200	3.45	3.69	4.09	0.436	<0.0865	13.5	<0.300
BG04@6'	9/10/2024	6	1.97	101	<0.200	6.25	5.39	6.43	0.501	<0.0865	24.4	<0.300

2. Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Energy and Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory minimum detection limit

mg/kg = milligrams per kilogram

Blue highlight: Highest background

Bolded values with red highlight: Concentrations greater than Max Bkg. x 1.25 and Table 915-1 Limits

N/A = Not Analyzed

ND = Not Detected

TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
SOIL SUITABILITY FOR RECLAMATION
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample ID	Date Sampled	Depth	Boron (mg/L)	pH	SAR	EC (mmhos/com)
ECMC Soil Suitability for Reclamation (1)			**2**	**6-8.3**	**<6**	**<4**
Max Bkg			**0.000**	**8.570**	**6.39**	**0.621**
BACKGROUND						
BG01@3'	9/10/2024	3	<2.00	7.90	1.470	0.252
BG01@6'	9/10/2024	6	<2.00	**8.57**	**6.390**	**0.621**
BG02@3'	9/10/2024	3	<2.00	7.90	0.557	0.178
BG02@6'	9/10/2024	6	<2.00	8.33	0.732	0.184
BG03@3'	9/10/2024	3	<2.00	8.01	0.505	0.121
BG03@6'	9/10/2024	6	<2.00	8.24	0.191	0.173
BG04@3'	9/10/2024	3	<2.00	7.80	0.429	0.0684
BG04@6'	9/10/2024	6	<2.00	8.28	0.445	0.166
SITE						
ECMC Soil Suitability for Reclamation (1)			**2**	**6-8.3**	**<6**	**<4**
Max Bkg			**0.000**	**8.57**	**6.390**	**0.621**
22-26-WH-B01@6'	9/10/2024	6	<2.00	8.27	**8.22**	0.910
22-26-FL-B01@3'	9/10/2024	3	<2.00	7.37	0.204	0.140
22-26-F-B02@3'	9/10/2024	3	<2.00	8.06	0.138	0.235
0-2-26-WH-B01@6'	9/10/2024	6	<2.00	8.21	2.33	0.451
0-2-26-FL-B01@3'	9/10/2024	3	<2.00	8.28	0.28	0.222
0-2-26-FL-B02@3'	9/10/2024	3	<2.00	8.07	0.199	0.215
0-4-26-WH-B01@6'	9/10/2024	6	<2.00	**8.85**	3.25	0.394
0-4-26-FL-B01@3'	9/10/2024	3	<2.00	8.19	0.35	0.287
0-4-26-FL-B02@3'	9/10/2024	3	<2.00	8.19	0.511	0.263
2-0-26-WH-B01@6'	9/10/2024	6	<2.00	8.26	2.36	0.321
2-0-26-FL-B01@5'	9/10/2024	5	<2.00	8.1	1.12	0.271
2-0-26-FL-B02@3'	9/10/2024	3	<2.00	8.19	0.191	0.200
2-4-26-WH-B01@6'	9/10/2024	6	<2.00	8.56	3.1	0.402
2-4-26-FL-B01@3'	9/10/2024	3	<2.00	8.29	0.957	0.25
2-4-26-FL-B02@3'	9/10/2024	3	<2.00	8.06	0.155	0.192
11-26-WH-B01@8'	9/10/2024	8	<2.00	**9.12**	3.98	0.898
11-26-FL-B01@3'	9/10/2024	3	<2.00	8.24	0.168	0.209
11-26-FL-B02@3'	9/10/2024	3	<2.00	8.1	0.166	0.21
11-26-FL-B03@3'	9/10/2024	3	<2.00	8.15	0.16	0.199
12-26-WH-B01@6'	9/10/2024	6	<2.00	8.47	3.07	0.446
12-26-FL-B01@4'	9/10/2024	4	<2.00	8.23	0.211	0.154
12-26-FL-B02@3'	9/10/2024	3	<2.00	8.18	0.156	0.169
AST-B01@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*
AST-B02@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*
DL-B01@4'	9/10/2024	4	*Pending*	*Pending*	*Pending*	*Pending*

TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
SOIL SUITABILITY FOR RECLAMATION
RODMAN BRUNTZ 26H-D266 FAC
WELD COUNTY, COLORADO
CRESTONE PEAK RESOURCES OPERATING, LLC

DL-B04@4'	9/10/2024	4	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B01@1'	9/10/2024	1	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B02@1'	9/10/2024	1	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B03@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*
SEP-B04@3"	9/10/2024	3"	*Pending*	*Pending*	*Pending*	*Pending*

Notes:

1. Standards for soil are taken from ECMC Table 915-1, effective January 15, 2021

ECMC = Energy and Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory minimum detection limit

mg/L = milligrams per liter

Blue highlight: Highest background concentration x 1.25

Bolded values with red highlight: Concentrations greater than Max Bkg. x 1.25 and Table 915-1 Limits

LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

September 26, 2024

Civitas - CO

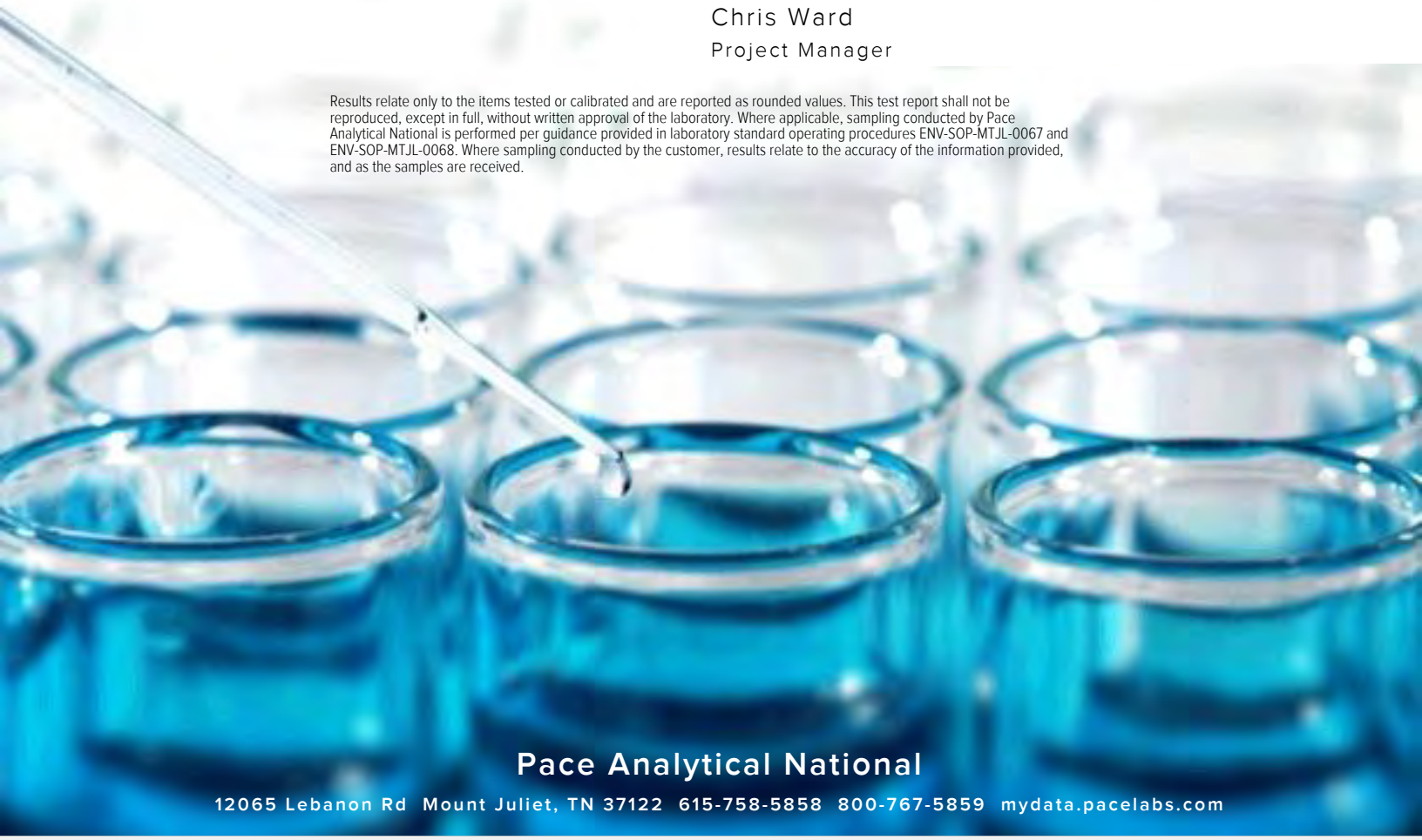
Sample Delivery Group:	L1776989
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 22-26

Report To:

Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

22-26-WH-B01 @ 6 L1776989-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 12:57 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:56	09/20/24 12:56	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 12:14	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:43	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:52	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/15/24 23:21	09/16/24 19:07	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 15:34	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 19:07	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 04:11	MKM	Mt. Juliet, TN

22-26-FL-B01 @ 3 L1776989-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:06 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:58	09/20/24 12:58	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 12:20	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:45	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:55	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/15/24 23:21	09/16/24 19:27	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 15:54	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 18:40	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 04:29	MKM	Mt. Juliet, TN

22-26-FL-B02 @ 3 L1776989-03 Solid

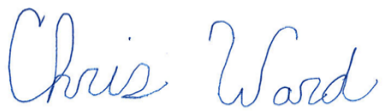
Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:06 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366008	1	09/20/24 18:21	09/20/24 18:21	MAP	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 12:26	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366790	1	09/20/24 17:01	09/20/24 23:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366791	1	09/20/24 17:04	09/21/24 14:05	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366014	1	09/20/24 22:54	09/21/24 04:23	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:58	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1.01	09/15/24 23:21	09/16/24 19:46	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 16:13	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/23/24 10:45	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 10:02	MBE	Mt. Juliet, TN

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

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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	8.22		1	09/20/2024 12:56	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 12:14	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.27	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776989-01 WG2366341: 8.27 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	910	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776989-01 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:43	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.79		0.200	5	09/25/2024 17:52	WG2362086
Barium	125		0.400	5	09/25/2024 17:52	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:52	WG2362086
Copper	9.09		0.400	5	09/25/2024 17:52	WG2362086
Lead	9.87		0.200	5	09/25/2024 17:52	WG2362086
Nickel	10.4		0.400	5	09/25/2024 17:52	WG2362086
Selenium	0.602	J	0.260	5	09/25/2024 17:52	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:52	WG2362086
Zinc	47.4		0.740	5	09/25/2024 17:52	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 19:07	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.3*			*77.0-120*	*09/16/2024 19:07*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 15:34	WG2363294
Toluene	ND		0.00500	1	09/16/2024 15:34	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 15:34	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 15:34	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:34	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:34	WG2363294
(S) Toluene-d8	*92.6*			*75.0-131*	*09/16/2024 15:34*	WG2363294
(S) 4-Bromofluorobenzene	*95.1*			*67.0-138*	*09/16/2024 15:34*	WG2363294
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*	*09/16/2024 15:34*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 19:07	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 19:07	WG2365884
(S) o-Terphenyl	*41.1*			*18.0-148*	*09/21/2024 19:07*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 04:11	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:11	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:11	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 04:11	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 04:11	WG2365659
(S) p-Terphenyl-d14	*71.0*			*23.0-120*	*09/20/2024 04:11*	WG2365659
(S) Nitrobenzene-d5	*88.7*			*14.0-149*	*09/20/2024 04:11*	WG2365659
(S) 2-Fluorobiphenyl	*66.9*			*34.0-125*	*09/20/2024 04:11*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.204		1	09/20/2024 12:58	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 12:20	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.37	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776989-02 WG2366341: 7.37 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	140	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776989-02 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:45	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.33		0.200	5	09/25/2024 17:55	WG2362086
Barium	39.9		0.400	5	09/25/2024 17:55	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:55	WG2362086
Copper	3.45	B J	0.400	5	09/25/2024 17:55	WG2362086
Lead	4.06		0.200	5	09/25/2024 17:55	WG2362086
Nickel	3.54		0.400	5	09/25/2024 17:55	WG2362086
Selenium	0.315	J	0.260	5	09/25/2024 17:55	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:55	WG2362086
Zinc	14.3	B J	0.740	5	09/25/2024 17:55	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 19:27	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.2*			*77.0-120*	*09/16/2024 19:27*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 15:54	WG2363294
Toluene	ND		0.00500	1	09/16/2024 15:54	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 15:54	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 15:54	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:54	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:54	WG2363294
(S) Toluene-d8	*91.1*			*75.0-131*	*09/16/2024 15:54*	WG2363294
(S) 4-Bromofluorobenzene	*94.4*			*67.0-138*	*09/16/2024 15:54*	WG2363294
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*	*09/16/2024 15:54*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 18:40	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 18:40	WG2365884
(S) o-Terphenyl	*48.7*			*18.0-148*	*09/21/2024 18:40*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 04:29	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:29	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:29	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 04:29	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 04:29	WG2365659
(S) p-Terphenyl-d14	*114*			*23.0-120*	*09/20/2024 04:29*	WG2365659
(S) Nitrobenzene-d5	*103*			*14.0-149*	*09/20/2024 04:29*	WG2365659
(S) 2-Fluorobiphenyl	*104*			*34.0-125*	*09/20/2024 04:29*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.138		1	09/20/2024 18:21	WG2366008

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 12:26	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	T8	1	09/20/2024 23:30	WG2366790

Sample Narrative:

L1776989-03 WG2366790: 8.06 at 21.7C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	235	umhos/cm		10.0	1	09/21/2024 14:05	WG2366791

Sample Narrative:

L1776989-03 WG2366791: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 04:23	WG2366014

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.50		0.200	5	09/25/2024 17:58	WG2362086
Barium	79.1		0.400	5	09/25/2024 17:58	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:58	WG2362086
Copper	7.87		0.400	5	09/25/2024 17:58	WG2362086
Lead	7.66		0.200	5	09/25/2024 17:58	WG2362086
Nickel	10.1		0.400	5	09/25/2024 17:58	WG2362086
Selenium	0.461	J	0.260	5	09/25/2024 17:58	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:58	WG2362086
Zinc	95.3		0.740	5	09/25/2024 17:58	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1.01	09/16/2024 19:46	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*77.0-120*	*09/16/2024 19:46*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 16:13	WG2363294
Toluene	ND		0.00500	1	09/16/2024 16:13	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 16:13	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 16:13	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:13	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:13	WG2363294
(S) Toluene-d8	*88.8*			*75.0-131*	*09/16/2024 16:13*	WG2363294
(S) 4-Bromofluorobenzene	*92.5*			*67.0-138*	*09/16/2024 16:13*	WG2363294
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*	*09/16/2024 16:13*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/23/2024 10:45	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/23/2024 10:45	WG2365884
(S) o-Terphenyl	*61.0*			*18.0-148*	*09/23/2024 10:45*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 10:02	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:02	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:02	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 10:02	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 10:02	WG2365659
(S) p-Terphenyl-d14	*90.2*			*23.0-120*	*09/20/2024 10:02*	WG2365659
(S) Nitrobenzene-d5	*92.3*			*14.0-149*	*09/20/2024 10:02*	WG2365659
(S) 2-Fluorobiphenyl	*75.8*			*34.0-125*	*09/20/2024 10:02*	WG2365659

Method Blank (MB)

(MB) R4120811-1 09/17/24 10:20

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

L1776986-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776986-03 09/17/24 11:37 • (DUP) R4120811-7 09/17/24 11:43

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

L1777015-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1777015-08 09/17/24 13:28 • (DUP) R4120811-8 09/17/24 13:35

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

Laboratory Control Sample (LCS)

(LCS) R4120811-2 09/17/24 10:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1776825-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-3 09/17/24 10:48 • (MSD) R4120811-4 09/17/24 10:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	20.8	19.2	104	96.2	1	75.0-125			7.90	20

L1776825-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-5 09/17/24 11:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	638	ND	630	98.7	50	75.0-125	

L1776417-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-03 09/20/24 14:08 • (DUP) R4122422-2 09/20/24 14:08

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.70	8.75	1	0.573		1

Sample Narrative:

OS: 8.7 at 22C

DUP: 8.75 at 22C

L1777019-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-11 09/20/24 14:08 • (DUP) R4122422-3 09/20/24 14:08

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.30	8.36	1	0.720		1

Sample Narrative:

OS: 8.3 at 21.5C

DUP: 8.36 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4122422-1 09/20/24 14:08

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 22.1C

L1776989-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776989-03 09/20/24 23:30 • (DUP) R4122606-2 09/20/24 23:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.06	8.04	1	0.248		1

Sample Narrative:

OS: 8.06 at 21.7C

DUP: 8.04 at 21.7C

L1777016-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-07 09/20/24 23:30 • (DUP) R4122606-3 09/20/24 23:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.29	8.28	1	0.121		1

Sample Narrative:

OS: 8.29 at 21.6C

DUP: 8.28 at 21.6C

Laboratory Control Sample (LCS)

(LCS) R4122606-1 09/20/24 23:30

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: 10.01 at 21.3C

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

Method Blank (MB)

(MB) R4122504-1 09/20/24 15:47

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

Sample Narrative:
BLANK: at 25C

L1776417-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-02 09/20/24 15:47 • (DUP) R4122504-3 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	294	294	1	0.170		20

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

L1777019-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-10 09/20/24 15:47 • (DUP) R4122504-4 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	536	508	1	5.36		20

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

Laboratory Control Sample (LCS)

(LCS) R4122504-2 09/20/24 15:47

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	708	96.6	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122753-1 09/21/24 14:05

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

Sample Narrative:
BLANK: at 25C

L1776989-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776989-03 09/21/24 14:05 • (DUP) R4122753-3 09/21/24 14:05

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	235	233	1	0.769		20

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

L1777016-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-07 09/21/24 14:05 • (DUP) R4122753-4 09/21/24 14:05

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	355	354	1	0.282		20

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

Laboratory Control Sample (LCS)

(LCS) R4122753-2 09/21/24 14:05

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	746	102	85.0-115	

Sample Narrative:
LCS: at 25C

QUALITY CONTROL SUMMARY

L1776989-01,02

Method Blank (MB)

(MB) R4122659-1 09/20/24 23:20

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

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

(LCS) R4122659-2 09/20/24 23:22 • (LCSD) R4122659-3 09/20/24 23:24

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	1.02	1.01	102	101	80.0-120			0.911	20

Method Blank (MB)

(MB) R4122665-1 09/21/24 04:18

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

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

(LCS) R4122665-2 09/21/24 04:20 • (LCSD) R4122665-3 09/21/24 04:21

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	0.980	0.974	98.0	97.4	80.0-120			0.603	20

QUALITY CONTROL SUMMARY

L1776989-01,02,03

Method Blank (MB)

(MB) R4124367-1 09/25/24 17:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	ND		0.100	1.00
Barium	ND		0.152	2.50
Cadmium	ND		0.0855	1.00
Copper	0.745	J	0.133	5.00
Lead	0.358	J	0.0990	2.00
Nickel	ND		0.197	2.50
Selenium	ND		0.180	2.50
Silver	ND		0.0865	0.500
Zinc	2.39	J	0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4124367-2 09/25/24 17:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	98.4	98.4	80.0-120	
Barium	100	94.4	94.4	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	97.4	97.4	80.0-120	
Lead	100	97.3	97.3	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	97.4	97.4	80.0-120	
Silver	20.0	19.9	99.7	80.0-120	
Zinc	100	97.8	97.8	80.0-120	

L1777015-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777015-01 09/25/24 17:07 • (MS) R4124367-5 09/25/24 17:16 • (MSD) R4124367-6 09/25/24 17:19

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 %
Arsenic	100	6.32	108	103	102	96.4	5	75.0-125			5.43	20
Barium	100	183	293	281	110	97.9	5	75.0-125			4.24	20
Cadmium	100	0.468	105	94.9	104	94.5	5	75.0-125			9.77	20
Copper	100	16.8	117	111	99.8	93.9	5	75.0-125			5.17	20
Lead	100	19.8	114	109	94.3	89.6	5	75.0-125			4.24	20
Nickel	100	18.3	123	116	105	97.3	5	75.0-125			6.14	20
Selenium	100	0.878	103	94.1	102	93.2	5	75.0-125			8.60	20
Silver	20.0	0.0875	20.8	19.1	104	95.1	5	75.0-125			8.68	20
Zinc	100	60.7	162	160	102	98.8	5	75.0-125			1.80	20

Method Blank (MB)

(MB) R4121808-3 09/16/24 15:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*

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

(LCS) R4121808-1 09/16/24 14:43 • (LCSD) R4121808-2 09/16/24 15:03

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	5.04	5.15	101	103	72.0-127			2.16	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R4121226-3 09/16/24 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4121226-1 09/16/24 09:31 • (LCSD) R4121226-2 09/16/24 09:51

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	0.143	0.141	114	113	70.0-123			1.41	20
Toluene	0.125	0.120	0.118	96.0	94.4	75.0-121			1.68	20
Ethylbenzene	0.125	0.121	0.112	96.8	89.6	74.0-126			7.73	20
Xylenes, Total	0.375	0.362	0.359	96.5	95.7	72.0-127			0.832	20
1,2,4-Trimethylbenzene	0.125	0.105	0.107	84.0	85.6	70.0-126			1.89	20
1,3,5-Trimethylbenzene	0.125	0.111	0.111	88.8	88.8	73.0-127			0.000	20
(S) Toluene-d8				*86.5*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.3*	*90.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*121*	*111*	*70.0-130*				

L1776986-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776986-01 09/16/24 13:16 • (MS) R4121226-4 09/16/24 19:30 • (MSD) R4121226-5 09/16/24 19:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.167	126	133	1	10.0-149			4.91	37
Toluene	0.125	ND	0.133	0.138	106	110	1	10.0-156			3.69	38
Ethylbenzene	0.125	ND	0.137	0.133	110	106	1	10.0-160			2.96	38
Xylenes, Total	0.375	ND	0.414	0.414	110	110	1	10.0-160			0.000	38
1,2,4-Trimethylbenzene	0.125	ND	0.133	0.127	105	100	1	10.0-160			4.62	36
1,3,5-Trimethylbenzene	0.125	ND	0.138	0.128	110	102	1	10.0-160			7.52	38
(S) Toluene-d8					*83.4*	*83.0*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R4122848-1 09/21/24 18:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*64.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122848-2 09/21/24 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*62.6*	*18.0-148*	

L1776988-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-03 09/21/24 20:27 • (MS) R4122848-3 09/21/24 20:41 • (MSD) R4122848-4 09/21/24 20:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	ND	ND	ND	60.6	66.3	1	50.0-150			7.91	20
(S) o-Terphenyl					*49.4*	*49.1*		*18.0-148*				

Method Blank (MB)

(MB) R4122393-2 09/19/24 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*110*			*23.0-120*
(S) Nitrobenzene-d5	*93.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0680	85.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0640	80.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0706	88.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0697	87.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0663	82.9	42.0-120	
Chrysene	0.0800	0.0766	95.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0713	89.1	47.0-125	
Fluoranthene	0.0800	0.0754	94.3	49.0-129	
Fluorene	0.0800	0.0748	93.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0621	77.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0745	93.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0723	90.4	50.0-120	
Naphthalene	0.0800	0.0721	90.1	50.0-120	
Pyrene	0.0800	0.0824	103	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*127*	*23.0-120*	J1
(S) Nitrobenzene-d5			*117*	*14.0-149*	
(S) 2-Fluorobiphenyl			*116*	*34.0-125*	

L1776988-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-02 09/20/24 03:18 • (MS) R4122393-3 09/20/24 03:35 • (MSD) R4122393-4 09/20/24 03:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0618	0.0697	77.3	87.1	1	14.0-127			12.0	27
Anthracene	0.0800	ND	0.0610	0.0691	76.3	86.4	1	10.0-145			12.5	30
Benzo(a)anthracene	0.0800	ND	0.0612	0.0673	76.5	84.1	1	10.0-139			9.49	30
Benzo(b)fluoranthene	0.0800	ND	0.0598	0.0700	74.8	87.5	1	10.0-140			15.7	36
Benzo(k)fluoranthene	0.0800	ND	0.0598	0.0661	74.8	82.6	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0800	ND	0.0606	0.0684	75.8	85.5	1	10.0-141			12.1	31
Chrysene	0.0800	ND	0.0655	0.0734	81.9	91.8	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0800	ND	0.0630	0.0704	78.8	88.0	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0675	0.0752	84.4	94.0	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0669	0.0741	83.6	92.6	1	11.0-130			10.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0594	0.0656	74.3	82.0	1	10.0-137			9.92	32
1-Methylnaphthalene	0.0800	ND	0.0670	0.0761	83.8	95.1	1	10.0-142			12.7	28
2-Methylnaphthalene	0.0800	ND	0.0652	0.0736	81.5	92.0	1	10.0-137			12.1	28
Naphthalene	0.0800	ND	0.0630	0.0727	78.8	90.9	1	10.0-135			14.3	27
Pyrene	0.0800	ND	0.0678	0.0754	84.8	94.3	1	10.0-148			10.6	35
(S) p-Terphenyl-d14					*106*	*120*		*23.0-120*				
(S) Nitrobenzene-d5					*109*	*124*		*14.0-149*				
(S) 2-Fluorobiphenyl					*103*	*116*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
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.
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.

Company Name/Address:
Quandary Consultants
1780 Garfield St. Denver, CO
80216

Billing Information:
CLIVITASBCO-QUANDARY

Pres Chk

Report to:
bvanhorn@quandaryconsultants.com

Email To:
Jacob Evans

Project Description:
Rodman Brunz 22-26

City/State Collected:
Fr Lupton, CO

Please Circle: PT MT CT ET

Phone:
720-297-1942

Client Project #

Lab Project #

Collected by (print):
Brandon VanHorn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #
CLIVITASBCO-QUANDARY

Date Results Needed
Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: Full Table 9/5-1	Remarks	Sample # (lab only)
22-26-WH-B01@6'	Grab	SS	6	9-10-24	1257	3	X		-01
22-26-FL-B01@3'	"	"	3	"	1306	"	"		-02
22-26-FL-B02@3'	"	"	3	"	1606	"	"		-03

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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/hubfs/pas-standard-terms.pdf

SDG # L1710989
L-127

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	9-11-24	747	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	9/11/24	10:15	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
	9-11-24	1500	

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received: 9

If preservation required by Login: Date/Time

Date: Time:

Hold: Condition:

4776989

Fed Ex tracking #	Gun ID	Temperature
4102 9166 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date

ANALYTICAL REPORT

September 24, 2024

Civitas - CO

Sample Delivery Group:	L1777029
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 12-26

Report To:

Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By:

Chris Ward
Project Manager

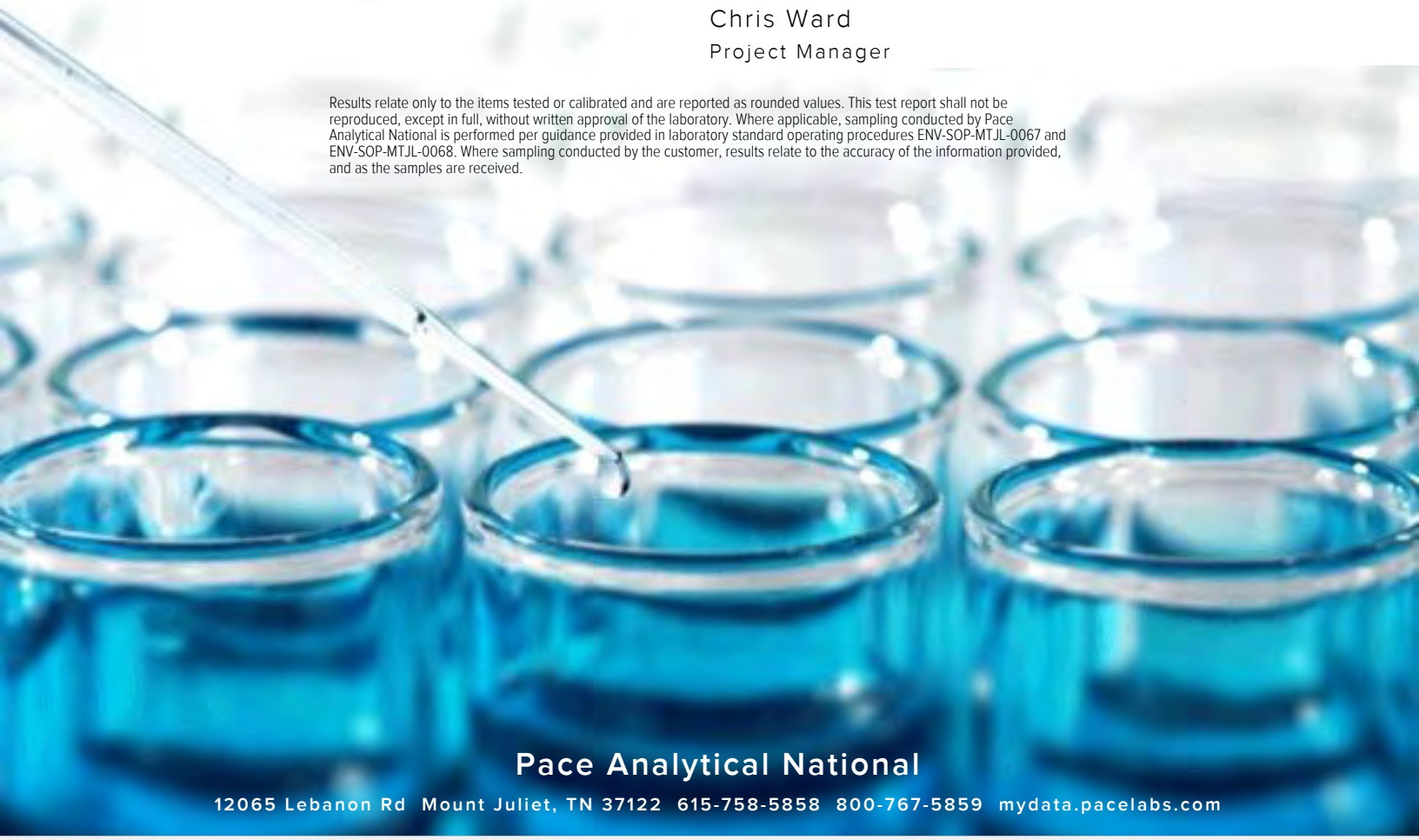


TABLE OF CONTENTS

12-26-WH-B01@6' L1777029-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:20 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365107	1	09/20/24 10:11	09/20/24 10:11	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 13:32	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366340	1	09/20/24 09:21	09/20/24 14:14	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366352	1	09/20/24 09:20	09/20/24 17:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365116	1	09/19/24 20:00	09/20/24 10:44	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:02	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363592	1	09/16/24 09:07	09/17/24 01:05	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 09:07	09/17/24 17:02	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 14:29	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/23/24 22:38	JCH	Mt. Juliet, TN

12-26-FL-B01@4' L1777029-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:29 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 16:54	09/19/24 16:54	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 13:42	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365919	1	09/19/24 14:04	09/19/24 16:30	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365838	1	09/19/24 13:08	09/19/24 14:55	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:38	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:05	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2364176	1	09/16/24 09:07	09/17/24 15:40	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 09:07	09/17/24 17:22	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 14:43	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/23/24 22:56	JCH	Mt. Juliet, TN

12-26-FL-B02@3' L1777029-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:11 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365107	1	09/20/24 10:13	09/20/24 10:13	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 14:56	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366340	1	09/20/24 09:21	09/20/24 14:14	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366352	1	09/20/24 09:20	09/20/24 17:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365116	1	09/19/24 20:00	09/20/24 10:49	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2364176	1	09/16/24 09:07	09/17/24 16:04	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 09:07	09/17/24 17:42	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 16:54	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/24/24 12:33	ALM	Mt. Juliet, TN

BG01@3' L1777029-04 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:14 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 16:56	09/19/24 16:56	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 15:06	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365847	1	09/19/24 13:54	09/19/24 15:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365916	1	09/19/24 14:01	09/19/24 15:16	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:40	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:11	LD	Mt. Juliet, TN

BG01@6' L1777029-05 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:17 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 16:58	09/19/24 16:58	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 15:17	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365847	1	09/19/24 13:54	09/19/24 15:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365916	1	09/19/24 14:01	09/19/24 15:16	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:41	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:15	LD	Mt. Juliet, TN

BG02@3' L1777029-06 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:20 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 16:59	09/19/24 16:59	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 15:27	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365847	1	09/19/24 13:54	09/19/24 15:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365916	1	09/19/24 14:01	09/19/24 15:16	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:46	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:18	LD	Mt. Juliet, TN

BG02@6' L1777029-07 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:23 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365107	1	09/20/24 10:14	09/20/24 10:14	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 15:48	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366340	1	09/20/24 09:21	09/20/24 14:14	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366352	1	09/20/24 09:20	09/20/24 17:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365116	1	09/19/24 20:00	09/20/24 10:51	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:21	LD	Mt. Juliet, TN

BG03@3' L1777029-08 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:26 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365107	1	09/20/24 15:53	09/20/24 15:53	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 15:59	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366340	1	09/20/24 09:21	09/20/24 14:14	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366352	1	09/20/24 09:20	09/20/24 17:04	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365116	1	09/19/24 20:00	09/20/24 10:53	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:43	LD	Mt. Juliet, TN

BG03@6' L1777029-09 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:29 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365105	1	09/20/24 13:22	09/20/24 13:22	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362109	1	09/17/24 11:36	09/18/24 16:09	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366344	1	09/20/24 08:49	09/20/24 10:42	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366347	1	09/20/24 08:48	09/21/24 22:30	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365112	1	09/19/24 19:58	09/20/24 02:01	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 20:19	LD	Mt. Juliet, TN

BG04@3' L1777029-10 Solid

Collected by: Brandon VanHorn
Collected date/time: 09/10/24 16:32
Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 17:01	09/19/24 17:01	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362179	1	09/17/24 11:35	09/18/24 00:00	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365847	1	09/19/24 13:54	09/19/24 15:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365916	1	09/19/24 14:01	09/19/24 15:16	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:48	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:36	LD	Mt. Juliet, TN

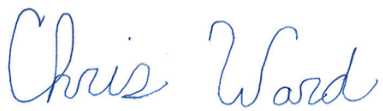
BG04@6' L1777029-11 Solid

Collected by: Brandon VanHorn
Collected date/time: 09/10/24 16:35
Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2365125	1	09/19/24 17:06	09/19/24 17:06	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362179	1	09/17/24 11:35	09/18/24 00:14	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2365847	1	09/19/24 13:54	09/19/24 15:45	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2365916	1	09/19/24 14:01	09/19/24 15:16	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2365136	1	09/19/24 19:54	09/20/24 11:50	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362650	5	09/19/24 16:42	09/19/24 21:40	LD	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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.07		1	09/20/2024 10:11	WG2365107

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	0.524	J	0.300	1	09/18/2024 13:32	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.47	T8	1	09/20/2024 14:14	WG2366340

Sample Narrative:

L1777029-01 WG2366340: 8.47 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	446	umhos/cm		10.0	1	09/20/2024 17:04	WG2366352

Sample Narrative:

L1777029-01 WG2366352: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 10:44	WG2365116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.58		0.200	5	09/19/2024 21:02	WG2362650
Barium	76.9		0.400	5	09/19/2024 21:02	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:02	WG2362650
Copper	6.09		0.400	5	09/19/2024 21:02	WG2362650
Lead	7.62		0.200	5	09/19/2024 21:02	WG2362650
Nickel	5.34		0.400	5	09/19/2024 21:02	WG2362650
Selenium	0.534	J	0.260	5	09/19/2024 21:02	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:02	WG2362650
Zinc	23.5	J	0.740	5	09/19/2024 21:02	WG2362650

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 01:05	WG2363592
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*	*09/17/2024 01:05*	WG2363592

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 17:02	WG2363823
Toluene	ND		0.00500	1	09/17/2024 17:02	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 17:02	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 17:02	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:02	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:02	WG2363823
(S) Toluene-d8	*89.1*			*75.0-131*	*09/17/2024 17:02*	WG2363823
(S) 4-Bromofluorobenzene	*96.5*			*67.0-138*	*09/17/2024 17:02*	WG2363823
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*	*09/17/2024 17:02*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 14:29	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 14:29	WG2366287
(S) o-Terphenyl	*38.3*			*18.0-148*	*09/21/2024 14:29*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Anthracene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Chrysene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Fluoranthene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Fluorene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/23/2024 22:38	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/23/2024 22:38	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/23/2024 22:38	WG2366288
Naphthalene	ND		0.00408	1	09/23/2024 22:38	WG2366288
Pyrene	ND		0.00500	1	09/23/2024 22:38	WG2366288
(S) p-Terphenyl-d14	*82.8*			*23.0-120*	*09/23/2024 22:38*	WG2366288
(S) Nitrobenzene-d5	*31.5*			*14.0-149*	*09/23/2024 22:38*	WG2366288
(S) 2-Fluorobiphenyl	*47.7*			*34.0-125*	*09/23/2024 22:38*	WG2366288

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.211		1	09/19/2024 16:54	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 13:42	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.23	T8	1	09/19/2024 16:30	WG2365919

Sample Narrative:

L1777029-02 WG2365919: 8.23 at 22.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	154	umhos/cm		10.0	1	09/19/2024 14:55	WG2365838

Sample Narrative:

L1777029-02 WG2365838: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:38	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.18		0.200	5	09/19/2024 21:05	WG2362650
Barium	69.1		0.400	5	09/19/2024 21:05	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:05	WG2362650
Copper	5.82		0.400	5	09/19/2024 21:05	WG2362650
Lead	12.2		0.200	5	09/19/2024 21:05	WG2362650
Nickel	3.49		0.400	5	09/19/2024 21:05	WG2362650
Selenium	0.306	J	0.260	5	09/19/2024 21:05	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:05	WG2362650
Zinc	21.1	J	0.740	5	09/19/2024 21:05	WG2362650

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 15:40	WG2364176
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*77.0-120*	*09/17/2024 15:40*	WG2364176

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 17:22	WG2363823
Toluene	ND		0.00500	1	09/17/2024 17:22	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 17:22	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 17:22	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:22	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:22	WG2363823
(S) Toluene-d8	*86.2*			*75.0-131*	*09/17/2024 17:22*	WG2363823
(S) 4-Bromofluorobenzene	*88.8*			*67.0-138*	*09/17/2024 17:22*	WG2363823
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*	*09/17/2024 17:22*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 14:43	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 14:43	WG2366287
(S) o-Terphenyl	*59.2*			*18.0-148*	*09/21/2024 14:43*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Anthracene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Chrysene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Fluoranthene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Fluorene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/23/2024 22:56	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/23/2024 22:56	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/23/2024 22:56	WG2366288
Naphthalene	ND		0.00408	1	09/23/2024 22:56	WG2366288
Pyrene	ND		0.00500	1	09/23/2024 22:56	WG2366288
(S) p-Terphenyl-d14	*80.4*			*23.0-120*	*09/23/2024 22:56*	WG2366288
(S) Nitrobenzene-d5	*33.4*			*14.0-149*	*09/23/2024 22:56*	WG2366288
(S) 2-Fluorobiphenyl	*49.8*			*34.0-125*	*09/23/2024 22:56*	WG2366288

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.156		1	09/20/2024 10:13	WG2365107

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 14:56	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.18	T8	1	09/20/2024 14:14	WG2366340

Sample Narrative:

L1777029-03 WG2366340: 8.18 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	169	umhos/cm		10.0	1	09/20/2024 17:04	WG2366352

Sample Narrative:

L1777029-03 WG2366352: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 10:49	WG2365116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.09		0.200	5	09/19/2024 21:08	WG2362650
Barium	64.3		0.400	5	09/19/2024 21:08	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:08	WG2362650
Copper	6.76		0.400	5	09/19/2024 21:08	WG2362650
Lead	7.21		0.200	5	09/19/2024 21:08	WG2362650
Nickel	6.56		0.400	5	09/19/2024 21:08	WG2362650
Selenium	0.354	J	0.260	5	09/19/2024 21:08	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:08	WG2362650
Zinc	69.2		0.740	5	09/19/2024 21:08	WG2362650

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 16:04	WG2364176
(S) a,a,a-Trifluorotoluene(FID)	*96.7*			*77.0-120*	*09/17/2024 16:04*	WG2364176

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 17:42	WG2363823
Toluene	ND		0.00500	1	09/17/2024 17:42	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 17:42	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 17:42	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:42	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 17:42	WG2363823
(S) Toluene-d8	*91.8*			*75.0-131*	*09/17/2024 17:42*	WG2363823
(S) 4-Bromofluorobenzene	*95.1*			*67.0-138*	*09/17/2024 17:42*	WG2363823
(S) 1,2-Dichloroethane-d4	*98.8*			*70.0-130*	*09/17/2024 17:42*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 16:54	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 16:54	WG2366287
(S) o-Terphenyl	*49.4*			*18.0-148*	*09/21/2024 16:54*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Anthracene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Chrysene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Fluoranthene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Fluorene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/24/2024 12:33	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/24/2024 12:33	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/24/2024 12:33	WG2366288
Naphthalene	ND		0.00408	1	09/24/2024 12:33	WG2366288
Pyrene	ND		0.00500	1	09/24/2024 12:33	WG2366288
(S) p-Terphenyl-d14	*108*			*23.0-120*	*09/24/2024 12:33*	WG2366288
(S) Nitrobenzene-d5	*77.1*			*14.0-149*	*09/24/2024 12:33*	WG2366288
(S) 2-Fluorobiphenyl	*80.8*			*34.0-125*	*09/24/2024 12:33*	WG2366288

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.47		1	09/19/2024 16:56	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:06	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	T8	1	09/19/2024 15:45	WG2365847

Sample Narrative:

L1777029-04 WG2365847: 7.9 at 22.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	252	umhos/cm		10.0	1	09/19/2024 15:16	WG2365916

Sample Narrative:

L1777029-04 WG2365916: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:40	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.07		0.200	5	09/19/2024 21:11	WG2362650
Barium	36.3		0.400	5	09/19/2024 21:11	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:11	WG2362650
Copper	2.85	J	0.400	5	09/19/2024 21:11	WG2362650
Lead	3.54		0.200	5	09/19/2024 21:11	WG2362650
Nickel	2.73		0.400	5	09/19/2024 21:11	WG2362650
Selenium	0.394	J	0.260	5	09/19/2024 21:11	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:11	WG2362650
Zinc	10.9	J	0.740	5	09/19/2024 21:11	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.39		1	09/19/2024 16:58	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:17	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.57	T8	1	09/19/2024 15:45	WG2365847

Sample Narrative:

L1777029-05 WG2365847: 8.57 at 23.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	621	umhos/cm		10.0	1	09/19/2024 15:16	WG2365916

Sample Narrative:

L1777029-05 WG2365916: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:41	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.63		0.200	5	09/19/2024 21:15	WG2362650
Barium	48.9		0.400	5	09/19/2024 21:15	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:15	WG2362650
Copper	7.06		0.400	5	09/19/2024 21:15	WG2362650
Lead	9.83		0.200	5	09/19/2024 21:15	WG2362650
Nickel	12.9		0.400	5	09/19/2024 21:15	WG2362650
Selenium	0.556	J	0.260	5	09/19/2024 21:15	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:15	WG2362650
Zinc	19.9	J	0.740	5	09/19/2024 21:15	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.557		1	09/19/2024 16:59	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:27	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.90	T8	1	09/19/2024 15:45	WG2365847

Sample Narrative:

L1777029-06 WG2365847: 7.9 at 23.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	178	umhos/cm		10.0	1	09/19/2024 15:16	WG2365916

Sample Narrative:

L1777029-06 WG2365916: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:46	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.09		0.200	5	09/19/2024 21:18	WG2362650
Barium	55.6		0.400	5	09/19/2024 21:18	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:18	WG2362650
Copper	3.36	J	0.400	5	09/19/2024 21:18	WG2362650
Lead	4.10		0.200	5	09/19/2024 21:18	WG2362650
Nickel	3.63		0.400	5	09/19/2024 21:18	WG2362650
Selenium	0.426	J	0.260	5	09/19/2024 21:18	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:18	WG2362650
Zinc	14.8	J	0.740	5	09/19/2024 21:18	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.732		1	09/20/2024 10:14	WG2365107

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:48	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.33	T8	1	09/20/2024 14:14	WG2366340

Sample Narrative:

L1777029-07 WG2366340: 8.33 at 21.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	184	umhos/cm		10.0	1	09/20/2024 17:04	WG2366352

Sample Narrative:

L1777029-07 WG2366352: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 10:51	WG2365116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.74		0.200	5	09/19/2024 21:21	WG2362650
Barium	85.0		0.400	5	09/19/2024 21:21	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:21	WG2362650
Copper	7.34		0.400	5	09/19/2024 21:21	WG2362650
Lead	6.97		0.200	5	09/19/2024 21:21	WG2362650
Nickel	6.12		0.400	5	09/19/2024 21:21	WG2362650
Selenium	0.568	J	0.260	5	09/19/2024 21:21	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:21	WG2362650
Zinc	21.2	J	0.740	5	09/19/2024 21:21	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.505		1	09/20/2024 15:53	WG2365107

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:59	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.01	T8	1	09/20/2024 14:14	WG2366340

Sample Narrative:

L1777029-08 WG2366340: 8.01 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	121	umhos/cm		10.0	1	09/20/2024 17:04	WG2366352

Sample Narrative:

L1777029-08 WG2366352: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 10:53	WG2365116

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	0.620	J	0.200	5	09/19/2024 21:43	WG2362650
Barium	30.1		0.400	5	09/19/2024 21:43	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:43	WG2362650
Copper	1.92	J	0.400	5	09/19/2024 21:43	WG2362650
Lead	2.21		0.200	5	09/19/2024 21:43	WG2362650
Nickel	2.27	J	0.400	5	09/19/2024 21:43	WG2362650
Selenium	ND		0.260	5	09/19/2024 21:43	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:43	WG2362650
Zinc	7.54	J	0.740	5	09/19/2024 21:43	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.191		1	09/20/2024 13:22	WG2365105

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 16:09	WG2362109

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.24	T8	1	09/20/2024 10:42	WG2366344

Sample Narrative:

L1777029-09 WG2366344: 8.24 at 21.4C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	173	umhos/cm		10.0	1	09/21/2024 22:30	WG2366347

Sample Narrative:

L1777029-09 WG2366347: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 02:01	WG2365112

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.82	Q1	0.200	5	09/19/2024 20:19	WG2362650
Barium	61.2		0.400	5	09/19/2024 20:19	WG2362650
Cadmium	ND		0.200	5	09/19/2024 20:19	WG2362650
Copper	4.29	J	0.400	5	09/19/2024 20:19	WG2362650
Lead	4.16		0.200	5	09/19/2024 20:19	WG2362650
Nickel	4.61		0.400	5	09/19/2024 20:19	WG2362650
Selenium	0.354	J	0.260	5	09/19/2024 20:19	WG2362650
Silver	ND		0.0865	5	09/19/2024 20:19	WG2362650
Zinc	19.2	J	0.740	5	09/19/2024 20:19	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.429		1	09/19/2024 17:01	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 00:00	WG2362179

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.80	T8	1	09/19/2024 15:45	WG2365847

Sample Narrative:

L1777029-10 WG2365847: 7.8 at 23.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	68.4	umhos/cm		10.0	1	09/19/2024 15:16	WG2365916

Sample Narrative:

L1777029-10 WG2365916: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:48	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.23		0.200	5	09/19/2024 21:36	WG2362650
Barium	48.5		0.400	5	09/19/2024 21:36	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:36	WG2362650
Copper	3.45	J	0.400	5	09/19/2024 21:36	WG2362650
Lead	3.69		0.200	5	09/19/2024 21:36	WG2362650
Nickel	4.09		0.400	5	09/19/2024 21:36	WG2362650
Selenium	0.436	J	0.260	5	09/19/2024 21:36	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:36	WG2362650
Zinc	13.5	J	0.740	5	09/19/2024 21:36	WG2362650

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.445		1	09/19/2024 17:06	WG2365125

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 00:14	WG2362179

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.28	T8	1	09/19/2024 15:45	WG2365847

Sample Narrative:

L1777029-11 WG2365847: 8.28 at 22.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	166	umhos/cm		10.0	1	09/19/2024 15:16	WG2365916

Sample Narrative:

L1777029-11 WG2365916: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 11:50	WG2365136

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.97		0.200	5	09/19/2024 21:40	WG2362650
Barium	101		0.400	5	09/19/2024 21:40	WG2362650
Cadmium	ND		0.200	5	09/19/2024 21:40	WG2362650
Copper	6.25		0.400	5	09/19/2024 21:40	WG2362650
Lead	5.39		0.200	5	09/19/2024 21:40	WG2362650
Nickel	6.43		0.400	5	09/19/2024 21:40	WG2362650
Selenium	0.501	J	0.260	5	09/19/2024 21:40	WG2362650
Silver	ND		0.0865	5	09/19/2024 21:40	WG2362650
Zinc	24.4	J	0.740	5	09/19/2024 21:40	WG2362650

QUALITY CONTROL SUMMARY

L1777029-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R4121476-1 09/18/24 10:44

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

L1777019-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-06 09/18/24 11:15 • (DUP) R4121476-3 09/18/24 11:26

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

L1777029-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-06 09/18/24 15:27 • (DUP) R4121476-8 09/18/24 15:38

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

Laboratory Control Sample (LCS)

(LCS) R4121476-2 09/18/24 10:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.3	103	80.0-120	

L1777029-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777029-02 09/18/24 13:42 • (MS) R4121476-4 09/18/24 13:53 • (MSD) R4121476-5 09/18/24 14:03

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 %
Hexavalent Chromium	20.0	ND	19.4	19.3	97.0	96.7	1	75.0-125			0.391	20

L1777029-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1777029-02 09/18/24 13:42 • (MS) R4121476-6 09/18/24 14:14

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	636	ND	541	85.1	50	75.0-125	

Method Blank (MB)

(MB) R4121023-1 09/17/24 23:41

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

L1777029-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-10 09/18/24 00:00 • (DUP) R4121023-3 09/18/24 00:08

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

L1777052-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777052-04 09/18/24 00:39 • (DUP) R4121023-4 09/18/24 00:45

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	2.25	1.44	1	43.7	P1	20

Laboratory Control Sample (LCS)

(LCS) R4121023-2 09/17/24 23:49

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.3	103	80.0-120	

L1777052-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777052-11 09/18/24 01:41 • (MS) R4121023-5 09/18/24 01:47 • (MSD) R4121023-6 09/18/24 01:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	28.3	35.4	30.1	35.6	8.69	1	75.0-125	J6	J6	16.4	20

Sample Narrative:

MS: Matrix spike failure due to matrix interference.

MSD: Matrix spike failure due to matrix interference.

L1777052-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1777052-11 09/18/24 01:41 • (MS) R4121023-7 09/18/24 02:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	631	28.3	395	58.1	50	75.0-125	J6

L1775445-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1775445-01 09/19/24 15:45 • (DUP) R4121960-2 09/19/24 15:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.16	8.13	1	0.368		1

Sample Narrative:

OS: 8.16 at 22.9C

DUP: 8.13 at 23.1C

L1778044-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1778044-03 09/19/24 15:45 • (DUP) R4121960-3 09/19/24 15:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.28	8.27	1	0.121		1

Sample Narrative:

OS: 8.28 at 22.9C

DUP: 8.27 at 22.9C

Laboratory Control Sample (LCS)

(LCS) R4121960-1 09/19/24 15:45

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 21.8C

L1776417-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-04 09/19/24 16:30 • (DUP) R4121998-2 09/19/24 16:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.69	8.69	1	0.000		1

Sample Narrative:

OS: 8.69 at 23.5C

DUP: 8.69 at 23.4C

L1776517-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1776517-04 09/19/24 16:30 • (DUP) R4121998-3 09/19/24 16:30

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.57	7.56	1	0.132		1

Sample Narrative:

OS: 7.57 at 23C

DUP: 7.56 at 23C

Laboratory Control Sample (LCS)

(LCS) R4121998-1 09/19/24 16:30

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 21.7C

L1776417-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-10 09/20/24 14:14 • (DUP) R4122414-2 09/20/24 14:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.95	8.90	1	0.560		1

Sample Narrative:

OS: 8.95 at 22.5C

DUP: 8.9 at 22.5C

L1777029-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-01 09/20/24 14:14 • (DUP) R4122414-3 09/20/24 14:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.47	8.52	1	0.589		1

Sample Narrative:

OS: 8.47 at 22C

DUP: 8.52 at 21.8C

Laboratory Control Sample (LCS)

(LCS) R4122414-1 09/20/24 14:14

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 22.2C

L1776417-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-05 09/20/24 10:42 • (DUP) R4122320-2 09/20/24 10:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.47	8.47	1	0.000		1

Sample Narrative:

OS: 8.47 at 21.8C

DUP: 8.47 at 21.9C

L1776517-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1776517-12 09/20/24 10:42 • (DUP) R4122320-3 09/20/24 10:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.79	7.75	1	0.515		1

Sample Narrative:

OS: 7.79 at 21.5C

DUP: 7.75 at 21.5C

Laboratory Control Sample (LCS)

(LCS) R4122320-1 09/20/24 10:42

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: 10.01 at 21.5C

Method Blank (MB)

(MB) R4121975-1 09/19/24 14:55

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

Sample Narrative:
BLANK: at 25C

L1774763-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1774763-01 09/19/24 14:55 • (DUP) R4121975-3 09/19/24 14:55

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	2900	2920	1	0.653		20

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

L1777029-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-02 09/19/24 14:55 • (DUP) R4121975-4 09/19/24 14:55

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	154	154	1	0.0651		20

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

Laboratory Control Sample (LCS)

(LCS) R4121975-2 09/19/24 14:55

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	748	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4121994-1 09/19/24 15:16

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

Sample Narrative:

BLANK: at 25C

L1776472-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1776472-04 09/19/24 15:16 • (DUP) R4121994-3 09/19/24 15:16

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	312	312	1	0.000		20

Sample Narrative:

OS: at 25C

DUP: at 25C

Laboratory Control Sample (LCS)

(LCS) R4121994-2 09/19/24 15:16

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	740	101	85.0-115	

Sample Narrative:

LCS: at 25C

Method Blank (MB)

(MB) R4122804-1 09/21/24 22:30

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

Sample Narrative:
BLANK: at 25C

L1776417-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-06 09/21/24 22:30 • (DUP) R4122804-3 09/21/24 22:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	177	177	1	0.113		20

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

L1777029-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-09 09/21/24 22:30 • (DUP) R4122804-4 09/21/24 22:30

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	173	172	1	0.697		20

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

Laboratory Control Sample (LCS)

(LCS) R4122804-2 09/21/24 22:30

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	737	101	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122517-1 09/20/24 17:04

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

Sample Narrative:
BLANK: at 25C

L1776472-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1776472-07 09/20/24 17:04 • (DUP) R4122517-3 09/20/24 17:04

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	318	316	1	0.631		20

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

L1777029-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1777029-03 09/20/24 17:04 • (DUP) R4122517-4 09/20/24 17:04

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	169	169	1	0.0592		20

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

Laboratory Control Sample (LCS)

(LCS) R4122517-2 09/20/24 17:04

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	692	94.4	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122290-1 09/20/24 01:28

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

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

(LCS) R4122290-2 09/20/24 01:30 • (LCSD) R4122290-3 09/20/24 01:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.05	1.04	105	104	80.0-120			0.968	20

Method Blank (MB)

(MB) R4122387-1 09/20/24 10:09

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

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

(LCS) R4122387-2 09/20/24 10:11 • (LCSD) R4122387-3 09/20/24 10:13

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	1.04	1.02	104	102	80.0-120			1.42	20

Method Blank (MB)

(MB) R4122388-1 09/20/24 11:06

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

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

(LCS) R4122388-2 09/20/24 11:08 • (LCSD) R4122388-3 09/20/24 11:10

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Hot Water Sol. Boron	1.00	1.06	1.05	106	105	80.0-120			0.870	20

Method Blank (MB)

(MB) R4122102-1 09/19/24 20:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	ND		0.100	1.00
Barium	ND		0.152	2.50
Cadmium	ND		0.0855	1.00
Copper	0.273	J	0.133	5.00
Lead	ND		0.0990	2.00
Nickel	ND		0.197	2.50
Selenium	ND		0.180	2.50
Silver	ND		0.0865	0.500
Zinc	ND		0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4122102-2 09/19/24 20:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	93.3	93.3	80.0-120	
Barium	100	97.7	97.7	80.0-120	
Cadmium	100	93.4	93.4	80.0-120	
Copper	100	90.1	90.1	80.0-120	
Lead	100	88.3	88.3	80.0-120	
Nickel	100	95.2	95.2	80.0-120	
Selenium	100	90.0	90.0	80.0-120	
Silver	20.0	19.0	95.1	80.0-120	
Zinc	100	90.3	90.3	80.0-120	

L1777029-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777029-09 09/19/24 20:19 • (MS) R4122102-5 09/19/24 20:28 • (MSD) R4122102-6 09/19/24 20:32

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	1.82	89.8	89.0	88.0	87.2	5	75.0-125			0.960	20
Barium	100	61.2	158	157	97.2	95.5	5	75.0-125			1.10	20
Cadmium	100	ND	87.5	88.5	87.5	88.5	5	75.0-125			1.14	20
Copper	100	4.29	91.5	92.8	87.2	88.5	5	75.0-125			1.45	20
Lead	100	4.16	91.1	91.1	86.9	87.0	5	75.0-125			0.0564	20
Nickel	100	4.61	94.7	94.3	90.1	89.7	5	75.0-125			0.379	20
Selenium	100	0.354	83.9	83.0	83.5	82.6	5	75.0-125			1.12	20
Silver	20.0	ND	17.9	18.1	89.3	90.5	5	75.0-125			1.31	20
Zinc	100	19.2	104	103	84.3	83.7	5	75.0-125			0.624	20

Method Blank (MB)

(MB) R4121840-2 09/16/24 18:49

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*106*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4121840-1 09/16/24 18:02

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.64	113	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*112*	*77.0-120*	

Method Blank (MB)

(MB) R4122046-3 09/17/24 11:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0260	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*

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

(LCS) R4122046-1 09/17/24 10:16 • (LCSD) R4122046-2 09/17/24 10:41

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	5.47	5.15	109	103	72.0-127			6.03	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*105*	*77.0-120*				

Method Blank (MB)

(MB) R4121775-3 09/17/24 11:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*89.5*			*75.0-131*
(S) 4-Bromofluorobenzene	*92.7*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

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

(LCS) R4121775-1 09/17/24 10:12 • (LCSD) R4121775-2 09/17/24 11:11

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	0.143	0.149	114	119	70.0-123			4.11	20
Toluene	0.125	0.123	0.120	98.4	96.0	75.0-121			2.47	20
Ethylbenzene	0.125	0.126	0.123	101	98.4	74.0-126			2.41	20
Xylenes, Total	0.375	0.369	0.366	98.4	97.6	72.0-127			0.816	20
1,2,4-Trimethylbenzene	0.125	0.104	0.112	83.2	89.6	70.0-126			7.41	20
1,3,5-Trimethylbenzene	0.125	0.112	0.110	89.6	88.0	73.0-127			1.80	20
(S) Toluene-d8				*84.3*	*85.2*	*75.0-131*				
(S) 4-Bromofluorobenzene				*96.9*	*90.8*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*115*	*122*	*70.0-130*				

L1777032-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777032-01 09/17/24 18:01 • (MS) R4121775-4 09/17/24 19:00 • (MSD) R4121775-5 09/17/24 19:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.165	127	132	1	10.0-149			3.70	37
Toluene	0.125	ND	0.137	0.136	110	109	1	10.0-156			0.733	38
Ethylbenzene	0.125	ND	0.136	0.130	109	104	1	10.0-160			4.51	38
Xylenes, Total	0.375	ND	0.418	0.395	111	105	1	10.0-160			5.66	38
1,2,4-Trimethylbenzene	0.125	ND	0.125	0.126	100	101	1	10.0-160			0.797	36
1,3,5-Trimethylbenzene	0.125	ND	0.135	0.123	108	98.4	1	10.0-160			9.30	38
(S) Toluene-d8					*87.2*	*85.9*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*94.4*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*112*	*113*		*70.0-130*				

Method Blank (MB)

(MB) R4122838-1 09/21/24 12:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*57.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122838-2 09/21/24 12:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	32.7	65.4	50.0-150	
(S) o-Terphenyl			*56.8*	*18.0-148*	

L1777032-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777032-02 09/21/24 14:56 • (MS) R4122838-3 09/21/24 15:09 • (MSD) R4122838-4 09/21/24 15:22

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	47.8	ND	ND	ND	58.2	56.2	1	50.0-150			2.07	20
(S) o-Terphenyl					*49.2*	*45.0*		*18.0-148*				

Method Blank (MB)

(MB) R4123450-2 09/23/24 22:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*96.4*			*23.0-120*
(S) Nitrobenzene-d5	*19.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*35.5*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4123450-1 09/23/24 22:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0529	66.1	50.0-120	
Anthracene	0.0800	0.0466	58.3	50.0-126	
Benzo(a)anthracene	0.0800	0.0463	57.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0586	73.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0547	68.4	49.0-125	
Benzo(a)pyrene	0.0800	0.0496	62.0	42.0-120	
Chrysene	0.0800	0.0599	74.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0549	68.6	47.0-125	
Fluoranthene	0.0800	0.0565	70.6	49.0-129	
Fluorene	0.0800	0.0569	71.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0529	66.1	46.0-125	
1-Methylnaphthalene	0.0800	0.0553	69.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0524	65.5	50.0-120	
Naphthalene	0.0800	0.0573	71.6	50.0-120	
Pyrene	0.0800	0.0577	72.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4123450-1 09/23/24 22:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*95.1*	*23.0-120*	
(S) Nitrobenzene-d5			*27.1*	*14.0-149*	
(S) 2-Fluorobiphenyl			*44.0*	*34.0-125*	

L1777460-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777460-02 09/24/24 11:16 • (MS) R4123627-1 09/24/24 11:35 • (MSD) R4123627-2 09/24/24 11:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0401	0.0393	50.1	49.1	1	14.0-127			2.02	27
Anthracene	0.0800	ND	0.0486	0.0446	60.8	55.8	1	10.0-145			8.58	30
Benzo(a)anthracene	0.0800	ND	0.0504	0.0475	63.0	59.4	1	10.0-139			5.92	30
Benzo(b)fluoranthene	0.0800	ND	0.0544	0.0474	68.0	59.3	1	10.0-140			13.8	36
Benzo(k)fluoranthene	0.0800	ND	0.0578	0.0535	72.3	66.9	1	10.0-137			7.73	31
Benzo(a)pyrene	0.0800	ND	0.0538	0.0494	67.3	61.8	1	10.0-141			8.53	31
Chrysene	0.0800	ND	0.0628	0.0588	78.5	73.5	1	10.0-145			6.58	30
Dibenz(a,h)anthracene	0.0800	ND	0.0620	0.0583	77.5	72.9	1	10.0-132			6.15	31
Fluoranthene	0.0800	ND	0.0483	0.0421	60.4	52.6	1	10.0-153			13.7	33
Fluorene	0.0800	ND	0.0488	0.0459	61.0	57.4	1	11.0-130			6.12	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0550	0.0497	68.8	62.1	1	10.0-137			10.1	32
1-Methylnaphthalene	0.0800	ND	0.0421	0.0439	52.6	54.9	1	10.0-142			4.19	28
2-Methylnaphthalene	0.0800	ND	0.0440	0.0436	55.0	54.5	1	10.0-137			0.913	28
Naphthalene	0.0800	ND	0.0438	0.0443	54.8	55.4	1	10.0-135			1.14	27
Pyrene	0.0800	ND	0.0527	0.0468	65.9	58.5	1	10.0-148			11.9	35
(S) p-Terphenyl-d14					*98.1*	*96.0*		*23.0-120*				
(S) Nitrobenzene-d5					*37.1*	*43.8*		*14.0-149*				
(S) 2-Fluorobiphenyl					*44.0*	*48.3*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: Quandary Consultants, 4480 Garfield St. Denver, CO 80216

Billing Information: CIVITASBCO-QUANDARY

Report to: brantner@quandaryconsultants.com

Email To: Jacob Evans

Project Description: Redman Brunz 12-26

City/State Collected: Ft Lupton, CO

Please Circle: PT MT CT ET

Phone: 720-297-1942

Client Project #

Lab Project #

Collected by (print): Brandon Vanthorn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # CIVITASBCO-QUANDARY

Date Results Needed: Standard TAT

Chain of Custody Page 1 of 2

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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/hubfs/pas-standard-terms.pdf

SDG # L1777029

F185

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Full Table 915-1	Full Table 915-1 Inorganics	Remarks	Sample # (lab only)
12-26-WH-B01@6'	Grab	SS	6	9-10-24	1320	3	X			-01
12-26-FL-B01@4'			4		1329					-02
12-26-FL-B02@3'			3		1611					-03
BG01@3'			3		1614			X		-04
BG01@6'			6		1617					-05
BG02@3'			3		1620					-06
BG02@6'			6		1623					-07
BG03@3'			3		1626					-08
BG03@6'			6		1629					-09
BG04@3'			3		1632					-10

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP X 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: X Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9-11-24	7:47	
Relinquished by : (Signature)	Date: 9/11/24	Time: 10:15	Received by: (Signature)
Relinquished by : (Signature)	Date: 9-11-24	Time: 18:00	Received for lab by: (Signature) Fedex

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 1.0 1.3 °C Bottles Received: 33

Date: 9/12/24 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Company Name/Address:
Quandary Consultants
4480 Garfield St. Denver, CO 80216

Billing Information:
CIVITASBCO - QUANDARY

Report to:
branhorn@quandaryconsultants.com

Email To:
Jacob Evans

Project Description:
Rodman Bruns 12-26

City/State Collected:
Ft Lupton, CO

Please Circle: PT MT CT ET

Phone:
720-291-1942

Client Project #

Lab Project #

Collected by (print):
Brandon Vanhorn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed
Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs
BG04@6'	Grab	SS	6	9-10-24	1635	3

Analysis / Container / Preservative
Soil Table 915-1 Inorganics

Pres Chk

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

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

SDG # L1277029

Table #

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

Remarks	Sample # (lab only)
	-11

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	9-11-24	747		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
	9/11/24	10:15		1.0+3=1.3
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
	9-11-24	18:00	Fedex	9/12/24 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

September 26, 2024

Civitas - CO

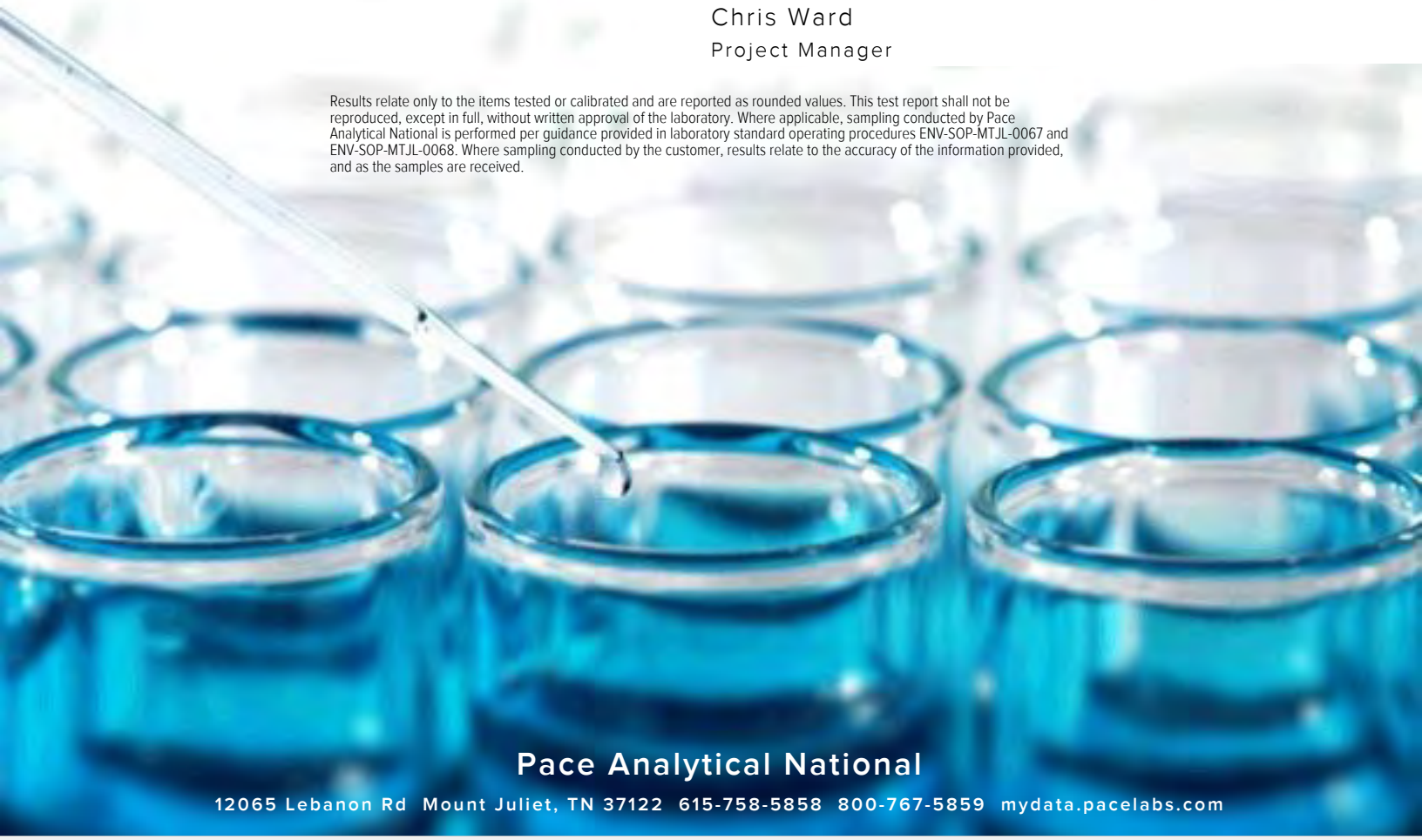
Sample Delivery Group:	L1776988
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 11-26

Report To:

Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

11-26-WH-B01 @ 8 L1776988-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:04 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:46	09/20/24 12:46	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 11:49	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:34	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:39	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/15/24 23:21	09/16/24 17:48	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 14:15	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 19:20	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 03:00	MKM	Mt. Juliet, TN

11-26-FL-B01 @ 3 L1776988-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:13 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:48	09/20/24 12:48	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 11:56	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:36	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:43	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1.01	09/15/24 23:21	09/16/24 18:09	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 14:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 18:53	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 03:18	MKM	Mt. Juliet, TN

11-26-FL-B02 @ 3 L1776988-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:07 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:50	09/20/24 12:50	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 12:02	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366011	1	09/20/24 22:53	09/21/24 05:10	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:46	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1.01	09/15/24 23:21	09/16/24 18:29	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1.01	09/15/24 23:21	09/16/24 14:54	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 20:27	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 10:37	MBE	Mt. Juliet, TN

11-26-FL-B03 @ 3 L1776988-04 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:09 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:51	09/20/24 12:51	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 12:08	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:42	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:49	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/15/24 23:21	09/16/24 18:48	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 15:14	JAH	Mt. Juliet, TN

SAMPLE SUMMARY

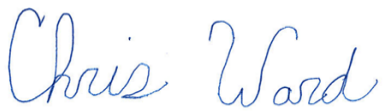
11-26-FL-B03 @ 3 L1776988-04 Solid

Collected by: Brandon VanHorn
Collected date/time: 09/10/24 16:09
Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/23/24 10:58	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 09:44	MBE	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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.98		1	09/20/2024 12:46	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 11:49	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	9.12	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776988-01 WG2366341: 9.12 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	898	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776988-01 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:34	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.18		0.200	5	09/25/2024 17:39	WG2362086
Barium	78.3		0.400	5	09/25/2024 17:39	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:39	WG2362086
Copper	18.4		0.400	5	09/25/2024 17:39	WG2362086
Lead	7.96		0.200	5	09/25/2024 17:39	WG2362086
Nickel	9.27		0.400	5	09/25/2024 17:39	WG2362086
Selenium	0.372	J	0.260	5	09/25/2024 17:39	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:39	WG2362086
Zinc	25.8		0.740	5	09/25/2024 17:39	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 17:48	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*94.1*			*77.0-120*	*09/16/2024 17:48*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 14:15	WG2363294
Toluene	ND		0.00500	1	09/16/2024 14:15	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 14:15	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 14:15	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 14:15	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 14:15	WG2363294
(S) Toluene-d8	*87.4*			*75.0-131*	*09/16/2024 14:15*	WG2363294
(S) 4-Bromofluorobenzene	*95.3*			*67.0-138*	*09/16/2024 14:15*	WG2363294
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*	*09/16/2024 14:15*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 19:20	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 19:20	WG2365884
(S) o-Terphenyl	*60.0*			*18.0-148*	*09/21/2024 19:20*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 03:00	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 03:00	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 03:00	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 03:00	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 03:00	WG2365659
(S) p-Terphenyl-d14	*103*			*23.0-120*	*09/20/2024 03:00*	WG2365659
(S) Nitrobenzene-d5	*111*			*14.0-149*	*09/20/2024 03:00*	WG2365659
(S) 2-Fluorobiphenyl	*102*			*34.0-125*	*09/20/2024 03:00*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.168		1	09/20/2024 12:48	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 11:56	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.24	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776988-02 WG2366341: 8.24 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	209	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776988-02 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:36	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.07		0.200	5	09/25/2024 17:43	WG2362086
Barium	109		0.400	5	09/25/2024 17:43	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:43	WG2362086
Copper	5.33	B	0.400	5	09/25/2024 17:43	WG2362086
Lead	6.47		0.200	5	09/25/2024 17:43	WG2362086
Nickel	5.27		0.400	5	09/25/2024 17:43	WG2362086
Selenium	0.380	J	0.260	5	09/25/2024 17:43	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:43	WG2362086
Zinc	25.3		0.740	5	09/25/2024 17:43	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1.01	09/16/2024 18:09	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.8*			*77.0-120*	*09/16/2024 18:09*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 14:35	WG2363294
Toluene	ND		0.00500	1	09/16/2024 14:35	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 14:35	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 14:35	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 14:35	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 14:35	WG2363294
(S) Toluene-d8	*90.9*			*75.0-131*	*09/16/2024 14:35*	WG2363294
(S) 4-Bromofluorobenzene	*93.8*			*67.0-138*	*09/16/2024 14:35*	WG2363294
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*	*09/16/2024 14:35*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 18:53	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 18:53	WG2365884
(S) o-Terphenyl	*41.4*			*18.0-148*	*09/21/2024 18:53*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 03:18	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 03:18	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 03:18	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 03:18	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 03:18	WG2365659
(S) p-Terphenyl-d14	*105*			*23.0-120*	*09/20/2024 03:18*	WG2365659
(S) Nitrobenzene-d5	*97.8*			*14.0-149*	*09/20/2024 03:18*	WG2365659
(S) 2-Fluorobiphenyl	*93.6*			*34.0-125*	*09/20/2024 03:18*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.166		1	09/20/2024 12:50	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 12:02	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776988-03 WG2366341: 8.1 at 22.2C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	210	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776988-03 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 05:10	WG2366011

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.00		0.200	5	09/25/2024 17:46	WG2362086
Barium	67.6		0.400	5	09/25/2024 17:46	WG2362086
Cadmium	0.278	J	0.200	5	09/25/2024 17:46	WG2362086
Copper	5.65	B	0.400	5	09/25/2024 17:46	WG2362086
Lead	6.47		0.200	5	09/25/2024 17:46	WG2362086
Nickel	4.86		0.400	5	09/25/2024 17:46	WG2362086
Selenium	0.288	J	0.260	5	09/25/2024 17:46	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:46	WG2362086
Zinc	24.6	J	0.740	5	09/25/2024 17:46	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1.01	09/16/2024 18:29	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.1*			*77.0-120*	*09/16/2024 18:29*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1.01	09/16/2024 14:54	WG2363294
Toluene	ND		0.00500	1.01	09/16/2024 14:54	WG2363294
Ethylbenzene	ND		0.00500	1.01	09/16/2024 14:54	WG2363294
Xylenes, Total	ND		0.0100	1.01	09/16/2024 14:54	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1.01	09/16/2024 14:54	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1.01	09/16/2024 14:54	WG2363294
(S) Toluene-d8	*89.9*			*75.0-131*	*09/16/2024 14:54*	WG2363294
(S) 4-Bromofluorobenzene	*96.1*			*67.0-138*	*09/16/2024 14:54*	WG2363294
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*	*09/16/2024 14:54*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 20:27	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 20:27	WG2365884
(S) o-Terphenyl	*62.8*			*18.0-148*	*09/21/2024 20:27*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 10:37	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:37	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:37	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 10:37	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 10:37	WG2365659
(S) p-Terphenyl-d14	*116*			*23.0-120*	*09/20/2024 10:37*	WG2365659
(S) Nitrobenzene-d5	*113*			*14.0-149*	*09/20/2024 10:37*	WG2365659
(S) 2-Fluorobiphenyl	*72.5*			*34.0-125*	*09/20/2024 10:37*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.160		1	09/20/2024 12:51	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 12:08	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.15	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776988-04 WG2366341: 8.15 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	199	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776988-04 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:42	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.21		0.200	5	09/25/2024 17:49	WG2362086
Barium	86.1		0.400	5	09/25/2024 17:49	WG2362086
Cadmium	0.205	J	0.200	5	09/25/2024 17:49	WG2362086
Copper	9.33		0.400	5	09/25/2024 17:49	WG2362086
Lead	8.89		0.200	5	09/25/2024 17:49	WG2362086
Nickel	14.5		0.400	5	09/25/2024 17:49	WG2362086
Selenium	0.439	J	0.260	5	09/25/2024 17:49	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:49	WG2362086
Zinc	60.2		0.740	5	09/25/2024 17:49	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 18:48	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*77.0-120*	*09/16/2024 18:48*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 15:14	WG2363294
Toluene	ND		0.00500	1	09/16/2024 15:14	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 15:14	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 15:14	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:14	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 15:14	WG2363294
(S) Toluene-d8	*90.1*			*75.0-131*	*09/16/2024 15:14*	WG2363294
(S) 4-Bromofluorobenzene	*94.6*			*67.0-138*	*09/16/2024 15:14*	WG2363294
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*	*09/16/2024 15:14*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/23/2024 10:58	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/23/2024 10:58	WG2365884
(S) o-Terphenyl	*66.4*			*18.0-148*	*09/23/2024 10:58*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 09:44	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:44	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:44	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 09:44	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 09:44	WG2365659
(S) p-Terphenyl-d14	*97.1*			*23.0-120*	*09/20/2024 09:44*	WG2365659
(S) Nitrobenzene-d5	*106*			*14.0-149*	*09/20/2024 09:44*	WG2365659
(S) 2-Fluorobiphenyl	*80.1*			*34.0-125*	*09/20/2024 09:44*	WG2365659

Method Blank (MB)

(MB) R4120811-1 09/17/24 10:20

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

L1776986-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776986-03 09/17/24 11:37 • (DUP) R4120811-7 09/17/24 11:43

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

L1777015-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1777015-08 09/17/24 13:28 • (DUP) R4120811-8 09/17/24 13:35

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

Laboratory Control Sample (LCS)

(LCS) R4120811-2 09/17/24 10:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1776825-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-3 09/17/24 10:48 • (MSD) R4120811-4 09/17/24 10:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	20.8	19.2	104	96.2	1	75.0-125			7.90	20

L1776825-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-5 09/17/24 11:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	638	ND	630	98.7	50	75.0-125	

L1776417-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-03 09/20/24 14:08 • (DUP) R4122422-2 09/20/24 14:08

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.70	8.75	1	0.573		1

Sample Narrative:

OS: 8.7 at 22C

DUP: 8.75 at 22C

L1777019-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-11 09/20/24 14:08 • (DUP) R4122422-3 09/20/24 14:08

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.30	8.36	1	0.720		1

Sample Narrative:

OS: 8.3 at 21.5C

DUP: 8.36 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4122422-1 09/20/24 14:08

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 22.1C

Method Blank (MB)

(MB) R4122504-1 09/20/24 15:47

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

Sample Narrative:
BLANK: at 25C

L1776417-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-02 09/20/24 15:47 • (DUP) R4122504-3 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	294	294	1	0.170		20

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

L1777019-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-10 09/20/24 15:47 • (DUP) R4122504-4 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	536	508	1	5.36		20

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

Laboratory Control Sample (LCS)

(LCS) R4122504-2 09/20/24 15:47

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	708	96.6	85.0-115	

Sample Narrative:
LCS: at 25C

QUALITY CONTROL SUMMARY

L1776988-01,02,04

Method Blank (MB)

(MB) R4122659-1 09/20/24 23:20

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

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

(LCS) R4122659-2 09/20/24 23:22 • (LCSD) R4122659-3 09/20/24 23:24

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	1.02	1.01	102	101	80.0-120			0.911	20

Method Blank (MB)

(MB) R4122666-1 09/21/24 05:02

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

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

(LCS) R4122666-2 09/21/24 05:04 • (LCSD) R4122666-3 09/21/24 05:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.01	100	101	80.0-120			0.243	20

Method Blank (MB)

(MB) R4124367-1 09/25/24 17:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	ND		0.100	1.00
Barium	ND		0.152	2.50
Cadmium	ND		0.0855	1.00
Copper	0.745	J	0.133	5.00
Lead	0.358	J	0.0990	2.00
Nickel	ND		0.197	2.50
Selenium	ND		0.180	2.50
Silver	ND		0.0865	0.500
Zinc	2.39	J	0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4124367-2 09/25/24 17:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	98.4	98.4	80.0-120	
Barium	100	94.4	94.4	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	97.4	97.4	80.0-120	
Lead	100	97.3	97.3	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	97.4	97.4	80.0-120	
Silver	20.0	19.9	99.7	80.0-120	
Zinc	100	97.8	97.8	80.0-120	

L1777015-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777015-01 09/25/24 17:07 • (MS) R4124367-5 09/25/24 17:16 • (MSD) R4124367-6 09/25/24 17:19

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 %
Arsenic	100	6.32	108	103	102	96.4	5	75.0-125			5.43	20
Barium	100	183	293	281	110	97.9	5	75.0-125			4.24	20
Cadmium	100	0.468	105	94.9	104	94.5	5	75.0-125			9.77	20
Copper	100	16.8	117	111	99.8	93.9	5	75.0-125			5.17	20
Lead	100	19.8	114	109	94.3	89.6	5	75.0-125			4.24	20
Nickel	100	18.3	123	116	105	97.3	5	75.0-125			6.14	20
Selenium	100	0.878	103	94.1	102	93.2	5	75.0-125			8.60	20
Silver	20.0	0.0875	20.8	19.1	104	95.1	5	75.0-125			8.68	20
Zinc	100	60.7	162	160	102	98.8	5	75.0-125			1.80	20

Method Blank (MB)

(MB) R4121808-3 09/16/24 15:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*

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

(LCS) R4121808-1 09/16/24 14:43 • (LCSD) R4121808-2 09/16/24 15:03

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	5.04	5.15	101	103	72.0-127			2.16	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R4121226-3 09/16/24 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4121226-1 09/16/24 09:31 • (LCSD) R4121226-2 09/16/24 09:51

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	0.143	0.141	114	113	70.0-123			1.41	20
Toluene	0.125	0.120	0.118	96.0	94.4	75.0-121			1.68	20
Ethylbenzene	0.125	0.121	0.112	96.8	89.6	74.0-126			7.73	20
Xylenes, Total	0.375	0.362	0.359	96.5	95.7	72.0-127			0.832	20
1,2,4-Trimethylbenzene	0.125	0.105	0.107	84.0	85.6	70.0-126			1.89	20
1,3,5-Trimethylbenzene	0.125	0.111	0.111	88.8	88.8	73.0-127			0.000	20
(S) Toluene-d8				*86.5*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.3*	*90.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*121*	*111*	*70.0-130*				

L1776986-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776986-01 09/16/24 13:16 • (MS) R4121226-4 09/16/24 19:30 • (MSD) R4121226-5 09/16/24 19:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.167	126	133	1	10.0-149			4.91	37
Toluene	0.125	ND	0.133	0.138	106	110	1	10.0-156			3.69	38
Ethylbenzene	0.125	ND	0.137	0.133	110	106	1	10.0-160			2.96	38
Xylenes, Total	0.375	ND	0.414	0.414	110	110	1	10.0-160			0.000	38
1,2,4-Trimethylbenzene	0.125	ND	0.133	0.127	105	100	1	10.0-160			4.62	36
1,3,5-Trimethylbenzene	0.125	ND	0.138	0.128	110	102	1	10.0-160			7.52	38
(S) Toluene-d8					*83.4*	*83.0*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R4122848-1 09/21/24 18:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*64.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122848-2 09/21/24 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*62.6*	*18.0-148*	

L1776988-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-03 09/21/24 20:27 • (MS) R4122848-3 09/21/24 20:41 • (MSD) R4122848-4 09/21/24 20:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	ND	ND	ND	60.6	66.3	1	50.0-150			7.91	20
(S) o-Terphenyl					*49.4*	*49.1*		*18.0-148*				

Method Blank (MB)

(MB) R4122393-2 09/19/24 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*110*			*23.0-120*
(S) Nitrobenzene-d5	*93.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0680	85.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0640	80.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0706	88.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0697	87.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0663	82.9	42.0-120	
Chrysene	0.0800	0.0766	95.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0713	89.1	47.0-125	
Fluoranthene	0.0800	0.0754	94.3	49.0-129	
Fluorene	0.0800	0.0748	93.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0621	77.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0745	93.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0723	90.4	50.0-120	
Naphthalene	0.0800	0.0721	90.1	50.0-120	
Pyrene	0.0800	0.0824	103	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*127*	*23.0-120*	J1
(S) Nitrobenzene-d5			*117*	*14.0-149*	
(S) 2-Fluorobiphenyl			*116*	*34.0-125*	

L1776988-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-02 09/20/24 03:18 • (MS) R4122393-3 09/20/24 03:35 • (MSD) R4122393-4 09/20/24 03:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0618	0.0697	77.3	87.1	1	14.0-127			12.0	27
Anthracene	0.0800	ND	0.0610	0.0691	76.3	86.4	1	10.0-145			12.5	30
Benzo(a)anthracene	0.0800	ND	0.0612	0.0673	76.5	84.1	1	10.0-139			9.49	30
Benzo(b)fluoranthene	0.0800	ND	0.0598	0.0700	74.8	87.5	1	10.0-140			15.7	36
Benzo(k)fluoranthene	0.0800	ND	0.0598	0.0661	74.8	82.6	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0800	ND	0.0606	0.0684	75.8	85.5	1	10.0-141			12.1	31
Chrysene	0.0800	ND	0.0655	0.0734	81.9	91.8	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0800	ND	0.0630	0.0704	78.8	88.0	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0675	0.0752	84.4	94.0	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0669	0.0741	83.6	92.6	1	11.0-130			10.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0594	0.0656	74.3	82.0	1	10.0-137			9.92	32
1-Methylnaphthalene	0.0800	ND	0.0670	0.0761	83.8	95.1	1	10.0-142			12.7	28
2-Methylnaphthalene	0.0800	ND	0.0652	0.0736	81.5	92.0	1	10.0-137			12.1	28
Naphthalene	0.0800	ND	0.0630	0.0727	78.8	90.9	1	10.0-135			14.3	27
Pyrene	0.0800	ND	0.0678	0.0754	84.8	94.3	1	10.0-148			10.6	35
(S) p-Terphenyl-d14					*106*	*120*		*23.0-120*				
(S) Nitrobenzene-d5					*109*	*124*		*14.0-149*				
(S) 2-Fluorobiphenyl					*103*	*116*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
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.
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.

Company Name/Address:
Quandary Consultants
4480 Garfield St. Denver, CO 80216

Billing Information:
CLIMAS BCO - QUANDARY

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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/hubfs/pas-standard-terms.pdf

Report to:
branhorne@quandaryconsultants.com

Email To:
Jacob Evans

Project Description:
Rodman Bruns 11-26

City/State Collected:
Ft Lupton, CO

Please Circle:
PT MT CT ET

Phone:
720-297-1492

Client Project #

Lab Project #

SDG # L-125
LIT0988

Collected by (print):
Brandon Vanhorn

Site/Facility ID #

P.O. #

Acctnum:

Collected by (signature):

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

Quote #
CLIMAS BCO - QUANDARY

Date Results Needed
Standard TAT

Template:

Prelogin:

PM:

PB:

Shipped Via:

Immediately
Packed on Ice N ___ Y X

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Full Table 915-1	Remarks	Sample # (lab only)
11-26-WH-B01e8'	Grab	SS	8	9-10-24	1304	3	X		-01
11-26-FL-B01e3'			3		1313				-02
11-26-FL-B02e3'			3		1607				-03
11-26-FL-B03e3'			3		1609				-04

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9-11-24	797	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/11/24	10:15	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
	9-11-24	17:00	Fedex

Trip Blank Received: Yes / (No)
HCL / MeoH
TBR

Temp: °C Bottles Received: 12

Date: Time:

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

4776988

Fed Ex tracking #	Gun ID	Temperature
4102 9166 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date

ANALYTICAL REPORT

September 24, 2024

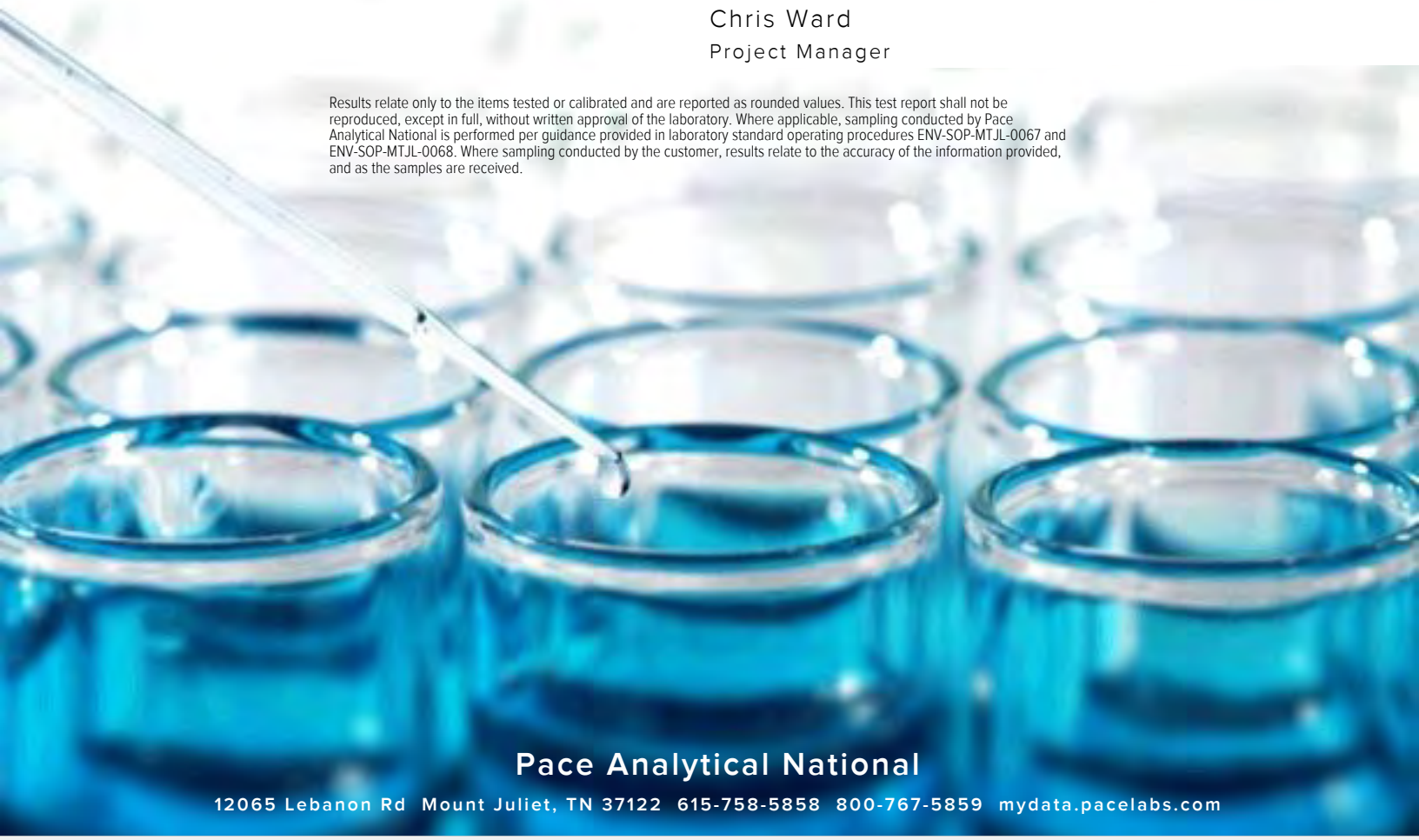
Civitas - CO

Sample Delivery Group:	L1776991
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 2-4-26

Report To: Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

2-4-26-WH-B01 @ 6 L1776991-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 12:34 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366822	1	09/21/24 02:00	09/21/24 02:00	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 11:34	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367007	1	09/21/24 05:42	09/21/24 18:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367010	1	09/21/24 06:35	09/21/24 19:15	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366859	1	09/20/24 21:36	09/21/24 01:16	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 20:16	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 20:06	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 16:33	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 19:20	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 04:47	MKM	Mt. Juliet, TN

2-4-26-FL-B01 @ 3 L1776991-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 12:43 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366004	1	09/20/24 11:08	09/20/24 11:08	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 11:43	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366342	1	09/20/24 08:51	09/20/24 11:10	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366351	1	09/20/24 08:50	09/23/24 12:15	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366011	1	09/20/24 22:53	09/21/24 05:12	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 20:20	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 20:25	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 16:53	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 18:53	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 07:05	MBE	Mt. Juliet, TN

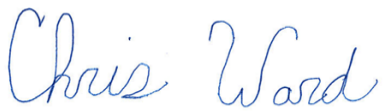
2-4-26-FL-B02 @ 3 L1776991-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:04 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366822	1	09/21/24 02:02	09/21/24 02:02	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 11:51	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367007	1	09/21/24 05:42	09/21/24 18:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367010	1	09/21/24 06:35	09/21/24 19:15	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366859	1	09/20/24 21:36	09/21/24 01:17	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 20:23	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 20:44	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 17:12	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 20:27	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 09:27	MBE	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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.10		1	09/21/2024 02:00	WG2366822

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 11:34	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.56	T8	1	09/21/2024 18:40	WG2367007

Sample Narrative:

L1776991-01 WG2367007: 8.56 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	402	umhos/cm		10.0	1	09/21/2024 19:15	WG2367010

Sample Narrative:

L1776991-01 WG2367010: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 01:16	WG2366859

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.39		0.200	5	09/19/2024 20:16	WG2362659
Barium	102		0.400	5	09/19/2024 20:16	WG2362659
Cadmium	ND		0.200	5	09/19/2024 20:16	WG2362659
Copper	5.49		0.400	5	09/19/2024 20:16	WG2362659
Lead	7.51		0.200	5	09/19/2024 20:16	WG2362659
Nickel	4.58		0.400	5	09/19/2024 20:16	WG2362659
Selenium	ND		0.260	5	09/19/2024 20:16	WG2362659
Silver	ND		0.0865	5	09/19/2024 20:16	WG2362659
Zinc	19.3	J	0.740	5	09/19/2024 20:16	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 20:06	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*89.9*			*77.0-120*	*09/16/2024 20:06*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 16:33	WG2363294
Toluene	ND		0.00500	1	09/16/2024 16:33	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 16:33	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 16:33	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:33	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:33	WG2363294
(S) Toluene-d8	*88.5*			*75.0-131*	*09/16/2024 16:33*	WG2363294
(S) 4-Bromofluorobenzene	*92.6*			*67.0-138*	*09/16/2024 16:33*	WG2363294
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*	*09/16/2024 16:33*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 19:20	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 19:20	WG2365884
(S) o-Terphenyl	*47.5*			*18.0-148*	*09/21/2024 19:20*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 04:47	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:47	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 04:47	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 04:47	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 04:47	WG2365659
(S) p-Terphenyl-d14	*111*			*23.0-120*	*09/20/2024 04:47*	WG2365659
(S) Nitrobenzene-d5	*110*			*14.0-149*	*09/20/2024 04:47*	WG2365659
(S) 2-Fluorobiphenyl	*106*			*34.0-125*	*09/20/2024 04:47*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.957		1	09/20/2024 11:08	WG2366004

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 11:43	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.29	T8	1	09/20/2024 11:10	WG2366342

Sample Narrative:

L1776991-02 WG2366342: 8.29 at 22.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	250	umhos/cm		10.0	1	09/23/2024 12:15	WG2366351

Sample Narrative:

L1776991-02 WG2366351: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 05:12	WG2366011

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	0.662	J	0.200	5	09/19/2024 20:20	WG2362659
Barium	25.6		0.400	5	09/19/2024 20:20	WG2362659
Cadmium	ND		0.200	5	09/19/2024 20:20	WG2362659
Copper	2.86	J	0.400	5	09/19/2024 20:20	WG2362659
Lead	9.95		0.200	5	09/19/2024 20:20	WG2362659
Nickel	1.69	J	0.400	5	09/19/2024 20:20	WG2362659
Selenium	ND		0.260	5	09/19/2024 20:20	WG2362659
Silver	ND		0.0865	5	09/19/2024 20:20	WG2362659
Zinc	9.32	J	0.740	5	09/19/2024 20:20	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 20:25	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*93.0*			*77.0-120*	*09/16/2024 20:25*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 16:53	WG2363294
Toluene	ND		0.00500	1	09/16/2024 16:53	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 16:53	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 16:53	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:53	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 16:53	WG2363294
(S) Toluene-d8	*89.2*			*75.0-131*	*09/16/2024 16:53*	WG2363294
(S) 4-Bromofluorobenzene	*95.6*			*67.0-138*	*09/16/2024 16:53*	WG2363294
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*	*09/16/2024 16:53*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 18:53	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 18:53	WG2365884
(S) o-Terphenyl	*48.9*			*18.0-148*	*09/21/2024 18:53*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 07:05	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 07:05	WG2365659
1-Methylnaphthalene	0.00626	J	0.00500	1	09/20/2024 07:05	WG2365659
2-Methylnaphthalene	0.0113	J	0.00500	1	09/20/2024 07:05	WG2365659
Naphthalene	0.00450	J	0.00408	1	09/20/2024 07:05	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 07:05	WG2365659
(S) p-Terphenyl-d14	*67.8*			*23.0-120*	*09/20/2024 07:05*	WG2365659
(S) Nitrobenzene-d5	*92.3*			*14.0-149*	*09/20/2024 07:05*	WG2365659
(S) 2-Fluorobiphenyl	*66.8*			*34.0-125*	*09/20/2024 07:05*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.155		1	09/21/2024 02:02	WG2366822

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 11:51	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.06	T8	1	09/21/2024 18:40	WG2367007

Sample Narrative:

L1776991-03 WG2367007: 8.06 at 22.1C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	192	umhos/cm		10.0	1	09/21/2024 19:15	WG2367010

Sample Narrative:

L1776991-03 WG2367010: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 01:17	WG2366859

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.54		0.200	5	09/19/2024 20:23	WG2362659
Barium	58.2		0.400	5	09/19/2024 20:23	WG2362659
Cadmium	ND		0.200	5	09/19/2024 20:23	WG2362659
Copper	5.74		0.400	5	09/19/2024 20:23	WG2362659
Lead	5.28		0.200	5	09/19/2024 20:23	WG2362659
Nickel	5.96		0.400	5	09/19/2024 20:23	WG2362659
Selenium	ND		0.260	5	09/19/2024 20:23	WG2362659
Silver	ND		0.0865	5	09/19/2024 20:23	WG2362659
Zinc	68.1		0.740	5	09/19/2024 20:23	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 20:44	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*77.0-120*	*09/16/2024 20:44*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 17:12	WG2363294
Toluene	ND		0.00500	1	09/16/2024 17:12	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 17:12	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 17:12	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:12	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:12	WG2363294
(S) Toluene-d8	*87.8*			*75.0-131*	*09/16/2024 17:12*	WG2363294
(S) 4-Bromofluorobenzene	*92.8*			*67.0-138*	*09/16/2024 17:12*	WG2363294
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*09/16/2024 17:12*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 20:27	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 20:27	WG2365884
(S) o-Terphenyl	*57.7*			*18.0-148*	*09/21/2024 20:27*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 09:27	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:27	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:27	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 09:27	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 09:27	WG2365659
(S) p-Terphenyl-d14	*87.6*			*23.0-120*	*09/20/2024 09:27*	WG2365659
(S) Nitrobenzene-d5	*104*			*14.0-149*	*09/20/2024 09:27*	WG2365659
(S) 2-Fluorobiphenyl	*78.1*			*34.0-125*	*09/20/2024 09:27*	WG2365659

Method Blank (MB)

(MB) R4121486-1 09/18/24 11:16

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

L1776991-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-03 09/18/24 11:51 • (DUP) R4121486-3 09/18/24 12:00

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

L1777026-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777026-06 09/18/24 14:15 • (DUP) R4121486-8 09/18/24 14:24

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.390	0.484	1	21.6	J P1	20

Laboratory Control Sample (LCS)

(LCS) R4121486-2 09/18/24 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.7	107	80.0-120	

L1776993-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-4 09/18/24 12:36 • (MSD) R4121486-5 09/18/24 13:03

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 %
Hexavalent Chromium	20.0	ND	19.1	17.8	95.5	89.2	1	75.0-125			6.82	20

L1776993-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-6 09/18/24 13:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	646	ND	840	130	50	75.0-125	J5

L1776991-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-02 09/20/24 11:10 • (DUP) R4122391-2 09/20/24 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.29	8.30	1	0.121		1

Sample Narrative:

OS: 8.29 at 22.3C

DUP: 8.3 at 22.3C

L1777019-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-15 09/20/24 11:10 • (DUP) R4122391-3 09/20/24 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.47	8.44	1	0.355		1

Sample Narrative:

OS: 8.47 at 21.2C

DUP: 8.44 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R4122391-1 09/20/24 11:10

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

Sample Narrative:

LCS: 10 at 21.2C

L1776991-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-01 09/21/24 18:40 • (DUP) R4122799-2 09/21/24 18:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.56	8.53	1	0.351		1

Sample Narrative:

OS: 8.56 at 22C

DUP: 8.53 at 22C

L1777536-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1777536-02 09/21/24 18:40 • (DUP) R4122799-3 09/21/24 18:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.75	8.75	1	0.000		1

Sample Narrative:

OS: 8.75 at 21.8C

DUP: 8.75 at 21.9C

Laboratory Control Sample (LCS)

(LCS) R4122799-1 09/21/24 18:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 22C

Method Blank (MB)

(MB) R4123165-1 09/23/24 12:15

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

Sample Narrative:
BLANK: at 25C

L1776986-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776986-03 09/23/24 12:15 • (DUP) R4123165-3 09/23/24 12:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	263	262	1	0.457		20

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

L1777019-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-14 09/23/24 12:15 • (DUP) R4123165-4 09/23/24 12:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	515	514	1	0.194		20

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

Laboratory Control Sample (LCS)

(LCS) R4123165-2 09/23/24 12:15

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	747	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122800-1 09/21/24 19:15

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

Sample Narrative:
BLANK: at 25C

L1776991-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-03 09/21/24 19:15 • (DUP) R4122800-3 09/21/24 19:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	192	193	1	0.780		20

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

L1777561-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777561-04 09/21/24 19:15 • (DUP) R4122800-4 09/21/24 19:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	672	671	1	0.149		20

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

Laboratory Control Sample (LCS)

(LCS) R4122800-2 09/21/24 19:15

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	749	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122666-1 09/21/24 05:02

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

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

(LCS) R4122666-2 09/21/24 05:04 • (LCSD) R4122666-3 09/21/24 05:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.01	100	101	80.0-120			0.243	20

Method Blank (MB)

(MB) R4122661-1 09/21/24 01:10

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

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

(LCS) R4122661-2 09/21/24 01:12 • (LCSD) R4122661-3 09/21/24 01:14

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	1.00	101	100	80.0-120			1.25	20

QUALITY CONTROL SUMMARY

L1776991-01,02,03

Method Blank (MB)

(MB) R4122113-1 09/19/24 19:53

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

Laboratory Control Sample (LCS)

(LCS) R4122113-2 09/19/24 19:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	96.6	96.6	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	98.4	98.4	80.0-120	
Lead	100	98.8	98.8	80.0-120	
Nickel	100	101	101	80.0-120	
Selenium	100	97.2	97.2	80.0-120	
Silver	20.0	20.4	102	80.0-120	
Zinc	100	99.2	99.2	80.0-120	

L1776993-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776993-03 09/19/24 20:00 • (MS) R4122113-5 09/19/24 20:10 • (MSD) R4122113-6 09/19/24 20:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.09	100	95.4	98.0	93.3	5	75.0-125			4.79	20
Barium	100	65.7	166	155	99.8	89.0	5	75.0-125			6.75	20
Cadmium	100	ND	99.5	97.1	99.4	96.9	5	75.0-125			2.46	20
Copper	100	7.78	106	103	98.4	95.3	5	75.0-125			2.97	20
Lead	100	6.64	103	101	96.5	94.1	5	75.0-125			2.29	20
Nickel	100	7.03	106	103	99.5	96.1	5	75.0-125			3.17	20
Selenium	100	ND	92.1	84.0	91.9	83.9	5	75.0-125			9.14	20
Silver	20.0	ND	20.7	19.7	103	98.4	5	75.0-125			4.83	20
Zinc	100	71.2	145	127	74.3	56.3	5	75.0-125	J6	J6	13.2	20

Method Blank (MB)

(MB) R4121808-3 09/16/24 15:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*

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

(LCS) R4121808-1 09/16/24 14:43 • (LCSD) R4121808-2 09/16/24 15:03

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	5.04	5.15	101	103	72.0-127			2.16	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R4121226-3 09/16/24 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4121226-1 09/16/24 09:31 • (LCSD) R4121226-2 09/16/24 09:51

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	0.143	0.141	114	113	70.0-123			1.41	20
Toluene	0.125	0.120	0.118	96.0	94.4	75.0-121			1.68	20
Ethylbenzene	0.125	0.121	0.112	96.8	89.6	74.0-126			7.73	20
Xylenes, Total	0.375	0.362	0.359	96.5	95.7	72.0-127			0.832	20
1,2,4-Trimethylbenzene	0.125	0.105	0.107	84.0	85.6	70.0-126			1.89	20
1,3,5-Trimethylbenzene	0.125	0.111	0.111	88.8	88.8	73.0-127			0.000	20
(S) Toluene-d8				*86.5*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.3*	*90.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*121*	*111*	*70.0-130*				

L1776986-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776986-01 09/16/24 13:16 • (MS) R4121226-4 09/16/24 19:30 • (MSD) R4121226-5 09/16/24 19:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.167	126	133	1	10.0-149			4.91	37
Toluene	0.125	ND	0.133	0.138	106	110	1	10.0-156			3.69	38
Ethylbenzene	0.125	ND	0.137	0.133	110	106	1	10.0-160			2.96	38
Xylenes, Total	0.375	ND	0.414	0.414	110	110	1	10.0-160			0.000	38
1,2,4-Trimethylbenzene	0.125	ND	0.133	0.127	105	100	1	10.0-160			4.62	36
1,3,5-Trimethylbenzene	0.125	ND	0.138	0.128	110	102	1	10.0-160			7.52	38
(S) Toluene-d8					*83.4*	*83.0*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R4122848-1 09/21/24 18:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*64.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122848-2 09/21/24 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*62.6*	*18.0-148*	

L1776988-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-03 09/21/24 20:27 • (MS) R4122848-3 09/21/24 20:41 • (MSD) R4122848-4 09/21/24 20:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	ND	ND	ND	60.6	66.3	1	50.0-150			7.91	20
(S) o-Terphenyl					*49.4*	*49.1*		*18.0-148*				

Method Blank (MB)

(MB) R4122393-2 09/19/24 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*110*			*23.0-120*
(S) Nitrobenzene-d5	*93.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0680	85.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0640	80.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0706	88.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0697	87.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0663	82.9	42.0-120	
Chrysene	0.0800	0.0766	95.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0713	89.1	47.0-125	
Fluoranthene	0.0800	0.0754	94.3	49.0-129	
Fluorene	0.0800	0.0748	93.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0621	77.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0745	93.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0723	90.4	50.0-120	
Naphthalene	0.0800	0.0721	90.1	50.0-120	
Pyrene	0.0800	0.0824	103	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*127*	*23.0-120*	J1
(S) Nitrobenzene-d5			*117*	*14.0-149*	
(S) 2-Fluorobiphenyl			*116*	*34.0-125*	

L1776988-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-02 09/20/24 03:18 • (MS) R4122393-3 09/20/24 03:35 • (MSD) R4122393-4 09/20/24 03:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0618	0.0697	77.3	87.1	1	14.0-127			12.0	27
Anthracene	0.0800	ND	0.0610	0.0691	76.3	86.4	1	10.0-145			12.5	30
Benzo(a)anthracene	0.0800	ND	0.0612	0.0673	76.5	84.1	1	10.0-139			9.49	30
Benzo(b)fluoranthene	0.0800	ND	0.0598	0.0700	74.8	87.5	1	10.0-140			15.7	36
Benzo(k)fluoranthene	0.0800	ND	0.0598	0.0661	74.8	82.6	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0800	ND	0.0606	0.0684	75.8	85.5	1	10.0-141			12.1	31
Chrysene	0.0800	ND	0.0655	0.0734	81.9	91.8	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0800	ND	0.0630	0.0704	78.8	88.0	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0675	0.0752	84.4	94.0	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0669	0.0741	83.6	92.6	1	11.0-130			10.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0594	0.0656	74.3	82.0	1	10.0-137			9.92	32
1-Methylnaphthalene	0.0800	ND	0.0670	0.0761	83.8	95.1	1	10.0-142			12.7	28
2-Methylnaphthalene	0.0800	ND	0.0652	0.0736	81.5	92.0	1	10.0-137			12.1	28
Naphthalene	0.0800	ND	0.0630	0.0727	78.8	90.9	1	10.0-135			14.3	27
Pyrene	0.0800	ND	0.0678	0.0754	84.8	94.3	1	10.0-148			10.6	35
(S) p-Terphenyl-d14					*106*	*120*		*23.0-120*				
(S) Nitrobenzene-d5					*109*	*124*		*14.0-149*				
(S) 2-Fluorobiphenyl					*103*	*116*		*34.0-125*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: Quandary Consultants 4480 Garfield St, Denver CO 80216

Billing Information: CLIENTASBCO-QUANDARY

Pres Chk

Report to: bvanhorn@quandaryconsult.com

Email To: Jacob Evans

Project Description: Rodman Brunz 2-4-26

City/State Collected: Ft Lupton, CO

Please Circle: PT MT CT ET

Phone: 720-297-1942

Client Project #

Lab Project #

Collected by (print): Brandon Vanhorn

Site/Facility ID #

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y X

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

Quote # CLIENTASBCO-QUANDARY

Date Results Needed: Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Full Table 915-1										Remarks	Sample # (lab only)
2-4-26-WH-B@1@6'	Grab	SS	6	9-10-24	1234	3	X											-01
2-4-26-FL-B@1@3'	"	"	3	"	1243	"	"											-02
2-4-26-FL-B@2@3'	"	"	3	"	1604	"	"											-03

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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/hubfs/pas-standard-terms.pdf

SDG # L1716991

L-126

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
[signature]	9-11-24	797	[signature]
[signature]	9/11/24	10:15	[signature]
[signature]	9-11-24	18:00	[signature]

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received: 9

If preservation required by Login: Date/Time

Date: 9-12-24 Time: 0900

Hold:

Condition: NCF / OK

4776991

Fed Ex tracking #	Gun ID	Temperature
4102 9166 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date

ANALYTICAL REPORT

September 24, 2024

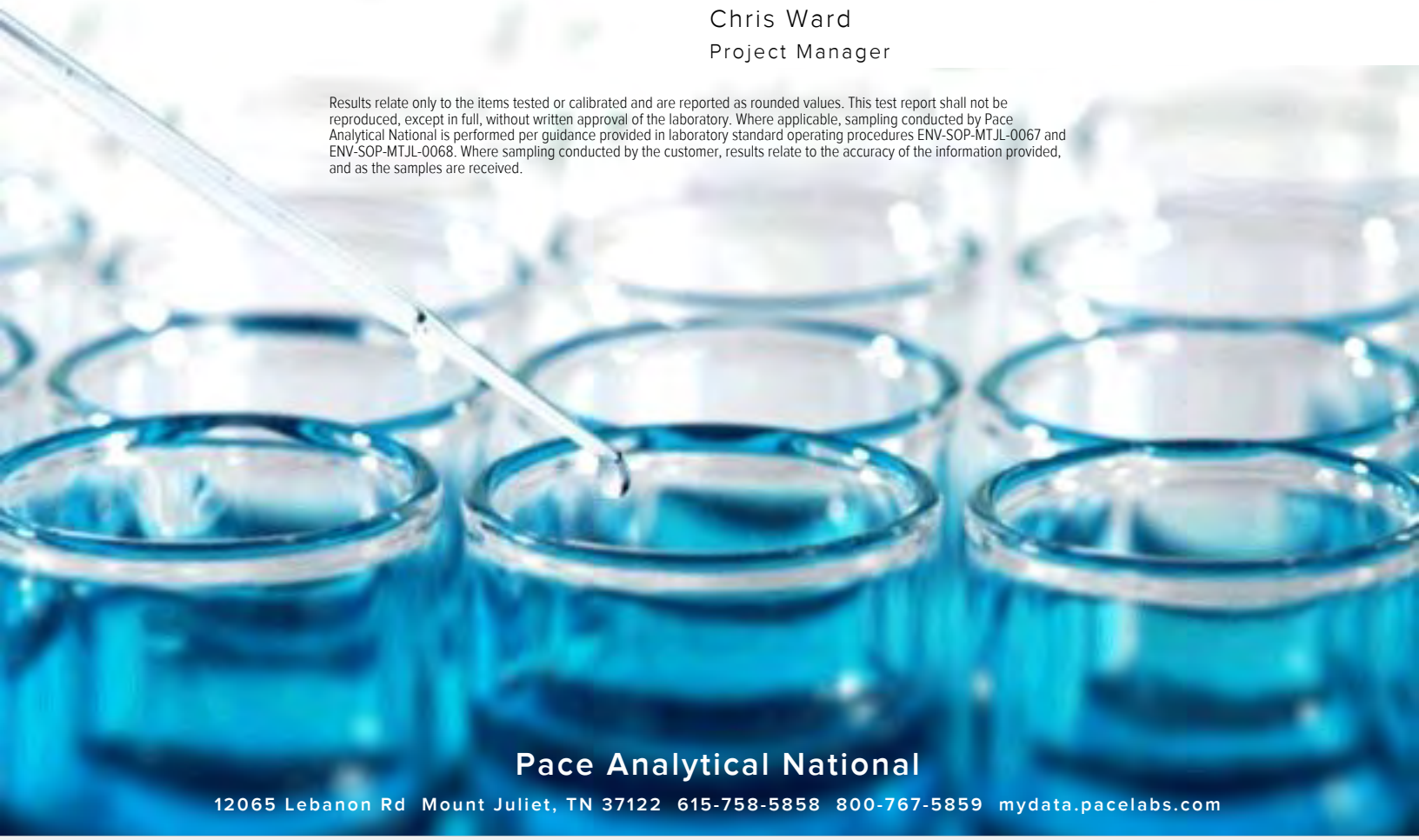
Revised Report

Civitas - CO

Sample Delivery Group:	L1777032
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Bruntz 2-0-26
Report To:	Mike Dinkel 4480 Garfield Street Denver, CO 80216

Entire Report Reviewed By:

Chris Ward
Project Manager



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

TABLE OF CONTENTS

SAMPLE SUMMARY

2-0-26-WH-B01@6' L1777032-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 12:44 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366832	1	09/21/24 03:52	09/21/24 03:52	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 15:08	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367009	1	09/21/24 06:37	09/21/24 09:50	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367011	1	09/21/24 06:36	09/21/24 13:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366863	1	09/20/24 21:32	09/21/24 00:52	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362654	5	09/19/24 08:29	09/19/24 12:47	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2364176	1	09/16/24 11:45	09/17/24 16:27	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 11:45	09/17/24 18:01	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 15:35	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/23/24 23:13	JCH	Mt. Juliet, TN

2-0-26-FL-B01@5' L1777032-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 12:53 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366832	1	09/21/24 03:54	09/21/24 03:54	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 15:17	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367008	1	09/21/24 06:38	09/21/24 10:12	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367012	1	09/21/24 06:38	09/21/24 13:22	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366863	1	09/20/24 21:32	09/21/24 00:54	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362654	5	09/19/24 08:29	09/19/24 12:50	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2364176	1	09/16/24 11:45	09/17/24 16:50	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 11:45	09/17/24 18:21	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 14:56	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/23/24 23:31	JCH	Mt. Juliet, TN

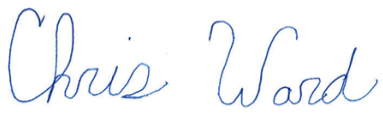
2-0-26-FL-B02@3' L1777032-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:04 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366832	1	09/21/24 03:55	09/21/24 03:55	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 15:26	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367009	1	09/21/24 06:37	09/21/24 09:50	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367011	1	09/21/24 06:36	09/21/24 13:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366863	1	09/20/24 21:32	09/21/24 00:56	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362654	5	09/19/24 08:29	09/19/24 12:54	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363618	1	09/16/24 11:45	09/17/24 05:53	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363823	1	09/16/24 11:45	09/17/24 18:40	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2366287	1	09/20/24 20:51	09/21/24 16:28	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2366288	1	09/22/24 16:38	09/23/24 23:49	JCH	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

Report Revision History

Level II Report - Version 1: 09/24/24 11:49
Level II Report - Version 2: 09/24/24 15:20

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory¿s PQL unless requested by the client.

Revised to update samples IDs to match the COC.

Report regenerated on 9/24 by Chris Ward to update IDs per the below. Requested by Benjamin Kraft
2-0-26-WH-B01@5' should be --> 2-0-26-FL-B01@5'
2-0-26-WH-B02@3' should be --> 2-0-26-FL-B02@3'

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.36		1	09/21/2024 03:52	WG2366832

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:08	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.26	T8	1	09/21/2024 09:50	WG2367009

Sample Narrative:

L1777032-01 WG2367009: 8.26 at 21.5C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	321	umhos/cm		10.0	1	09/21/2024 13:47	WG2367011

Sample Narrative:

L1777032-01 WG2367011: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 00:52	WG2366863

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.71		0.200	5	09/19/2024 12:47	WG2362654
Barium	106		0.400	5	09/19/2024 12:47	WG2362654
Cadmium	ND		0.200	5	09/19/2024 12:47	WG2362654
Copper	5.16		0.400	5	09/19/2024 12:47	WG2362654
Lead	7.01		0.200	5	09/19/2024 12:47	WG2362654
Nickel	4.15		0.400	5	09/19/2024 12:47	WG2362654
Selenium	ND		0.260	5	09/19/2024 12:47	WG2362654
Silver	ND		0.0865	5	09/19/2024 12:47	WG2362654
Zinc	20.3	J	0.740	5	09/19/2024 12:47	WG2362654

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 16:27	WG2364176
(S) a,a,a-Trifluorotoluene(FID)	*93.8*			*77.0-120*	*09/17/2024 16:27*	WG2364176

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 18:01	WG2363823
Toluene	ND		0.00500	1	09/17/2024 18:01	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 18:01	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 18:01	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:01	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:01	WG2363823
(S) Toluene-d8	*89.6*			*75.0-131*	*09/17/2024 18:01*	WG2363823
(S) 4-Bromofluorobenzene	*94.9*			*67.0-138*	*09/17/2024 18:01*	WG2363823
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*	*09/17/2024 18:01*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 15:35	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 15:35	WG2366287
(S) o-Terphenyl	*41.1*			*18.0-148*	*09/21/2024 15:35*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Anthracene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Chrysene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Fluoranthene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Fluorene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/23/2024 23:13	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:13	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:13	WG2366288
Naphthalene	ND		0.00408	1	09/23/2024 23:13	WG2366288
Pyrene	ND		0.00500	1	09/23/2024 23:13	WG2366288
(S) p-Terphenyl-d14	*80.3*			*23.0-120*	*09/23/2024 23:13*	WG2366288
(S) Nitrobenzene-d5	*23.1*			*14.0-149*	*09/23/2024 23:13*	WG2366288
(S) 2-Fluorobiphenyl	*37.6*			*34.0-125*	*09/23/2024 23:13*	WG2366288

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.12		1	09/21/2024 03:54	WG2366832

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:17	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10	T8	1	09/21/2024 10:12	WG2367008

Sample Narrative:

L1777032-02 WG2367008: 8.1 at 20.8C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	271	umhos/cm		10.0	1	09/21/2024 13:22	WG2367012

Sample Narrative:

L1777032-02 WG2367012: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 00:54	WG2366863

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.21		0.200	5	09/19/2024 12:50	WG2362654
Barium	41.8		0.400	5	09/19/2024 12:50	WG2362654
Cadmium	ND		0.200	5	09/19/2024 12:50	WG2362654
Copper	4.07	J	0.400	5	09/19/2024 12:50	WG2362654
Lead	8.47		0.200	5	09/19/2024 12:50	WG2362654
Nickel	3.00		0.400	5	09/19/2024 12:50	WG2362654
Selenium	ND		0.260	5	09/19/2024 12:50	WG2362654
Silver	ND		0.0865	5	09/19/2024 12:50	WG2362654
Zinc	16.0	J	0.740	5	09/19/2024 12:50	WG2362654

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 16:50	WG2364176
(S) a,a,a-Trifluorotoluene(FID)	*96.1*			*77.0-120*	*09/17/2024 16:50*	WG2364176

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 18:21	WG2363823
Toluene	ND		0.00500	1	09/17/2024 18:21	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 18:21	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 18:21	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:21	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:21	WG2363823
(S) Toluene-d8	*90.5*			*75.0-131*	*09/17/2024 18:21*	WG2363823
(S) 4-Bromofluorobenzene	*92.8*			*67.0-138*	*09/17/2024 18:21*	WG2363823
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*	*09/17/2024 18:21*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 14:56	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 14:56	WG2366287
(S) o-Terphenyl	*58.7*			*18.0-148*	*09/21/2024 14:56*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Anthracene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Chrysene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Fluoranthene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Fluorene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/23/2024 23:31	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:31	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:31	WG2366288
Naphthalene	ND		0.00408	1	09/23/2024 23:31	WG2366288
Pyrene	ND		0.00500	1	09/23/2024 23:31	WG2366288
(S) p-Terphenyl-d14	*79.0*			*23.0-120*	*09/23/2024 23:31*	WG2366288
(S) Nitrobenzene-d5	*32.1*			*14.0-149*	*09/23/2024 23:31*	WG2366288
(S) 2-Fluorobiphenyl	*53.3*			*34.0-125*	*09/23/2024 23:31*	WG2366288

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.191		1	09/21/2024 03:55	WG2366832

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 15:26	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.19	T8	1	09/21/2024 09:50	WG2367009

Sample Narrative:

L1777032-03 WG2367009: 8.19 at 21.7C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	200	umhos/cm		10.0	1	09/21/2024 13:47	WG2367011

Sample Narrative:

L1777032-03 WG2367011: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 00:56	WG2366863

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.84		0.200	5	09/19/2024 12:54	WG2362654
Barium	53.8		0.400	5	09/19/2024 12:54	WG2362654
Cadmium	ND		0.200	5	09/19/2024 12:54	WG2362654
Copper	5.94		0.400	5	09/19/2024 12:54	WG2362654
Lead	6.18		0.200	5	09/19/2024 12:54	WG2362654
Nickel	5.82		0.400	5	09/19/2024 12:54	WG2362654
Selenium	ND		0.260	5	09/19/2024 12:54	WG2362654
Silver	ND		0.0865	5	09/19/2024 12:54	WG2362654
Zinc	70.8		0.740	5	09/19/2024 12:54	WG2362654

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/17/2024 05:53	WG2363618
(S) a,a,a-Trifluorotoluene(FID)	*94.9*			*77.0-120*	*09/17/2024 05:53*	WG2363618

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/17/2024 18:40	WG2363823
Toluene	ND		0.00500	1	09/17/2024 18:40	WG2363823
Ethylbenzene	ND		0.00500	1	09/17/2024 18:40	WG2363823
Xylenes, Total	ND		0.0100	1	09/17/2024 18:40	WG2363823
1,2,4-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:40	WG2363823
1,3,5-Trimethylbenzene	ND		0.00500	1	09/17/2024 18:40	WG2363823
(S) Toluene-d8	*89.6*			*75.0-131*	*09/17/2024 18:40*	WG2363823
(S) 4-Bromofluorobenzene	*94.6*			*67.0-138*	*09/17/2024 18:40*	WG2363823
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*	*09/17/2024 18:40*	WG2363823

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 16:28	WG2366287
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 16:28	WG2366287
(S) o-Terphenyl	*48.8*			*18.0-148*	*09/21/2024 16:28*	WG2366287

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Anthracene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Benzo(a)anthracene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Benzo(b)fluoranthene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Benzo(k)fluoranthene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Benzo(a)pyrene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Chrysene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Dibenz(a,h)anthracene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Fluoranthene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Fluorene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/23/2024 23:49	WG2366288
1-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:49	WG2366288
2-Methylnaphthalene	ND		0.00500	1	09/23/2024 23:49	WG2366288
Naphthalene	ND		0.00408	1	09/23/2024 23:49	WG2366288
Pyrene	ND		0.00500	1	09/23/2024 23:49	WG2366288
(S) p-Terphenyl-d14	*86.6*			*23.0-120*	*09/23/2024 23:49*	WG2366288
(S) Nitrobenzene-d5	*39.0*			*14.0-149*	*09/23/2024 23:49*	WG2366288
(S) 2-Fluorobiphenyl	*52.0*			*34.0-125*	*09/23/2024 23:49*	WG2366288

Method Blank (MB)

(MB) R4121486-1 09/18/24 11:16

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

L1776991-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-03 09/18/24 11:51 • (DUP) R4121486-3 09/18/24 12:00

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

L1777026-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777026-06 09/18/24 14:15 • (DUP) R4121486-8 09/18/24 14:24

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.390	0.484	1	21.6	J P1	20

Laboratory Control Sample (LCS)

(LCS) R4121486-2 09/18/24 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.7	107	80.0-120	

L1776993-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-4 09/18/24 12:36 • (MSD) R4121486-5 09/18/24 13:03

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 %
Hexavalent Chromium	20.0	ND	19.1	17.8	95.5	89.2	1	75.0-125			6.82	20

L1776993-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-6 09/18/24 13:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	646	ND	840	130	50	75.0-125	J5

L1777016-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-04 09/21/24 10:12 • (DUP) R4122653-2 09/21/24 10:12

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.58	7.54	1	0.529		1

Sample Narrative:

OS: 7.58 at 21.3C

DUP: 7.54 at 20.9C

L1777532-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777532-04 09/21/24 10:12 • (DUP) R4122653-3 09/21/24 10:12

Analyte	Original Result pH	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.56	8.57	1	0.117		1

Sample Narrative:

OS: 8.56 at 22C

DUP: 8.57 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R4122653-1 09/21/24 10:12

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 20.7C

L1777016-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-02 09/21/24 09:50 • (DUP) R4122673-2 09/21/24 09:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	7.80	7.76	1	0.514		1

Sample Narrative:

OS: 7.8 at 21.4C

DUP: 7.76 at 22.6C

L1777032-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1777032-03 09/21/24 09:50 • (DUP) R4122673-3 09/21/24 09:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.19	8.24	1	0.609		1

Sample Narrative:

OS: 8.19 at 21.7C

DUP: 8.24 at 21.2C

Laboratory Control Sample (LCS)

(LCS) R4122673-1 09/21/24 09:50

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 20.7C

Method Blank (MB)

(MB) R4122750-1 09/21/24 13:47

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

Sample Narrative:
BLANK: at 25C

L1777016-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-01 09/21/24 13:47 • (DUP) R4122750-3 09/21/24 13:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	243	243	1	0.0412		20

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

L1777449-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1777449-01 09/21/24 13:47 • (DUP) R4122750-4 09/21/24 13:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	163	165	1	0.855		20

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

Laboratory Control Sample (LCS)

(LCS) R4122750-2 09/21/24 13:47

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	673	91.8	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122748-1 09/21/24 13:22

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

Sample Narrative:
BLANK: at 25C

L1776993-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776993-02 09/21/24 13:22 • (DUP) R4122748-3 09/21/24 13:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	222	220	1	0.634		20

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

L1777536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1777536-01 09/21/24 13:22 • (DUP) R4122748-4 09/21/24 13:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	320	315	1	1.57		20

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

Laboratory Control Sample (LCS)

(LCS) R4122748-2 09/21/24 13:22

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	686	93.6	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122660-1 09/21/24 00:18

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

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

(LCS) R4122660-2 09/21/24 00:20 • (LCSD) R4122660-3 09/21/24 00:22

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	1.03	1.03	103	103	80.0-120			0.0672	20

QUALITY CONTROL SUMMARY

L1777032-01,02,03

Method Blank (MB)

(MB) R4121803-1 09/19/24 11:53

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

Laboratory Control Sample (LCS)

(LCS) R4121803-2 09/19/24 11:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	103	103	80.0-120	
Barium	100	94.0	94.0	80.0-120	
Cadmium	100	105	105	80.0-120	
Copper	100	99.7	99.7	80.0-120	
Lead	100	101	101	80.0-120	
Nickel	100	106	106	80.0-120	
Selenium	100	100	100	80.0-120	
Silver	20.0	21.1	105	80.0-120	
Zinc	100	102	102	80.0-120	

L1777441-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777441-15 09/19/24 12:00 • (MS) R4121803-5 09/19/24 12:09 • (MSD) R4121803-6 09/19/24 12:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	3.41	92.2	90.8	88.8	87.4	5	75.0-125			1.53	20
Barium	100	34.5	121	121	86.7	86.3	5	75.0-125			0.337	20
Cadmium	100	ND	92.1	92.8	91.9	92.6	5	75.0-125			0.825	20
Copper	100	9.58	96.7	93.3	87.1	83.7	5	75.0-125			3.65	20
Lead	100	9.30	97.6	96.3	88.3	87.0	5	75.0-125			1.35	20
Nickel	100	11.1	103	101	92.1	89.4	5	75.0-125			2.65	20
Selenium	100	0.300	86.3	82.5	86.0	82.2	5	75.0-125			4.51	20
Silver	20.0	ND	18.3	18.6	91.7	93.0	5	75.0-125			1.41	20
Zinc	100	34.9	124	114	88.6	79.3	5	75.0-125			7.81	20

Method Blank (MB)

(MB) R4121809-2 09/17/24 01:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.5*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4121809-1 09/17/24 00:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.48	110	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	

Method Blank (MB)

(MB) R4122046-3 09/17/24 11:55

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0260	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*

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

(LCS) R4122046-1 09/17/24 10:16 • (LCSD) R4122046-2 09/17/24 10:41

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	5.47	5.15	109	103	72.0-127			6.03	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*105*	*77.0-120*				

Method Blank (MB)

(MB) R4121775-3 09/17/24 11:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*89.5*			*75.0-131*
(S) 4-Bromofluorobenzene	*92.7*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

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

(LCS) R4121775-1 09/17/24 10:12 • (LCSD) R4121775-2 09/17/24 11:11

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	0.143	0.149	114	119	70.0-123			4.11	20
Toluene	0.125	0.123	0.120	98.4	96.0	75.0-121			2.47	20
Ethylbenzene	0.125	0.126	0.123	101	98.4	74.0-126			2.41	20
Xylenes, Total	0.375	0.369	0.366	98.4	97.6	72.0-127			0.816	20
1,2,4-Trimethylbenzene	0.125	0.104	0.112	83.2	89.6	70.0-126			7.41	20
1,3,5-Trimethylbenzene	0.125	0.112	0.110	89.6	88.0	73.0-127			1.80	20
(S) Toluene-d8				*84.3*	*85.2*	*75.0-131*				
(S) 4-Bromofluorobenzene				*96.9*	*90.8*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*115*	*122*	*70.0-130*				

L1777032-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777032-01 09/17/24 18:01 • (MS) R4121775-4 09/17/24 19:00 • (MSD) R4121775-5 09/17/24 19:20

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.165	127	132	1	10.0-149			3.70	37
Toluene	0.125	ND	0.137	0.136	110	109	1	10.0-156			0.733	38
Ethylbenzene	0.125	ND	0.136	0.130	109	104	1	10.0-160			4.51	38
Xylenes, Total	0.375	ND	0.418	0.395	111	105	1	10.0-160			5.66	38
1,2,4-Trimethylbenzene	0.125	ND	0.125	0.126	100	101	1	10.0-160			0.797	36
1,3,5-Trimethylbenzene	0.125	ND	0.135	0.123	108	98.4	1	10.0-160			9.30	38
(S) Toluene-d8					*87.2*	*85.9*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*94.4*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*112*	*113*		*70.0-130*				

Method Blank (MB)

(MB) R4122838-1 09/21/24 12:31

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*57.4*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122838-2 09/21/24 12:44

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	32.7	65.4	50.0-150	
(S) o-Terphenyl			*56.8*	*18.0-148*	

L1777032-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777032-02 09/21/24 14:56 • (MS) R4122838-3 09/21/24 15:09 • (MSD) R4122838-4 09/21/24 15:22

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	47.8	ND	ND	ND	58.2	56.2	1	50.0-150			2.07	20
(S) o-Terphenyl					*49.2*	*45.0*		*18.0-148*				

Method Blank (MB)

(MB) R4123450-2 09/23/24 22:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*96.4*			*23.0-120*
(S) Nitrobenzene-d5	*19.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*35.5*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4123450-1 09/23/24 22:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0529	66.1	50.0-120	
Anthracene	0.0800	0.0466	58.3	50.0-126	
Benzo(a)anthracene	0.0800	0.0463	57.9	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0586	73.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0547	68.4	49.0-125	
Benzo(a)pyrene	0.0800	0.0496	62.0	42.0-120	
Chrysene	0.0800	0.0599	74.9	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0549	68.6	47.0-125	
Fluoranthene	0.0800	0.0565	70.6	49.0-129	
Fluorene	0.0800	0.0569	71.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0529	66.1	46.0-125	
1-Methylnaphthalene	0.0800	0.0553	69.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0524	65.5	50.0-120	
Naphthalene	0.0800	0.0573	71.6	50.0-120	
Pyrene	0.0800	0.0577	72.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4123450-1 09/23/24 22:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*95.1*	*23.0-120*	
(S) Nitrobenzene-d5			*27.1*	*14.0-149*	
(S) 2-Fluorobiphenyl			*44.0*	*34.0-125*	

L1777460-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777460-02 09/24/24 11:16 • (MS) R4123627-1 09/24/24 11:35 • (MSD) R4123627-2 09/24/24 11:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0401	0.0393	50.1	49.1	1	14.0-127			2.02	27
Anthracene	0.0800	ND	0.0486	0.0446	60.8	55.8	1	10.0-145			8.58	30
Benzo(a)anthracene	0.0800	ND	0.0504	0.0475	63.0	59.4	1	10.0-139			5.92	30
Benzo(b)fluoranthene	0.0800	ND	0.0544	0.0474	68.0	59.3	1	10.0-140			13.8	36
Benzo(k)fluoranthene	0.0800	ND	0.0578	0.0535	72.3	66.9	1	10.0-137			7.73	31
Benzo(a)pyrene	0.0800	ND	0.0538	0.0494	67.3	61.8	1	10.0-141			8.53	31
Chrysene	0.0800	ND	0.0628	0.0588	78.5	73.5	1	10.0-145			6.58	30
Dibenz(a,h)anthracene	0.0800	ND	0.0620	0.0583	77.5	72.9	1	10.0-132			6.15	31
Fluoranthene	0.0800	ND	0.0483	0.0421	60.4	52.6	1	10.0-153			13.7	33
Fluorene	0.0800	ND	0.0488	0.0459	61.0	57.4	1	11.0-130			6.12	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0550	0.0497	68.8	62.1	1	10.0-137			10.1	32
1-Methylnaphthalene	0.0800	ND	0.0421	0.0439	52.6	54.9	1	10.0-142			4.19	28
2-Methylnaphthalene	0.0800	ND	0.0440	0.0436	55.0	54.5	1	10.0-137			0.913	28
Naphthalene	0.0800	ND	0.0438	0.0443	54.8	55.4	1	10.0-135			1.14	27
Pyrene	0.0800	ND	0.0527	0.0468	65.9	58.5	1	10.0-148			11.9	35
(S) p-Terphenyl-d14					*98.1*	*96.0*		*23.0-120*				
(S) Nitrobenzene-d5					*37.1*	*43.8*		*14.0-149*				
(S) 2-Fluorobiphenyl					*44.0*	*48.3*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:	Billing Information:	Pres Chk	Analysis / Container / Preservative	Chain of Custody Page 1 of 1
Quandary Consultants 4180 Garfield St. Denver, CO 80216	CIVITASBCO Quandary		Full Table 915-1	Pace® PEOPLE ADVANCING SCIENCE 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/hubfs/pas-standard-terms.pdf

Report to:	Email To:
bvanhorn@quandaryconsultants.com	Jacob Evans

Project Description:	City/State Collected:	Please Circle: PT MT CT ET
Rodman Bruns 2-0-26	Ft Lupton, CO	MT

Phone:	Client Project #	Lab Project #
720-297-1912		

Collected by (print):	Site/Facility ID #	P.O. #
Brandon VanHorn		

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y X

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

Quote # CIVITASBCO-QUANDARY

Date Results Needed: Standard TAT

SDG # L1777032

L-129

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Full Table 915-1	Remarks	Sample # (lab only)
2-0-26-WH-B01@6'	Grab	SS	6	9-11-24	1244	3	X		01
2-0-26-FL-B01@5'	Grab	SS	5	9-11-24	1253	3	X		02
2-0-26-FL-B02@3'	Grab	SS	3	9-11-24	1604	3	X		03

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

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier ______

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	9-11-24	797	[signature]	Trip Blank Received: Yes / No (circled: No) HCL / MeoH TBR
[signature]	9/11/24	10:15	[signature]	Temp: °C Bottles Received: 6
[signature]	9-11-24	18:00	Received for lab by: (Signature) FedEx [signature]	Date: 9-12-24 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Fed Ex tracking #	Gun ID	Temperature
4102 9166 6 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date

Hailey Melson

Pace Analytical®
National Center for Testing & Innovation

Login #:	Client:	Date: 9-12-24	Evaluated by: Tim L

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Couri
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments:

Don't Have 2-0-26-F1-B@2-@3

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials:	Client Contact:				

Login Instructions:

ANALYTICAL REPORT

September 26, 2024

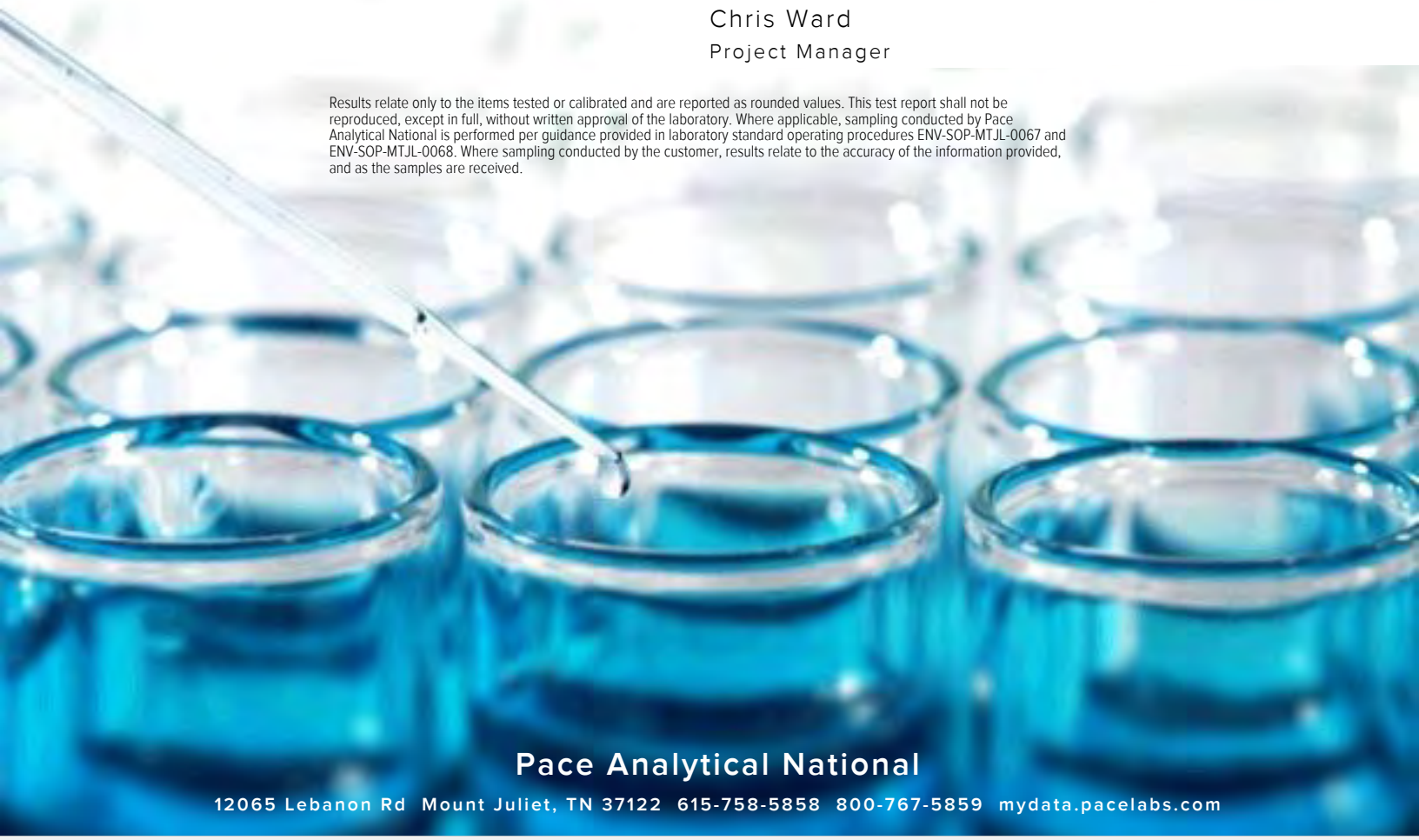
Civitas - CO

Sample Delivery Group:	L1776986
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 0-4-26

Report To: Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

0-4-26-WH-B01 @ 6' L1776986-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:12 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:43	09/20/24 12:43	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 11:12	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:31	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:22	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363082	1	09/15/24 23:21	09/16/24 08:53	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 13:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 19:47	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 02:24	MKM	Mt. Juliet, TN

0-4-26-FL-B01 @ 3' L1776986-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 13:21 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366003	1	09/20/24 12:45	09/20/24 12:45	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 11:18	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366341	1	09/20/24 09:22	09/20/24 14:08	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366353	1	09/20/24 09:22	09/20/24 15:47	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366009	1	09/20/24 21:22	09/20/24 23:33	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:25	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363082	1	09/15/24 23:21	09/16/24 09:16	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1.01	09/15/24 23:21	09/16/24 13:36	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 19:07	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 02:42	MKM	Mt. Juliet, TN

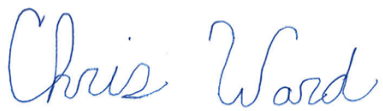
0-4-26-FL-B02 @ 3' L1776986-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:09 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366004	1	09/20/24 11:06	09/20/24 11:06	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2362100	1	09/16/24 16:03	09/17/24 11:37	EKB	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2366342	1	09/20/24 08:51	09/20/24 11:10	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2366351	1	09/20/24 08:50	09/23/24 12:15	BJM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366011	1	09/20/24 22:53	09/21/24 05:08	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362086	5	09/25/24 08:29	09/25/24 17:36	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/15/24 23:21	09/16/24 17:29	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/15/24 23:21	09/16/24 13:55	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 20:41	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 09:09	MBE	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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.25		1	09/20/2024 12:43	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 11:12	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.85	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776986-01 WG2366341: 8.85 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	394	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776986-01 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:31	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.21		0.200	5	09/25/2024 17:22	WG2362086
Barium	96.6		0.400	5	09/25/2024 17:22	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:22	WG2362086
Copper	8.44		0.400	5	09/25/2024 17:22	WG2362086
Lead	9.43		0.200	5	09/25/2024 17:22	WG2362086
Nickel	7.98		0.400	5	09/25/2024 17:22	WG2362086
Selenium	0.455	J	0.260	5	09/25/2024 17:22	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:22	WG2362086
Zinc	31.1		0.740	5	09/25/2024 17:22	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 08:53	WG2363082
(S) a,a,a-Trifluorotoluene(FID)	*96.3*			*77.0-120*	*09/16/2024 08:53*	WG2363082

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 13:16	WG2363294
Toluene	ND		0.00500	1	09/16/2024 13:16	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 13:16	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 13:16	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 13:16	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 13:16	WG2363294
(S) Toluene-d8	*89.7*			*75.0-131*	*09/16/2024 13:16*	WG2363294
(S) 4-Bromofluorobenzene	*92.6*			*67.0-138*	*09/16/2024 13:16*	WG2363294
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*09/16/2024 13:16*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 19:47	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 19:47	WG2365884
(S) o-Terphenyl	*45.7*			*18.0-148*	*09/21/2024 19:47*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 02:24	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 02:24	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 02:24	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 02:24	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 02:24	WG2365659
(S) p-Terphenyl-d14	*105*			*23.0-120*	*09/20/2024 02:24*	WG2365659
(S) Nitrobenzene-d5	*104*			*14.0-149*	*09/20/2024 02:24*	WG2365659
(S) 2-Fluorobiphenyl	*98.8*			*34.0-125*	*09/20/2024 02:24*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.350		1	09/20/2024 12:45	WG2366003

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 11:18	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.19	T8	1	09/20/2024 14:08	WG2366341

Sample Narrative:

L1776986-02 WG2366341: 8.19 at 21.9C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	287	umhos/cm		10.0	1	09/20/2024 15:47	WG2366353

Sample Narrative:

L1776986-02 WG2366353: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/20/2024 23:33	WG2366009

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.90		0.200	5	09/25/2024 17:25	WG2362086
Barium	69.9		0.400	5	09/25/2024 17:25	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:25	WG2362086
Copper	5.53	B	0.400	5	09/25/2024 17:25	WG2362086
Lead	10.3		0.200	5	09/25/2024 17:25	WG2362086
Nickel	4.79		0.400	5	09/25/2024 17:25	WG2362086
Selenium	0.330	J	0.260	5	09/25/2024 17:25	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:25	WG2362086
Zinc	23.9	J	0.740	5	09/25/2024 17:25	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 09:16	WG2363082
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*77.0-120*	*09/16/2024 09:16*	WG2363082

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1.01	09/16/2024 13:36	WG2363294
Toluene	ND		0.00500	1.01	09/16/2024 13:36	WG2363294
Ethylbenzene	ND		0.00500	1.01	09/16/2024 13:36	WG2363294
Xylenes, Total	ND		0.0100	1.01	09/16/2024 13:36	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1.01	09/16/2024 13:36	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1.01	09/16/2024 13:36	WG2363294
(S) Toluene-d8	*88.9*			*75.0-131*	*09/16/2024 13:36*	WG2363294
(S) 4-Bromofluorobenzene	*94.4*			*67.0-138*	*09/16/2024 13:36*	WG2363294
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*	*09/16/2024 13:36*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 19:07	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 19:07	WG2365884
(S) o-Terphenyl	*43.2*			*18.0-148*	*09/21/2024 19:07*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 02:42	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 02:42	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 02:42	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 02:42	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 02:42	WG2365659
(S) p-Terphenyl-d14	*110*			*23.0-120*	*09/20/2024 02:42*	WG2365659
(S) Nitrobenzene-d5	*109*			*14.0-149*	*09/20/2024 02:42*	WG2365659
(S) 2-Fluorobiphenyl	*106*			*34.0-125*	*09/20/2024 02:42*	WG2365659

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	0.511		1	09/20/2024 11:06	WG2366004

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/17/2024 11:37	WG2362100

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.19	T8	1	09/20/2024 11:10	WG2366342

Sample Narrative:

L1776986-03 WG2366342: 8.19 at 22.3C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	263	umhos/cm		10.0	1	09/23/2024 12:15	WG2366351

Sample Narrative:

L1776986-03 WG2366351: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 05:08	WG2366011

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.79		0.200	5	09/25/2024 17:36	WG2362086
Barium	84.1		0.400	5	09/25/2024 17:36	WG2362086
Cadmium	ND		0.200	5	09/25/2024 17:36	WG2362086
Copper	8.56		0.400	5	09/25/2024 17:36	WG2362086
Lead	8.46		0.200	5	09/25/2024 17:36	WG2362086
Nickel	9.07		0.400	5	09/25/2024 17:36	WG2362086
Selenium	0.432	J	0.260	5	09/25/2024 17:36	WG2362086
Silver	ND		0.0865	5	09/25/2024 17:36	WG2362086
Zinc	60.1		0.740	5	09/25/2024 17:36	WG2362086

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 17:29	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.2*			*77.0-120*	*09/16/2024 17:29*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 13:55	WG2363294
Toluene	ND		0.00500	1	09/16/2024 13:55	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 13:55	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 13:55	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 13:55	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 13:55	WG2363294
(S) Toluene-d8	*89.8*			*75.0-131*	*09/16/2024 13:55*	WG2363294
(S) 4-Bromofluorobenzene	*94.1*			*67.0-138*	*09/16/2024 13:55*	WG2363294
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*09/16/2024 13:55*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 20:41	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 20:41	WG2365884
(S) o-Terphenyl	*60.7*			*18.0-148*	*09/21/2024 20:41*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 09:09	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:09	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 09:09	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 09:09	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 09:09	WG2365659
(S) p-Terphenyl-d14	*93.3*			*23.0-120*	*09/20/2024 09:09*	WG2365659
(S) Nitrobenzene-d5	*103*			*14.0-149*	*09/20/2024 09:09*	WG2365659
(S) 2-Fluorobiphenyl	*80.9*			*34.0-125*	*09/20/2024 09:09*	WG2365659

Method Blank (MB)

(MB) R4120811-1 09/17/24 10:20

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

L1776986-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776986-03 09/17/24 11:37 • (DUP) R4120811-7 09/17/24 11:43

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

L1777015-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1777015-08 09/17/24 13:28 • (DUP) R4120811-8 09/17/24 13:35

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

Laboratory Control Sample (LCS)

(LCS) R4120811-2 09/17/24 10:29

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.6	106	80.0-120	

L1776825-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-3 09/17/24 10:48 • (MSD) R4120811-4 09/17/24 10:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexavalent Chromium	20.0	ND	20.8	19.2	104	96.2	1	75.0-125			7.90	20

L1776825-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776825-05 09/17/24 10:41 • (MS) R4120811-5 09/17/24 11:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	638	ND	630	98.7	50	75.0-125	

L1776417-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-03 09/20/24 14:08 • (DUP) R4122422-2 09/20/24 14:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.70	8.75	1	0.573		1

Sample Narrative:

OS: 8.7 at 22C

DUP: 8.75 at 22C

L1777019-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-11 09/20/24 14:08 • (DUP) R4122422-3 09/20/24 14:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.30	8.36	1	0.720		1

Sample Narrative:

OS: 8.3 at 21.5C

DUP: 8.36 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4122422-1 09/20/24 14:08

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 22.1C

L1776991-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-02 09/20/24 11:10 • (DUP) R4122391-2 09/20/24 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.29	8.30	1	0.121		1

Sample Narrative:

OS: 8.29 at 22.3C

DUP: 8.3 at 22.3C

L1777019-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-15 09/20/24 11:10 • (DUP) R4122391-3 09/20/24 11:10

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.47	8.44	1	0.355		1

Sample Narrative:

OS: 8.47 at 21.2C

DUP: 8.44 at 21.3C

Laboratory Control Sample (LCS)

(LCS) R4122391-1 09/20/24 11:10

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

Sample Narrative:

LCS: 10 at 21.2C

Method Blank (MB)

(MB) R4123165-1 09/23/24 12:15

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

Sample Narrative:
BLANK: at 25C

L1776986-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776986-03 09/23/24 12:15 • (DUP) R4123165-3 09/23/24 12:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	263	262	1	0.457		20

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

L1777019-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-14 09/23/24 12:15 • (DUP) R4123165-4 09/23/24 12:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	515	514	1	0.194		20

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

Laboratory Control Sample (LCS)

(LCS) R4123165-2 09/23/24 12:15

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	747	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122504-1 09/20/24 15:47

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

Sample Narrative:
BLANK: at 25C

L1776417-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776417-02 09/20/24 15:47 • (DUP) R4122504-3 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	294	294	1	0.170		20

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

L1777019-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1777019-10 09/20/24 15:47 • (DUP) R4122504-4 09/20/24 15:47

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	536	508	1	5.36		20

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

Laboratory Control Sample (LCS)

(LCS) R4122504-2 09/20/24 15:47

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	708	96.6	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122659-1 09/20/24 23:20

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

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

(LCS) R4122659-2 09/20/24 23:22 • (LCSD) R4122659-3 09/20/24 23:24

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	1.02	1.01	102	101	80.0-120			0.911	20

Method Blank (MB)

(MB) R4122666-1 09/21/24 05:02

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

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

(LCS) R4122666-2 09/21/24 05:04 • (LCSD) R4122666-3 09/21/24 05:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.01	100	101	80.0-120			0.243	20

Method Blank (MB)

(MB) R4124367-1 09/25/24 17:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	ND		0.100	1.00
Barium	ND		0.152	2.50
Cadmium	ND		0.0855	1.00
Copper	0.745	J	0.133	5.00
Lead	0.358	J	0.0990	2.00
Nickel	ND		0.197	2.50
Selenium	ND		0.180	2.50
Silver	ND		0.0865	0.500
Zinc	2.39	J	0.740	25.0

Laboratory Control Sample (LCS)

(LCS) R4124367-2 09/25/24 17:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	98.4	98.4	80.0-120	
Barium	100	94.4	94.4	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	97.4	97.4	80.0-120	
Lead	100	97.3	97.3	80.0-120	
Nickel	100	102	102	80.0-120	
Selenium	100	97.4	97.4	80.0-120	
Silver	20.0	19.9	99.7	80.0-120	
Zinc	100	97.8	97.8	80.0-120	

L1777015-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1777015-01 09/25/24 17:07 • (MS) R4124367-5 09/25/24 17:16 • (MSD) R4124367-6 09/25/24 17:19

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 %
Arsenic	100	6.32	108	103	102	96.4	5	75.0-125			5.43	20
Barium	100	183	293	281	110	97.9	5	75.0-125			4.24	20
Cadmium	100	0.468	105	94.9	104	94.5	5	75.0-125			9.77	20
Copper	100	16.8	117	111	99.8	93.9	5	75.0-125			5.17	20
Lead	100	19.8	114	109	94.3	89.6	5	75.0-125			4.24	20
Nickel	100	18.3	123	116	105	97.3	5	75.0-125			6.14	20
Selenium	100	0.878	103	94.1	102	93.2	5	75.0-125			8.60	20
Silver	20.0	0.0875	20.8	19.1	104	95.1	5	75.0-125			8.68	20
Zinc	100	60.7	162	160	102	98.8	5	75.0-125			1.80	20

Method Blank (MB)

(MB) R4122043-2 09/16/24 00:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0227	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R4122043-1 09/16/24 00:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.53	111	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.8*	*77.0-120*	

Method Blank (MB)

(MB) R4121808-3 09/16/24 15:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*

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

(LCS) R4121808-1 09/16/24 14:43 • (LCSD) R4121808-2 09/16/24 15:03

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	5.04	5.15	101	103	72.0-127			2.16	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R4121226-3 09/16/24 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4121226-1 09/16/24 09:31 • (LCSD) R4121226-2 09/16/24 09:51

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	0.143	0.141	114	113	70.0-123			1.41	20
Toluene	0.125	0.120	0.118	96.0	94.4	75.0-121			1.68	20
Ethylbenzene	0.125	0.121	0.112	96.8	89.6	74.0-126			7.73	20
Xylenes, Total	0.375	0.362	0.359	96.5	95.7	72.0-127			0.832	20
1,2,4-Trimethylbenzene	0.125	0.105	0.107	84.0	85.6	70.0-126			1.89	20
1,3,5-Trimethylbenzene	0.125	0.111	0.111	88.8	88.8	73.0-127			0.000	20
(S) Toluene-d8				*86.5*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.3*	*90.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*121*	*111*	*70.0-130*				

L1776986-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776986-01 09/16/24 13:16 • (MS) R4121226-4 09/16/24 19:30 • (MSD) R4121226-5 09/16/24 19:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.167	126	133	1	10.0-149			4.91	37
Toluene	0.125	ND	0.133	0.138	106	110	1	10.0-156			3.69	38
Ethylbenzene	0.125	ND	0.137	0.133	110	106	1	10.0-160			2.96	38
Xylenes, Total	0.375	ND	0.414	0.414	110	110	1	10.0-160			0.000	38
1,2,4-Trimethylbenzene	0.125	ND	0.133	0.127	105	100	1	10.0-160			4.62	36
1,3,5-Trimethylbenzene	0.125	ND	0.138	0.128	110	102	1	10.0-160			7.52	38
(S) Toluene-d8					*83.4*	*83.0*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R4122848-1 09/21/24 18:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*64.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122848-2 09/21/24 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*62.6*	*18.0-148*	

L1776988-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-03 09/21/24 20:27 • (MS) R4122848-3 09/21/24 20:41 • (MSD) R4122848-4 09/21/24 20:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	ND	ND	ND	60.6	66.3	1	50.0-150			7.91	20
(S) o-Terphenyl					*49.4*	*49.1*		*18.0-148*				

Method Blank (MB)

(MB) R4122393-2 09/19/24 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*110*			*23.0-120*
(S) Nitrobenzene-d5	*93.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0680	85.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0640	80.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0706	88.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0697	87.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0663	82.9	42.0-120	
Chrysene	0.0800	0.0766	95.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0713	89.1	47.0-125	
Fluoranthene	0.0800	0.0754	94.3	49.0-129	
Fluorene	0.0800	0.0748	93.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0621	77.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0745	93.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0723	90.4	50.0-120	
Naphthalene	0.0800	0.0721	90.1	50.0-120	
Pyrene	0.0800	0.0824	103	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*127*	*23.0-120*	J1
(S) Nitrobenzene-d5			*117*	*14.0-149*	
(S) 2-Fluorobiphenyl			*116*	*34.0-125*	

L1776988-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-02 09/20/24 03:18 • (MS) R4122393-3 09/20/24 03:35 • (MSD) R4122393-4 09/20/24 03:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0618	0.0697	77.3	87.1	1	14.0-127			12.0	27
Anthracene	0.0800	ND	0.0610	0.0691	76.3	86.4	1	10.0-145			12.5	30
Benzo(a)anthracene	0.0800	ND	0.0612	0.0673	76.5	84.1	1	10.0-139			9.49	30
Benzo(b)fluoranthene	0.0800	ND	0.0598	0.0700	74.8	87.5	1	10.0-140			15.7	36
Benzo(k)fluoranthene	0.0800	ND	0.0598	0.0661	74.8	82.6	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0800	ND	0.0606	0.0684	75.8	85.5	1	10.0-141			12.1	31
Chrysene	0.0800	ND	0.0655	0.0734	81.9	91.8	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0800	ND	0.0630	0.0704	78.8	88.0	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0675	0.0752	84.4	94.0	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0669	0.0741	83.6	92.6	1	11.0-130			10.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0594	0.0656	74.3	82.0	1	10.0-137			9.92	32
1-Methylnaphthalene	0.0800	ND	0.0670	0.0761	83.8	95.1	1	10.0-142			12.7	28
2-Methylnaphthalene	0.0800	ND	0.0652	0.0736	81.5	92.0	1	10.0-137			12.1	28
Naphthalene	0.0800	ND	0.0630	0.0727	78.8	90.9	1	10.0-135			14.3	27
Pyrene	0.0800	ND	0.0678	0.0754	84.8	94.3	1	10.0-148			10.6	35
(S) p-Terphenyl-d14					*106*	*120*		*23.0-120*				
(S) Nitrobenzene-d5					*109*	*124*		*14.0-149*				
(S) 2-Fluorobiphenyl					*103*	*116*		*34.0-125*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
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.
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	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Quandary Consultants
4480 Garfield St. Denver, CO 80216

Billing Information:
CIVITASBCO-QUANDARY

Pres Chk

Report to:
lauren.horn@quandaryconsultants.com

Email To:
Jacob Evans

Project Description:
Redman Barn 0-4-26

City/State Collected:
Ft Lupton, CO

Please Circle: PT MT CT ET

Phone:
720-297-1942

Client Project #

Lab Project #

Collected by (print):
Brandon Vanhorn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote #
CIVITASBCO-QUANDARY

Date Results Needed
Standard TAT

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Analysis / Container / Preservative: BH, Full Table 915-1
0-4-26-WH-B01@6'	Grab	SS	6	9-4-24	1312	3	X
0-4-26-FL-B01@3'			3		1321		
0-4-26-FL-B02@3'			3		1609		

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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/hubfs/pas-standard-terms.pdf

SDG # L1716980

L-124

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

Remarks	Sample # (lab only)
	-01
	-02
	-03

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9-4-24	747	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	9/11/24	10:15	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
	9-11-24	1400	

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: °C Bottles Received: 9

If preservation required by Login: Date/Time

Date: Time:

Hold: Condition:

LT716986

Fed Ex tracking #	Gun ID	Temperature
4102 9166 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date

ANALYTICAL REPORT

September 24, 2024

Civitas - CO

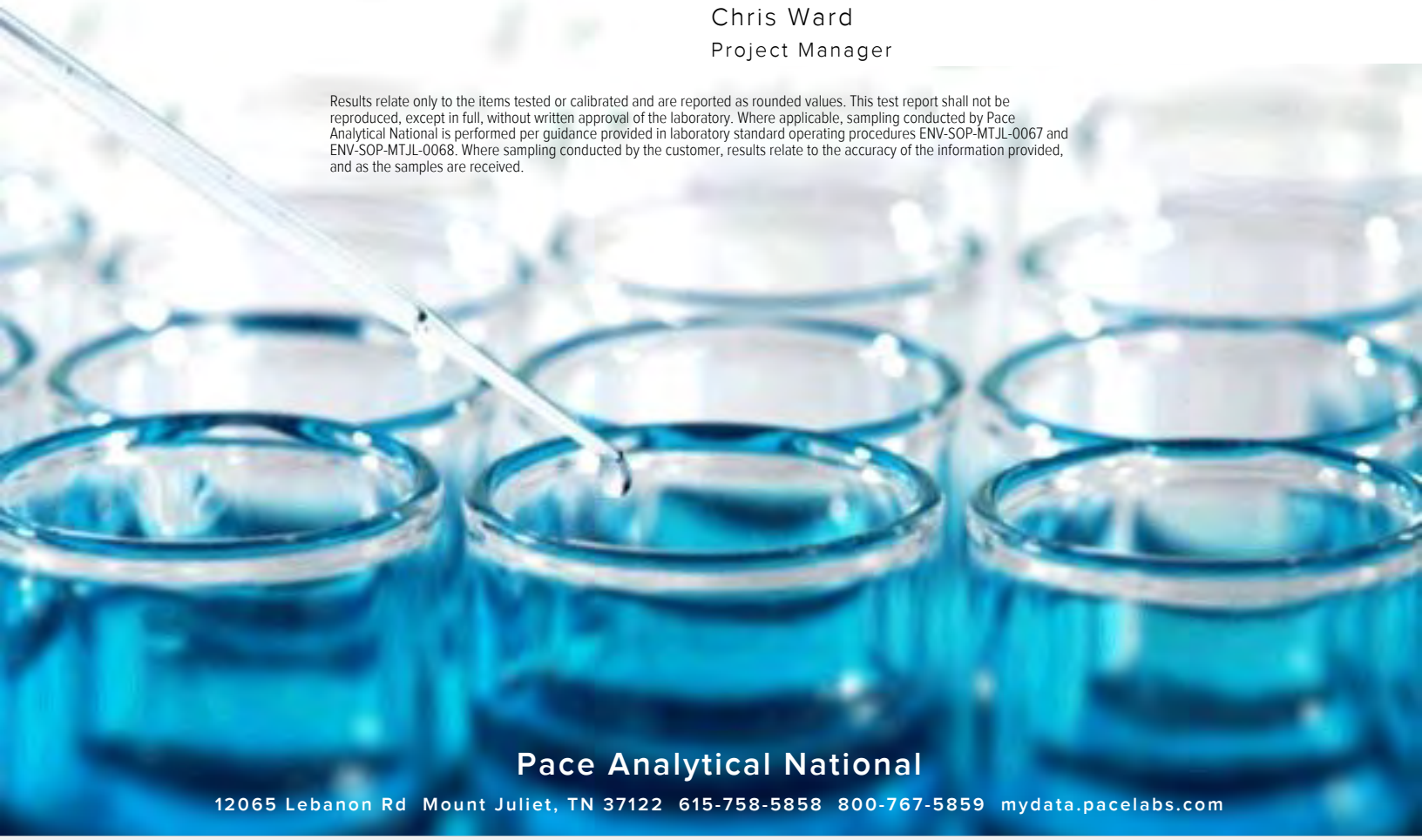
Sample Delivery Group:	L1776993
Samples Received:	09/12/2024
Project Number:	
Description:	Rodman Brunz 0-2-26

Report To:

Mike Dinkel
4480 Garfield Street
Denver, CO 80216

Entire Report Reviewed By: Chris Ward

Chris Ward
Project Manager



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

TABLE OF CONTENTS

0-2-26-WH-B01 @ 6 L1776993-01 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 10:15 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366822	1	09/21/24 02:03	09/21/24 02:03	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 12:09	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367007	1	09/21/24 05:42	09/21/24 18:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367010	1	09/21/24 06:35	09/21/24 19:15	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366859	1	09/20/24 21:36	09/21/24 01:19	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 21:22	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 21:04	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 17:32	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 20:00	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 08:51	MBE	Mt. Juliet, TN

0-2-26-FL-B01 @ 3 L1776993-02 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 10:27 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366832	1	09/21/24 03:22	09/21/24 03:22	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 12:18	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367008	1	09/21/24 06:38	09/21/24 10:12	KA	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367012	1	09/21/24 06:38	09/21/24 13:22	KA	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366863	1	09/20/24 21:32	09/21/24 00:24	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 21:26	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 21:23	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 17:52	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/21/24 18:26	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 07:23	MBE	Mt. Juliet, TN

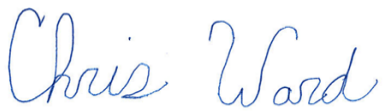
0-2-26-FL-B02 @ 3 L1776993-03 Solid

Collected by: Brandon VanHorn | Collected date/time: 09/10/24 16:00 | Received date/time: 09/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2366822	1	09/21/24 02:05	09/21/24 02:05	JTM	Mt. Juliet, TN
Wet Chemistry by Method 7199	WG2363338	1	09/17/24 17:11	09/18/24 12:27	VSS	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG2367007	1	09/21/24 05:42	09/21/24 18:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9050AMod	WG2367010	1	09/21/24 06:35	09/21/24 19:15	KRB	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2366859	1	09/20/24 21:36	09/21/24 01:21	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2362659	5	09/19/24 17:23	09/19/24 20:00	UNP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2363567	1	09/16/24 07:59	09/16/24 21:43	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2363294	1	09/16/24 07:59	09/16/24 18:12	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2365884	1	09/21/24 08:56	09/23/24 10:32	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2365659	1	09/19/24 13:27	09/20/24 10:20	MBE	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

Project Narrative

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.33		1	09/21/2024 02:03	WG2366822

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 12:09	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.21	T8	1	09/21/2024 18:40	WG2367007

Sample Narrative:

L1776993-01 WG2367007: 8.21 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	451	umhos/cm		10.0	1	09/21/2024 19:15	WG2367010

Sample Narrative:

L1776993-01 WG2367010: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 01:19	WG2366859

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	8.01		0.200	5	09/19/2024 21:22	WG2362659
Barium	108		0.400	5	09/19/2024 21:22	WG2362659
Cadmium	ND		0.200	5	09/19/2024 21:22	WG2362659
Copper	20.6		0.400	5	09/19/2024 21:22	WG2362659
Lead	15.8		0.200	5	09/19/2024 21:22	WG2362659
Nickel	17.7		0.400	5	09/19/2024 21:22	WG2362659
Selenium	0.800	J	0.260	5	09/19/2024 21:22	WG2362659
Silver	ND		0.0865	5	09/19/2024 21:22	WG2362659
Zinc	63.4		0.740	5	09/19/2024 21:22	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 21:04	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.1*			*77.0-120*	*09/16/2024 21:04*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 17:32	WG2363294
Toluene	ND		0.00500	1	09/16/2024 17:32	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 17:32	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 17:32	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:32	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:32	WG2363294
(S) Toluene-d8	*90.4*			*75.0-131*	*09/16/2024 17:32*	WG2363294
(S) 4-Bromofluorobenzene	*95.3*			*67.0-138*	*09/16/2024 17:32*	WG2363294
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*	*09/16/2024 17:32*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 20:00	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 20:00	WG2365884
(S) o-Terphenyl	*42.1*			*18.0-148*	*09/21/2024 20:00*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Benzo(b)fluoranthene	0.00557	J	0.00500	1	09/20/2024 08:51	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Fluoranthene	0.00635		0.00500	1	09/20/2024 08:51	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 08:51	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 08:51	WG2365659
1-Methylnaphthalene	0.0476		0.00500	1	09/20/2024 08:51	WG2365659
2-Methylnaphthalene	0.0469		0.00500	1	09/20/2024 08:51	WG2365659
Naphthalene	0.0308		0.00408	1	09/20/2024 08:51	WG2365659
Pyrene	0.00897		0.00500	1	09/20/2024 08:51	WG2365659
(S) p-Terphenyl-d14	*88.2*			*23.0-120*	*09/20/2024 08:51*	WG2365659
(S) Nitrobenzene-d5	*95.6*			*14.0-149*	*09/20/2024 08:51*	WG2365659
(S) 2-Fluorobiphenyl	*76.5*			*34.0-125*	*09/20/2024 08:51*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.280		1	09/21/2024 03:22	WG2366832

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND		0.300	1	09/18/2024 12:18	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.28	T8	1	09/21/2024 10:12	WG2367008

Sample Narrative:

L1776993-02 WG2367008: 8.28 at 21.4C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	222	umhos/cm		10.0	1	09/21/2024 13:22	WG2367012

Sample Narrative:

L1776993-02 WG2367012: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 00:24	WG2366863

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.22		0.200	5	09/19/2024 21:26	WG2362659
Barium	50.7		0.400	5	09/19/2024 21:26	WG2362659
Cadmium	ND		0.200	5	09/19/2024 21:26	WG2362659
Copper	3.63	J	0.400	5	09/19/2024 21:26	WG2362659
Lead	4.44		0.200	5	09/19/2024 21:26	WG2362659
Nickel	3.12		0.400	5	09/19/2024 21:26	WG2362659
Selenium	ND		0.260	5	09/19/2024 21:26	WG2362659
Silver	ND		0.0865	5	09/19/2024 21:26	WG2362659
Zinc	14.3	J	0.740	5	09/19/2024 21:26	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 21:23	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*92.9*			*77.0-120*	*09/16/2024 21:23*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 17:52	WG2363294
Toluene	ND		0.00500	1	09/16/2024 17:52	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 17:52	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 17:52	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:52	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 17:52	WG2363294
(S) Toluene-d8	*91.3*			*75.0-131*	*09/16/2024 17:52*	WG2363294
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*	*09/16/2024 17:52*	WG2363294
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*09/16/2024 17:52*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/21/2024 18:26	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/21/2024 18:26	WG2365884
(S) o-Terphenyl	*43.7*			*18.0-148*	*09/21/2024 18:26*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 07:23	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 07:23	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 07:23	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 07:23	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 07:23	WG2365659
(S) p-Terphenyl-d14	*68.1*			*23.0-120*	*09/20/2024 07:23*	WG2365659
(S) Nitrobenzene-d5	*90.6*			*14.0-149*	*09/20/2024 07:23*	WG2365659
(S) 2-Fluorobiphenyl	*65.8*			*34.0-125*	*09/20/2024 07:23*	WG2365659

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.199		1	09/21/2024 02:05	WG2366822

Wet Chemistry by Method 7199

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Hexavalent Chromium	ND	J5	0.300	1	09/18/2024 12:27	WG2363338

Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.07	T8	1	09/21/2024 18:40	WG2367007

Sample Narrative:

L1776993-03 WG2367007: 8.07 at 22C

Wet Chemistry by Method 9050AMod

Analyte	Result	Units	Qualifier	RL umhos/cm	Dilution	Analysis date / time	Batch
Specific Conductance	215	umhos/cm		10.0	1	09/21/2024 19:15	WG2367010

Sample Narrative:

L1776993-03 WG2367010: at 25C

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

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	ND		2.00	1	09/21/2024 01:21	WG2366859

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.09		0.200	5	09/19/2024 20:00	WG2362659
Barium	65.7		0.400	5	09/19/2024 20:00	WG2362659
Cadmium	ND		0.200	5	09/19/2024 20:00	WG2362659
Copper	7.78		0.400	5	09/19/2024 20:00	WG2362659
Lead	6.64		0.200	5	09/19/2024 20:00	WG2362659
Nickel	7.03		0.400	5	09/19/2024 20:00	WG2362659
Selenium	ND		0.260	5	09/19/2024 20:00	WG2362659
Silver	ND		0.0865	5	09/19/2024 20:00	WG2362659
Zinc	71.2		0.740	5	09/19/2024 20:00	WG2362659

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.500	1	09/16/2024 21:43	WG2363567
(S) a,a,a-Trifluorotoluene(FID)	*90.9*			*77.0-120*	*09/16/2024 21:43*	WG2363567

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.00200	1	09/16/2024 18:12	WG2363294
Toluene	ND		0.00500	1	09/16/2024 18:12	WG2363294
Ethylbenzene	ND		0.00500	1	09/16/2024 18:12	WG2363294
Xylenes, Total	ND		0.0100	1	09/16/2024 18:12	WG2363294
1,2,4-Trimethylbenzene	ND		0.00500	1	09/16/2024 18:12	WG2363294
1,3,5-Trimethylbenzene	ND		0.00500	1	09/16/2024 18:12	WG2363294
(S) Toluene-d8	*86.9*			*75.0-131*	*09/16/2024 18:12*	WG2363294
(S) 4-Bromofluorobenzene	*88.9*			*67.0-138*	*09/16/2024 18:12*	WG2363294
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*	*09/16/2024 18:12*	WG2363294

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		50.0	1	09/23/2024 10:32	WG2365884
C28-C36 Motor Oil Range	ND		50.0	1	09/23/2024 10:32	WG2365884
(S) o-Terphenyl	*64.7*			*18.0-148*	*09/23/2024 10:32*	WG2365884

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

Analyte	Result mg/kg	Qualifier	RL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Anthracene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Benzo(a)anthracene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Benzo(b)fluoranthene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Benzo(k)fluoranthene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Benzo(a)pyrene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Chrysene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Dibenz(a,h)anthracene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Fluoranthene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Fluorene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	09/20/2024 10:20	WG2365659
1-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:20	WG2365659
2-Methylnaphthalene	ND		0.00500	1	09/20/2024 10:20	WG2365659
Naphthalene	ND		0.00408	1	09/20/2024 10:20	WG2365659
Pyrene	ND		0.00500	1	09/20/2024 10:20	WG2365659
(S) p-Terphenyl-d14	*99.0*			*23.0-120*	*09/20/2024 10:20*	WG2365659
(S) Nitrobenzene-d5	*106*			*14.0-149*	*09/20/2024 10:20*	WG2365659
(S) 2-Fluorobiphenyl	*84.6*			*34.0-125*	*09/20/2024 10:20*	WG2365659

Method Blank (MB)

(MB) R4121486-1 09/18/24 11:16

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

L1776991-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-03 09/18/24 11:51 • (DUP) R4121486-3 09/18/24 12:00

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

L1777026-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1777026-06 09/18/24 14:15 • (DUP) R4121486-8 09/18/24 14:24

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hexavalent Chromium	0.390	0.484	1	21.6	J P1	20

Laboratory Control Sample (LCS)

(LCS) R4121486-2 09/18/24 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hexavalent Chromium	10.0	10.7	107	80.0-120	

L1776993-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-4 09/18/24 12:36 • (MSD) R4121486-5 09/18/24 13:03

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 %
Hexavalent Chromium	20.0	ND	19.1	17.8	95.5	89.2	1	75.0-125			6.82	20

L1776993-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1776993-03 09/18/24 12:27 • (MS) R4121486-6 09/18/24 13:12

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Hexavalent Chromium	646	ND	840	130	50	75.0-125	J5

L1776991-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-01 09/21/24 18:40 • (DUP) R4122799-2 09/21/24 18:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.56	8.53	1	0.351		1

Sample Narrative:

OS: 8.56 at 22C

DUP: 8.53 at 22C

L1777536-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1777536-02 09/21/24 18:40 • (DUP) R4122799-3 09/21/24 18:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	pH	su		%		%
pH	8.75	8.75	1	0.000		1

Sample Narrative:

OS: 8.75 at 21.8C

DUP: 8.75 at 21.9C

Laboratory Control Sample (LCS)

(LCS) R4122799-1 09/21/24 18:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	9.99	99.9	99.0-101	

Sample Narrative:

LCS: 9.99 at 22C

L1777016-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777016-04 09/21/24 10:12 • (DUP) R4122653-2 09/21/24 10:12

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.58	7.54	1	0.529		1

Sample Narrative:

OS: 7.58 at 21.3C

DUP: 7.54 at 20.9C

L1777532-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777532-04 09/21/24 10:12 • (DUP) R4122653-3 09/21/24 10:12

Analyte	Original Result pH	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.56	8.57	1	0.117		1

Sample Narrative:

OS: 8.56 at 22C

DUP: 8.57 at 20.9C

Laboratory Control Sample (LCS)

(LCS) R4122653-1 09/21/24 10:12

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	9.98	99.8	99.0-101	

Sample Narrative:

LCS: 9.98 at 20.7C

Method Blank (MB)

(MB) R4122800-1 09/21/24 19:15

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

Sample Narrative:
BLANK: at 25C

L1776991-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1776991-03 09/21/24 19:15 • (DUP) R4122800-3 09/21/24 19:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	192	193	1	0.780		20

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

L1777561-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1777561-04 09/21/24 19:15 • (DUP) R4122800-4 09/21/24 19:15

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	672	671	1	0.149		20

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

Laboratory Control Sample (LCS)

(LCS) R4122800-2 09/21/24 19:15

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	749	102	85.0-115	

Sample Narrative:
LCS: at 25C

Method Blank (MB)

(MB) R4122748-1 09/21/24 13:22

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

Sample Narrative:
BLANK: at 25C

L1776993-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1776993-02 09/21/24 13:22 • (DUP) R4122748-3 09/21/24 13:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	222	220	1	0.634		20

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

L1777536-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1777536-01 09/21/24 13:22 • (DUP) R4122748-4 09/21/24 13:22

Analyte	Original Result umhos/cm	DUP Result umhos/cm	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Specific Conductance	320	315	1	1.57		20

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

Laboratory Control Sample (LCS)

(LCS) R4122748-2 09/21/24 13:22

Analyte	Spike Amount umhos/cm	LCS Result umhos/cm	LCS Rec. %	Rec. Limits %	LCS Qualifier
Specific Conductance	733	686	93.6	85.0-115	

Sample Narrative:
LCS: at 25C

QUALITY CONTROL SUMMARY

L1776993-01,03

Method Blank (MB)

(MB) R4122661-1 09/21/24 01:10

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

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

(LCS) R4122661-2 09/21/24 01:12 • (LCSD) R4122661-3 09/21/24 01:14

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	1.00	101	100	80.0-120			1.25	20

Method Blank (MB)

(MB) R4122660-1 09/21/24 00:18

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

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

(LCS) R4122660-2 09/21/24 00:20 • (LCSD) R4122660-3 09/21/24 00:22

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	1.03	1.03	103	103	80.0-120			0.0672	20

QUALITY CONTROL SUMMARY

L1776993-01,02,03

Method Blank (MB)

(MB) R4122113-1 09/19/24 19:53

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

Laboratory Control Sample (LCS)

(LCS) R4122113-2 09/19/24 19:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	101	101	80.0-120	
Barium	100	96.6	96.6	80.0-120	
Cadmium	100	101	101	80.0-120	
Copper	100	98.4	98.4	80.0-120	
Lead	100	98.8	98.8	80.0-120	
Nickel	100	101	101	80.0-120	
Selenium	100	97.2	97.2	80.0-120	
Silver	20.0	20.4	102	80.0-120	
Zinc	100	99.2	99.2	80.0-120	

L1776993-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776993-03 09/19/24 20:00 • (MS) R4122113-5 09/19/24 20:10 • (MSD) R4122113-6 09/19/24 20:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	2.09	100	95.4	98.0	93.3	5	75.0-125			4.79	20
Barium	100	65.7	166	155	99.8	89.0	5	75.0-125			6.75	20
Cadmium	100	ND	99.5	97.1	99.4	96.9	5	75.0-125			2.46	20
Copper	100	7.78	106	103	98.4	95.3	5	75.0-125			2.97	20
Lead	100	6.64	103	101	96.5	94.1	5	75.0-125			2.29	20
Nickel	100	7.03	106	103	99.5	96.1	5	75.0-125			3.17	20
Selenium	100	ND	92.1	84.0	91.9	83.9	5	75.0-125			9.14	20
Silver	20.0	ND	20.7	19.7	103	98.4	5	75.0-125			4.83	20
Zinc	100	71.2	145	127	74.3	56.3	5	75.0-125	J6	J6	13.2	20

Method Blank (MB)

(MB) R4121808-3 09/16/24 15:42

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	ND		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*77.0-120*

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

(LCS) R4121808-1 09/16/24 14:43 • (LCSD) R4121808-2 09/16/24 15:03

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	5.04	5.15	101	103	72.0-127			2.16	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*106*	*77.0-120*				

Method Blank (MB)

(MB) R4121226-3 09/16/24 11:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	ND		0.000467	0.00100
Toluene	ND		0.00130	0.00500
Ethylbenzene	ND		0.000737	0.00250
Xylenes, Total	ND		0.000880	0.00650
1,2,4-Trimethylbenzene	ND		0.00158	0.00500
1,3,5-Trimethylbenzene	ND		0.00200	0.00500
(S) Toluene-d8	*91.4*			*75.0-131*
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*

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

(LCS) R4121226-1 09/16/24 09:31 • (LCSD) R4121226-2 09/16/24 09:51

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	0.143	0.141	114	113	70.0-123			1.41	20
Toluene	0.125	0.120	0.118	96.0	94.4	75.0-121			1.68	20
Ethylbenzene	0.125	0.121	0.112	96.8	89.6	74.0-126			7.73	20
Xylenes, Total	0.375	0.362	0.359	96.5	95.7	72.0-127			0.832	20
1,2,4-Trimethylbenzene	0.125	0.105	0.107	84.0	85.6	70.0-126			1.89	20
1,3,5-Trimethylbenzene	0.125	0.111	0.111	88.8	88.8	73.0-127			0.000	20
(S) Toluene-d8				*86.5*	*86.0*	*75.0-131*				
(S) 4-Bromofluorobenzene				*94.3*	*90.7*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*121*	*111*	*70.0-130*				

L1776986-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776986-01 09/16/24 13:16 • (MS) R4121226-4 09/16/24 19:30 • (MSD) R4121226-5 09/16/24 19:50

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	ND	0.159	0.167	126	133	1	10.0-149			4.91	37
Toluene	0.125	ND	0.133	0.138	106	110	1	10.0-156			3.69	38
Ethylbenzene	0.125	ND	0.137	0.133	110	106	1	10.0-160			2.96	38
Xylenes, Total	0.375	ND	0.414	0.414	110	110	1	10.0-160			0.000	38
1,2,4-Trimethylbenzene	0.125	ND	0.133	0.127	105	100	1	10.0-160			4.62	36
1,3,5-Trimethylbenzene	0.125	ND	0.138	0.128	110	102	1	10.0-160			7.52	38
(S) Toluene-d8					*83.4*	*83.0*		*75.0-131*				
(S) 4-Bromofluorobenzene					*92.3*	*88.9*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*110*	*112*		*70.0-130*				

Method Blank (MB)

(MB) R4122848-1 09/21/24 18:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	ND		1.61	4.00
C28-C36 Motor Oil Range	ND		0.274	4.00
(S) o-Terphenyl	*64.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R4122848-2 09/21/24 18:40

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	37.1	74.2	50.0-150	
(S) o-Terphenyl			*62.6*	*18.0-148*	

L1776988-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-03 09/21/24 20:27 • (MS) R4122848-3 09/21/24 20:41 • (MSD) R4122848-4 09/21/24 20:54

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	ND	ND	ND	60.6	66.3	1	50.0-150			7.91	20
(S) o-Terphenyl					*49.4*	*49.1*		*18.0-148*				

Method Blank (MB)

(MB) R4122393-2 09/19/24 20:10

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	ND		0.00209	0.00600
Anthracene	ND		0.00230	0.00600
Benzo(a)anthracene	ND		0.00173	0.00600
Benzo(b)fluoranthene	ND		0.00153	0.00600
Benzo(k)fluoranthene	ND		0.00215	0.00600
Benzo(a)pyrene	ND		0.00179	0.00600
Chrysene	ND		0.00232	0.00600
Dibenz(a,h)anthracene	ND		0.00172	0.00600
Fluoranthene	ND		0.00227	0.00600
Fluorene	ND		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600
1-Methylnaphthalene	ND		0.00449	0.0200
2-Methylnaphthalene	ND		0.00427	0.0200
Naphthalene	ND		0.00408	0.0200
Pyrene	ND		0.00200	0.00600
(S) p-Terphenyl-d14	*110*			*23.0-120*
(S) Nitrobenzene-d5	*93.2*			*14.0-149*
(S) 2-Fluorobiphenyl	*96.3*			*34.0-125*

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0706	88.3	50.0-120	
Anthracene	0.0800	0.0680	85.0	50.0-126	
Benzo(a)anthracene	0.0800	0.0640	80.0	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0706	88.3	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0697	87.1	49.0-125	
Benzo(a)pyrene	0.0800	0.0663	82.9	42.0-120	
Chrysene	0.0800	0.0766	95.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0713	89.1	47.0-125	
Fluoranthene	0.0800	0.0754	94.3	49.0-129	
Fluorene	0.0800	0.0748	93.5	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0621	77.6	46.0-125	
1-Methylnaphthalene	0.0800	0.0745	93.1	51.0-121	
2-Methylnaphthalene	0.0800	0.0723	90.4	50.0-120	
Naphthalene	0.0800	0.0721	90.1	50.0-120	
Pyrene	0.0800	0.0824	103	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4122393-1 09/19/24 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) p-Terphenyl-d14			*127*	*23.0-120*	J1
(S) Nitrobenzene-d5			*117*	*14.0-149*	
(S) 2-Fluorobiphenyl			*116*	*34.0-125*	

L1776988-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1776988-02 09/20/24 03:18 • (MS) R4122393-3 09/20/24 03:35 • (MSD) R4122393-4 09/20/24 03:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0618	0.0697	77.3	87.1	1	14.0-127			12.0	27
Anthracene	0.0800	ND	0.0610	0.0691	76.3	86.4	1	10.0-145			12.5	30
Benzo(a)anthracene	0.0800	ND	0.0612	0.0673	76.5	84.1	1	10.0-139			9.49	30
Benzo(b)fluoranthene	0.0800	ND	0.0598	0.0700	74.8	87.5	1	10.0-140			15.7	36
Benzo(k)fluoranthene	0.0800	ND	0.0598	0.0661	74.8	82.6	1	10.0-137			10.0	31
Benzo(a)pyrene	0.0800	ND	0.0606	0.0684	75.8	85.5	1	10.0-141			12.1	31
Chrysene	0.0800	ND	0.0655	0.0734	81.9	91.8	1	10.0-145			11.4	30
Dibenz(a,h)anthracene	0.0800	ND	0.0630	0.0704	78.8	88.0	1	10.0-132			11.1	31
Fluoranthene	0.0800	ND	0.0675	0.0752	84.4	94.0	1	10.0-153			10.8	33
Fluorene	0.0800	ND	0.0669	0.0741	83.6	92.6	1	11.0-130			10.2	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0594	0.0656	74.3	82.0	1	10.0-137			9.92	32
1-Methylnaphthalene	0.0800	ND	0.0670	0.0761	83.8	95.1	1	10.0-142			12.7	28
2-Methylnaphthalene	0.0800	ND	0.0652	0.0736	81.5	92.0	1	10.0-137			12.1	28
Naphthalene	0.0800	ND	0.0630	0.0727	78.8	90.9	1	10.0-135			14.3	27
Pyrene	0.0800	ND	0.0678	0.0754	84.8	94.3	1	10.0-148			10.6	35
(S) p-Terphenyl-d14					*106*	*120*		*23.0-120*				
(S) Nitrobenzene-d5					*109*	*124*		*14.0-149*				
(S) 2-Fluorobiphenyl					*103*	*116*		*34.0-125*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: Quandary Consultants 4980 Garfield St. Denver, CO 80216

Billing Information: CIVITAS BCO - QUANDARY

Report to: bvanhorn@quandaryconsultants.com

Email To: Jacob Evans

Project Description: Robinson Bruns 0-2-26

City/State Collected:

Please Circle: PT MT CT ET

Phone: 720-207-1942

Client Project #

Lab Project #

Collected by (print): Brandon VanHorn

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # CIVITAS BCO - QUANDARY

Date Results Needed: Standard TAT

Analysis / Container / Preservative

Pres Chk

Full Table 915-1

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs		Remarks	Sample # (lab only)
0-2-26-WH-B01E6'	Grab	SS	6	9-10-24	1015	3	X		-01
0-2-26-FL-B01E3'			3		1027				-02
0-2-26-FL-B02E3'			3		1600				-03

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

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/hubfs/pas-standard-terms.pdf

SDG # 477C993

L-128

Acctnum:
Template:
Prelogin:
PM:
PB:
Shipped Via:

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

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	9-11-24	747	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	9/11/24	10:15	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)
	9-11-24	14:00	FedEx

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received: 9

If preservation required by Login: Date/Time

Date: Time:

Hold:

Condition: NCF / OK

4776993

Fed Ex tracking #	Gun ID	Temperature
4102 9166 3183	TLA9	2.9 + 0.3 = 3.2
4102 9166 3209		1.5 + 0.3 = 1.8
4102 9166 3253		0.5 + 0.3 = 0.8
4102 9166 3210		1.0 + 0.3 = 1.3
4102 9166 3161		0.1 + 0.3 = 0.4

Name

Date