

Mickey 5-F SEP

SWNE Sec. 5-T6N-R67W

Facility ID: 486166

Remediation Project #: 35694

Remediation Progress Report

June 2024 through August 2024

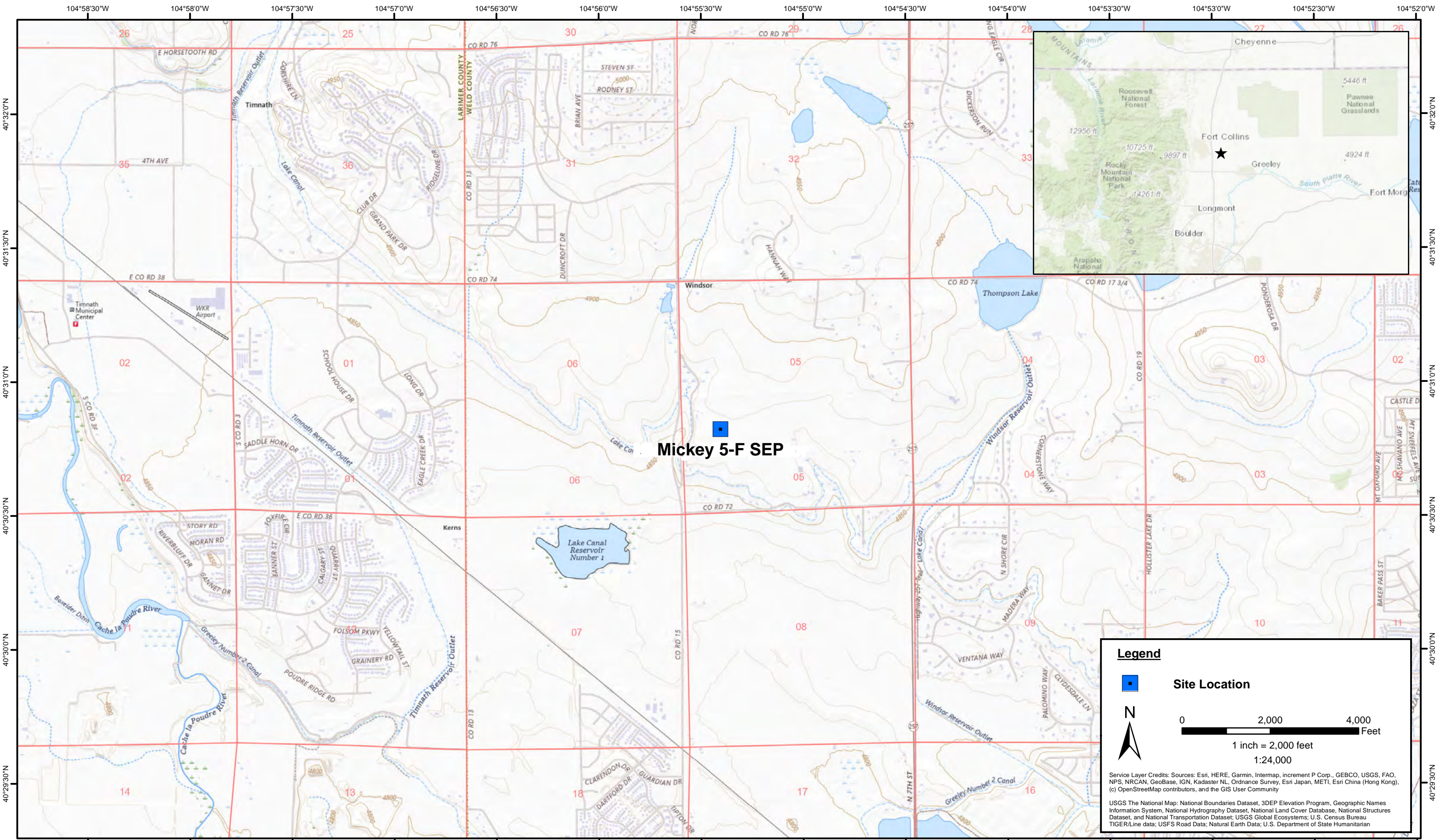
Prepared by Tasman, Inc.



On behalf of Extraction Oil & Gas, Inc.



FIGURES



DATE:	May 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



Tasman, Inc.
6855 W. 119th Ave
Broomfield, CO 80020

Extraction Oil & Gas, Inc.
Mickey 5-F SEP
SWNE Sec. 5-T6N-R67W
Weld County, Colorado

Site Location Map

Figure
1





DATE: August 26, 2024

DESIGNED BY: S. Vogt

DRAWN BY: L. Molson

 **TASMAN**

Tasman, Inc.
6855 W119th Ave.
Broomfield, CO 80020

Extraction Oil & Gas, Inc.
Mickey 5-F SEP
SWNE Sec. 5-T6N-R67W
Weld County, Colorado

Soil Boring Assessment
(04/04/2024)

Figure
3





Legend

Soil sample location – Below ECMC Table 915-1 Soil Standards (Collected via Trimble GPS)

Soil sample location – Exceeded ECMC Table 915-1 Soil Standards (Collected via Trimble GPS)

Excavation extent (Collected via Trimble GPS)

Previous excavation extent (Collected via Trimble GPS)

Notes

All locations are approximate unless otherwise noted.

Locations removed via excavation not shown unless otherwise noted.

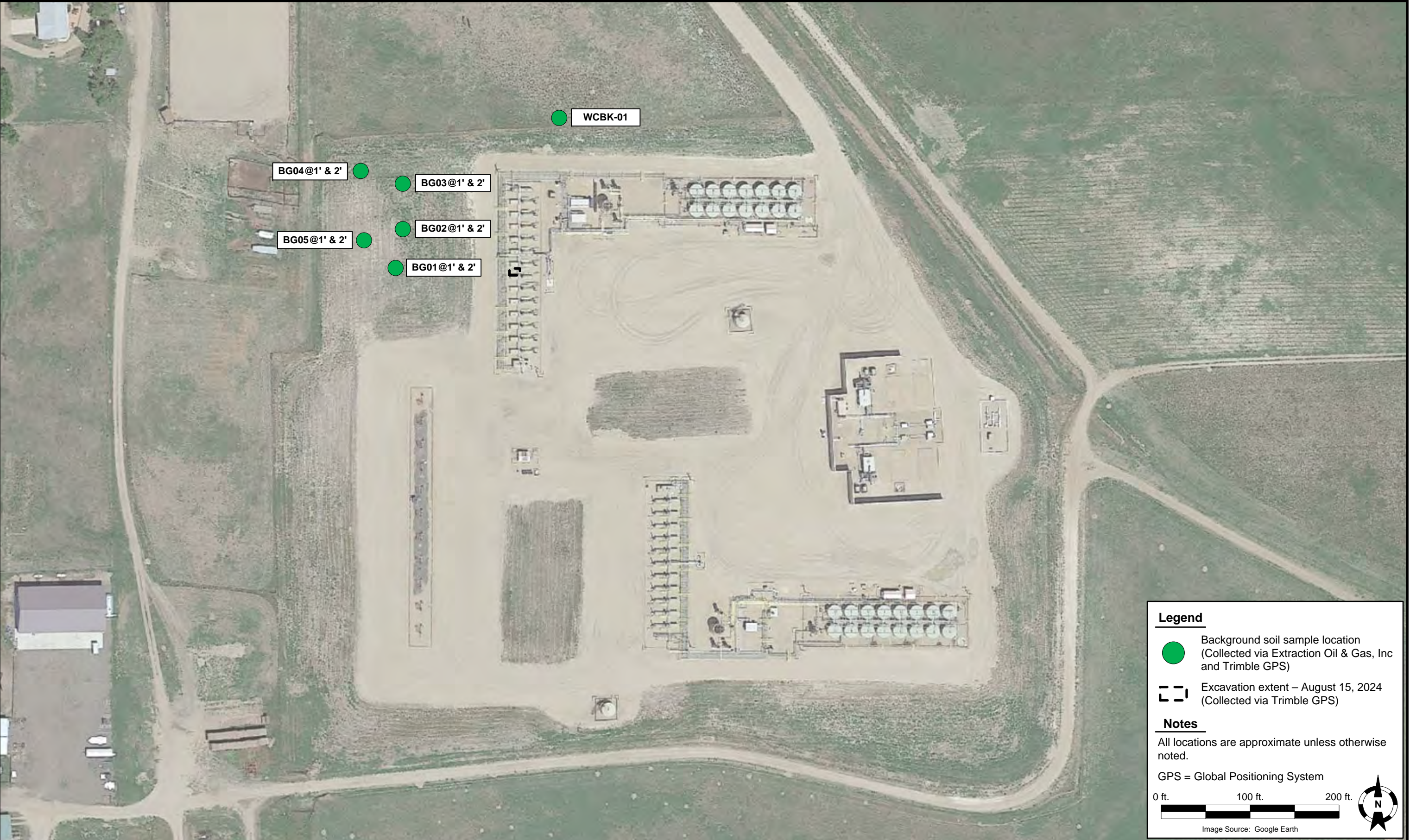
GPS = Global Positioning System

ECMC = Colorado Energy & Carbon Management Commission

0 ft.10 ft.20 ft.

Image Source: Google Earth

DATE: August 26, 2024	<div><div>Tasman, Inc. 6855 W119th Ave. Broomfield, CO 80020</div></div>	<div>Extraction Oil & Gas, Inc. Mickey 5-F SEP SWNE Sec. 5-T6N-R67W Weld County, Colorado</div>	<div>Excavation Soil Sample Location Map (08/15/2024)</div>	<div>Figure 4B</div>
DESIGNED BY: S. Vogt				
DRAWN BY: L. Molson				



DATE: August 26, 2024	 TASMAN Tasman, Inc. 6855 W119th Ave. Broomfield, CO 80020	Extraction Oil & Gas, Inc. Mickey 5-F SEP SWNE Sec. 5-T6N-R67W Weld County, Colorado	Background Soil Sample Location Map (02/28/2024 – 06/21/2024)	Figure 5
DESIGNED BY: S. Vogt				
DRAWN BY: L. Molson				

TABLES

MATERIAL LEFT IN PLACE

TABLE 1
MICKEY 5-F SEP



SOIL SAMPLE LOCATIONS LEFT IN PLACE
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
WC-01	0-6"	02/25/2024	-	40.513667	-104.923515	-	Y
DEL-V01@5'	5'	04/04/2024	0.2	40.513695	-104.923504	1.1	Y
DEL-V01@7'	7'	04/04/2024	0.0	40.513695	-104.923504	1.1	Y
DEL-S01@1'	1'	04/04/2024	0.2	40.513624	-104.923430	1	Y
DEL-S01@5'	5'	04/04/2024	0.0	40.513624	-104.923430	1	Y
DEL-W01@1'	1'	04/04/2024	0.1	40.513681	-104.923596	1	Y
DEL-W01@5'	5'	04/04/2024	0.1	40.513681	-104.923596	1	Y
DEL-E01@1'	1'	04/04/2024	0.2	40.513670	-104.923396	1.1	Y
DEL-E01@5'	5'	04/04/2024	0.2	40.513670	-104.923396	1.1	Y
DEL-N01@1'	1'	04/04/2024	0.1	40.513737	-104.923459	1.1	Y
DEL-N01@5'	5'	04/04/2024	0.0	40.513737	-104.923459	1.1	Y
SEP-B01@2'	2'	06/11/2024	2.1	40.513694	-104.923509	1.1	Y
SEP-N01@1'	1'	06/11/2024	1.1	40.513692	-104.923491	1	Y
SEP-E01@1'	1'	06/11/2024	2.5	40.513687	-104.923510	1	Y
SEP-W01@1'	1'	06/11/2024	4.1	40.513690	-104.923523	1	Y
SEP-S02@1'	1'	08/15/2024	0.1	40.513682	-104.923512	-	Y
BACKGROUND							
WCBK-01	0-6"	02/25/2024	-	40.514166	-104.923323	-	Y
BG01@1'	1'	06/21/2024	0.1	40.513706	-104.923987	1	Y
BG01@2'	2'	06/21/2024	0.5	40.513706	-104.923987	1	Y
BG02@1'	1'	06/21/2024	0.7	40.513826	-104.923955	0.9	Y
BG02@2'	2'	06/21/2024	0.1	40.513826	-104.923955	0.9	Y
BG03@1'	1'	06/21/2024	0.3	40.513963	-104.923957	1	Y
BG03@2'	2'	06/21/2024	0.3	40.513963	-104.923957	1	Y
BG04@1'	1'	06/21/2024	0.2	40.514003	-104.924127	0.9	Y
BG04@2'	2'	06/21/2024	0.1	40.514003	-104.924127	0.9	Y
BG05@1'	1'	06/21/2024	0.0	40.513793	-104.924112	0.9	Y
BG05@2'	2'	06/21/2024	0.3	40.513793	-104.924112	0.9	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

2/25/2024 [date] = Data collected by Client

TABLE 2
MICKEY 5-F SEP
SOIL ANALYTICAL DATA LEFT IN PLACE - VOCs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27
WC-01	0-6"	02/25/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-V01@5'	5'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-V01@7'	7'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-S01@1'	1'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-S01@5'	5'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-W01@1'	1'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-W01@5'	5'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-E01@1'	1'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-E01@5'	5'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-N01@1'	1'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DEL-N01@5'	5'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SEP-B01@2'	2'	06/11/2024	<0.000467	<0.00130	<0.000737	<0.000880	<0.00408	<0.0217	<1.61	2.72	<0.00158	<0.00200
SEP-N01@1'	1'	06/11/2024	<0.000467	<0.00130	<0.000737	<0.000880	<0.00408	0.0277	<1.61	4.10	<0.00158	<0.00200
SEP-E01@1'	1'	06/11/2024	<0.000467	<0.00130	<0.000737	<0.000880	<0.00408	<0.0217	<1.61	1.11	<0.00158	<0.00200
SEP-W01@1'	1'	06/11/2024	<0.000467	<0.00130	<0.000737	<0.000880	<0.00408	0.0385	<1.61	0.830	<0.00158	<0.00200
SEP-S02@1'	1'	08/15/2024	<0.00200	<0.00500	<0.00500	<0.0100	<0.00408	<0.500	<50.0	<50.0	<0.00500	<0.00500

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

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

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

TVPH - GRO = Total Volatile Petroleum Hydrocarbons - Gasoline Range Organics

TEPH - DRO = Total Extractable Petroleum Hydrocarbons - Diesel Range Organics

TABLE 2
MICKEY 5-F SEP
SOIL ANALYTICAL DATA LEFT IN PLACE - VOCs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27

TEPH - ORO = Total Extractable Petroleum Hydrocarbons - Oil Range Organics

1,2,4 - TMB = 1,2,4 - Trimethylbenzene

1,3,5 - TMB = 1,3,5 - Trimethylbenzene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

2/25/2024 [date] = Data collected by Client

Italics = Laboratory minimum detection limit exceeds the ECMC Table 915-1 standard

TABLE 3
MICKEY 5-F SEP
SOIL ANALYTICAL DATA LEFT IN PLACE - PAHs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
WC-01	0-6"	02/25/2024	<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
DEL-V01@5'	5'	04/04/2024	<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
DEL-V01@7'	7'	04/04/2024	<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
DEL-S01@1'	1'	04/04/2024	<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
DEL-S01@5'	5'	04/04/2024	<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
DEL-W01@1'	1'	04/04/2024	<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
DEL-W01@5'	5'	04/04/2024	<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
DEL-E01@1'	1'	04/04/2024	<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
DEL-E01@5'	5'	04/04/2024	<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
DEL-N01@1'	1'	04/04/2024	<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
DEL-N01@5'	5'	04/04/2024	<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@2'	2'	06/11/2024	<0.00209	<0.00230	<0.00173	<0.00153	<0.00215	<0.00179	<0.00232	<0.00172	<0.00227	<0.00205	<0.00181	<0.00449	<0.00427	<0.00200
SEP-N01@1'	1'	06/11/2024	<0.00209	<0.00230	<0.00173	<0.00153	<0.00215	<0.00179	<0.00232	<0.00172	<0.00227	<0.00205	<0.00181	<0.00449	<0.00427	<0.00200
SEP-E01@1'	1'	06/11/2024	<0.00209	<0.00230	<0.00173	<0.00153	<0.00215	<0.00179	<0.00232	<0.00172	<0.00227	<0.00205	<0.00181	<0.00449	<0.00427	<0.00200
SEP-W01@1'	1'	06/11/2024	<0.00209	<0.00230	<0.00173	<0.00153	<0.00215	<0.00179	<0.00232	<0.00172	<0.00227	<0.00205	<0.00181	<0.00449	<0.00427	<0.00200
SEP-S02@1'	1'	08/15/2024	Pending	<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:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

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

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

TABLE 3
MICKEY 5-F SEP
SOIL ANALYTICAL DATA LEFT IN PLACE - PAHs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180

D (a,h) A = Dibenz(a,h)Anthracene

1,2,3-CD = Indeno(1,2,3-cd)Pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

2/25/2024 [date] = Data collected by Client

TABLE 4
MICKEY 5-F SEP
SOIL ANALYTICAL DATA LEFT IN PLACE - METALS
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Metals in Soils - GSSL ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
WC-01	0-6"	02/25/2024	3.56*	101*	0.218	<0.30	4.70	5.35	3.59	<0.260	<0.0200	41.5
BACKGROUND												
WCBK-01	0-6"	02/25/2024	3.52	111	0.214	<0.30	6.01	7.37	6.77	1.10	0.0400	24.7
Average Background @6" x1.25 (SC)			4.40	138	0.268	-	7.51	9.21	8.46	1.38	0.0500	30.8

Notes:

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

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

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

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

mg/kg = milligrams per kilogram

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations

Average background concentration x1.25

Italics = Laboratory minimum detection limit exceeds the ECMC Table 915-1 Standard

* Result exceeded the ECMC Table 915-1 standard, but was within site-specific 1.25x background multiplier levels

2/25/2024 [date] = Data collected by Client

TABLE 5
MICKEY 5-F SEP



SOIL ANALYTICAL DATA LEFT IN PLACE - SOIL RECLAMATION
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
WC-01	0-6"	02/25/2024	7.11	26.6	0.0393	<2.00
DEL-V01@5'	5'	04/04/2024	-	2.38	-	-
DEL-V01@7'	7'	04/04/2024	-	3.26	-	-
DEL-S01@1'	1'	04/04/2024	-	0.606	-	-
DEL-S01@5'	5'	04/04/2024	-	0.815	-	-
DEL-W01@1'	1'	04/04/2024	-	1.92	-	-
DEL-W01@5'	5'	04/04/2024	-	1.31	-	-
DEL-E01@1'	1'	04/04/2024	-	0.227	-	-
DEL-E01@5'	5'	04/04/2024	-	0.381	-	-
DEL-N01@1'	1'	04/04/2024	-	0.0851	-	-
DEL-N01@5'	5'	04/04/2024	-	0.783	-	-
SEP-B01@2'	2'	06/11/2024	-	2.05	-	-
SEP-N01@1'	1'	06/11/2024	-	0.892	-	-
SEP-E01@1'	1'	06/11/2024	-	1.03	-	-
SEP-W01@1'	1'	06/11/2024	-	1.87	-	-
SEP-S02@1'	1'	08/15/2024	-	1.73	-	-
BACKGROUND						
WCBK-01	0-6"	02/25/2024	8.90	0.116	0.235	<2.00
BG01@1'	1'	06/21/2024	-	1.26	-	-
BG01@2'	2'	06/21/2024	-	2.02	-	-
BG02@1'	1'	06/21/2024	-	1.34	-	-
BG02@2'	2'	06/21/2024	-	0.856	-	-
BG03@1'	1'	06/21/2024	-	0.724	-	-
BG03@2'	2'	06/21/2024	-	0.546	-	-
BG04@1'	1'	06/21/2024	-	1.19	-	-
BG04@2'	2'	06/21/2024	-	0.903	-	-
BG05@1'	1'	06/21/2024	-	0.913	-	-
BG05@2'	2'	06/21/2024	-	0.558	-	-
Average Background @ 6"-2' (SC)			8.90	0.948	0.235	-

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Soil Suitability for Reclamation (Effective January 15, 2021)

TABLE 5
MICKEY 5-F SEP



SOIL ANALYTICAL DATA LEFT IN PLACE - SOIL RECLAMATION
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation ⁽¹⁾			6 - 8.3	< 6	< 4	2

ECMC = Colorado Energy & Carbon Management Commission

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

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Soil Suitability for Reclamation Concentrations

Average background concentration

2/25/2024 [date] = Data collected by Client

TABLES

IMPACTED MATERIAL REMOVED

TABLE 1
MICKEY 5-F SEP
SOIL SAMPLE LOCATIONS REMOVED
EXTRACTION OIL & GAS, INC



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
DEL-V01@1'	1'	04/04/2024	13.9	40.513695	-104.923504	1.1	Y
SEP-S01@1'	1'	06/11/2024	1.9	40.513699	-104.923508	1	Y
BACKGROUND							
WCBK-01	0-6"	02/25/2024	-	40.514166	-104.923323	-	Y
BG01@1'	1'	06/21/2024	0.1	40.513706	-104.923987	1	Y
BG01@2'	2'	06/21/2024	0.5	40.513706	-104.923987	1	Y
BG02@1'	1'	06/21/2024	0.7	40.513826	-104.923955	0.9	Y
BG02@2'	2'	06/21/2024	0.1	40.513826	-104.923955	0.9	Y
BG03@1'	1'	06/21/2024	0.3	40.513963	-104.923957	1	Y
BG03@2'	2'	06/21/2024	0.3	40.513963	-104.923957	1	Y
BG04@1'	1'	06/21/2024	0.2	40.514003	-104.924127	0.9	Y
BG04@2'	2'	06/21/2024	0.1	40.514003	-104.924127	0.9	Y
BG05@1'	1'	06/21/2024	0.0	40.513793	-104.924112	0.9	Y
BG05@2'	2'	06/21/2024	0.3	40.513793	-104.924112	0.9	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

2/25/2024 [date] = Data collected by Client

TABLE 2
MICKEY 5-F SEP
SOIL ANALYTICAL DATA REMOVED - VOCs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27
DEL-V01@1'	1'	04/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SEP-S01@1'	1'	06/11/2024	<0.000467	<0.00130	<0.000737	<0.000880	<0.00408	0.0262	<1.61	4.22	<0.00158	<0.00200

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

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

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

TVPH - GRO = Total Volatile Petroleum Hydrocarbons - Gasoline Range Organics

TEPH - DRO = Total Extractable Petroleum Hydrocarbons - Diesel Range Organics

TEPH - ORO = Total Extractable Petroleum Hydrocarbons - Oil Range Organics

1,2,4 - TMB = 1,2,4 - Trimethylbenzene

1,3,5 - TMB = 1,3,5 - Trimethylbenzene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

2/25/2024 [date] = Data collected by Client

Italics = Laboratory minimum detection limit exceeds the ECMC Table 915-1 standard

TABLE 3
MICKEY 5-F SEP
SOIL ANALYTICAL DATA REMOVED - PAHs
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
DEL-V01@1'	1'	04/04/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00573	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP-S01@1'	1'	06/11/2024	<0.00209	<0.00230	<0.00173	<0.00153	<0.00215	<0.00179	<0.00232	<0.00172	<0.00227	<0.00205	<0.00181	<0.00449	<0.00427	<0.00200

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

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

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

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

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

D (a,h) A = Dibenzo(a,h)Anthracene

1,2,3-CD = Indeno(1,2,3-cd)Pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

2/25/2024 [date] = Data collected by Client

TABLE 4
MICKEY 5-F SEP



SOIL ANALYTICAL DATA REMOVED - SOIL RECLAMATION
EXTRACTION OIL & GAS, INC

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation ⁽¹⁾			6 - 8.3	< 6	< 4	2
DEL-V01@1'	1'	04/04/2024	-	10.2	-	-
SEP-S01@1'	1'	06/11/2024	-	6.15	-	-
BACKGROUND						
WCBK-01	0-6"	02/25/2024	8.90	0.116	0.235	<2.00
BG01@1'	1'	06/21/2024	-	1.26	-	-
BG01@2'	2'	06/21/2024	-	2.02	-	-
BG02@1'	1'	06/21/2024	-	1.34	-	-
BG02@2'	2'	06/21/2024	-	0.856	-	-
BG03@1'	1'	06/21/2024	-	0.724	-	-
BG03@2'	2'	06/21/2024	-	0.546	-	-
BG04@1'	1'	06/21/2024	-	1.19	-	-
BG04@2'	2'	06/21/2024	-	0.903	-	-
BG05@1'	1'	06/21/2024	-	0.913	-	-
BG05@2'	2'	06/21/2024	-	0.558	-	-
Average Background @ 6"-2' (SC)			8.90	0.948	0.235	-

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Soil Suitability for Reclamation (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

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

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Soil Suitability for Reclamation Concentrations

Average background concentration

2/25/2024 [date] = Data collected by Client

ATTACHMENT A
EXCAVATION FIELD NOTES AND PHOTO LOG

SITE NAME: Mickey 5-F SEP								DATE: 4/4/2024	Facility/Location ID: 35694	WEATHER: 60F, Sunny	
SITE DIRECTIONS: CR 15 & CR 74, S 1670FT ON CR 15, SE 1000FT ON OLD CR 15, E 560 FT, SE/ APX 900FT INTO								CLIENT: Extraction Oil & Gas, Inc.			
LEGALS AND LAT/LONG: 40.513681, -104.923404								TASMAN PERSONNEL: Daniel Hensel			
SOIL TYPES: SC - clayey sand								SURFACE GRADIENT: West			
SURROUNDING LAND USE: Rangeland								CROP:			
SOIL SAMPLING								FACILITY INFRASTRUCTURE			
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo? (Y/N)	USCS	Lab (Y/N)	EQUIPMENT		Quantity	
								Above Ground Storage Tank (AST)			
4/4/2024 09:00	DEL-V01@1'	13.9	No Staining	Slight HC Odor	Y	SC	Y	Produced Water Vessel (PWV)			
4/4/2024 09:15	DEL-V01@5'	0.2	No Staining	No Odor	Y	SC	Y	Separator (SEP)			
4/4/2024 09:30	DEL-V01@7'	0.0	No Staining	No Odor	Y	SC	Y	Emission Control Device (ECD)			
4/4/2024 09:45	DEL-S01@1'	0.2	No Staining	No Odor	Y	SC	Y	Dump Line (DL)			
4/4/2024 10:00	DEL-S01@5'	0.0	No Staining	No Odor	Y	SC	Y	Wellhead (WH)			
4/4/2024 10:10	DEL-W01@1'	0.1	No Staining	No Odor	Y	SC	Y	Flowline (FL)			
4/4/2024 10:20	DEL-W01@5'	0.1	No Staining	No Odor	Y	SC	Y	FL Method of Closure			
4/4/2024 10:30	DEL-E01@1'	0.2	No Staining	No Odor	Y	SC	Y	FL Footage Removed			
4/4/2024 10:40	DEL-E01@5'	0.2	No Staining	No Odor	Y	SC	Y	Footaged Abandoned in Place			
4/4/2024 10:50	DEL-N01@1'	0.1	No Staining	No Odor	Y	SC	Y	Other:			
4/4/2024 11:00	DEL-N01@5'	0.0	No Staining	No Odor	Y	SC	Y	Soil Loads Removed			
6/11/2024 10:24	SEP-B01@2'	2.1	No Staining	No Odor	Y	SC	Y	IMPACTED SOIL IDENTIFIED? Yes			
6/11/2024 10:26	SEP-N01@1'	1.1	No Staining	No Odor	Y	SC	Y	ESTIMATED VOLUME OF IMPACTS: Ongoing investigation			
6/11/2024 10:28	SEP-S01@1'	1.9	No Staining	No Odor	Y	SC	Y	Date		Number	CY
6/11/2024 10:30	SEP-E01@1'	2.5	No Staining	No Odor	Y	SC	Y	June 2024 - August 2024		1	3
6/11/2024 10:32	SEP-W01@1'	4.1	No Staining	No Odor	Y	SC	Y				
6/21/2024 11:00	BG01@1'	0.1	No Staining	No Odor	Y	SC	Y				
6/21/2024 11:05	BG01@2'	0.5	No Staining	No Odor	Y	SC	Y				
6/21/2024 11:10	BG02@1'	0.7	No Staining	No Odor	Y	SC	Y	Total Removed		1	3
6/21/2024 11:15	BG02@2'	0.1	No Staining	No Odor	Y	SC	Y	Disposal Facility: North Weld Landfill & Pawnee Landfill (1.5 cyd to each facility)			
6/21/2024 11:20	BG03@1'	0.3	No Staining	No Odor	Y	SC	Y	Groundwater Recovery			
6/21/2024 11:25	BG03@2'	0.3	No Staining	No Odor	Y	SC	Y	DATE GW ENCOUNTERED: N/A		DEPTH:	
6/21/2024 11:30	BG04@1'	0.2	No Staining	No Odor	Y	SC	Y	GROUNDWATER IN CONTACT WITH IMPACTED SOIL?			
6/21/2024 11:35	BG04@2'	0.1	No Staining	No Odor	Y	SC	Y				
6/21/2024 11:40	BG05@1'	0.0	No Staining	No Odor	Y	SC	Y	LNAPL OR SHEEN OBSERVED ON GW?			
GROUNDWATER SAMPLING								Date		BBLS	
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?					
								Total Removed		0	
								Disposal Facility:			

SITE NAME: Mickey 5-F Separator								DATE: 6/11/2024	REM. PROJECT #: 35694	WEATHER: Sunny, 70(F)
SITE DIRECTIONS: CR 15 & CR 74, S 1670FT ON CR 15, SE 1000FT ON OLD CR 15, E 560 FT, SE/ APX 900FT INTO								CLIENT: Extraction Oil & Gas, Inc.		
LEGALS AND LAT/LONG: 40.513681, -104.923404								TASMAN PERSONNEL: Sean Clarke, Conor Lovell, Angela Kirylo		
SOIL TYPES: SC - clayey sand								SURFACE GRADIENT: Northeast		
SURROUNDING LAND USE: Rangeland								CROP: N/A		
SOIL SAMPLING								FACILITY INFRASTRUCTURE		
Date/Time	Soil Sample ID	PID (ppm)	Visual	Olfactory	Photo? (Y/N)	USCS	Lab (Y/N)	EQUIPMENT	Quantity	
								Above Ground Storage Tank (AST)		
6/21/2024 11:45	BG05@2'	0.3	No Staining	No Odor	Y	SC	Y	Produced Water Vessel (PWV)		
8/15/2024 09:50	SEP-S02@1'	0.1	No Staining	No Odor	Y	SC	Y	Separator (SEP)		
								Emission Control Device (ECD)		
								Dump Line (DL)		
								Wellhead (WH)		
								Flowline (FL)		
								FL Method of Closure		
								FL Footage Removed		
								Footaged Abandoned in Place		
								Other:		
								Soil Loads Removed		
								IMPACTED SOIL IDENTIFIED? Yes		
								ESTIMATED VOLUME OF IMPACTS: Ongoing investigation		
								Date	Number	CY
								June 2024 - August 2024	1	3
								Total Removed	1	3
								Disposal Facility: North Weld Landfill & Pawnee Landfill (1.5 cyd to each facility)		
								Groundwater Recovery		
								DATE GW ENCOUNTERED: N/A		DEPTH:
								GROUNDWATER IN CONTACT WITH IMPACTED SOIL?		
								LNAPL OR SHEEN OBSERVED ON GW?		
GROUNDWATER SAMPLING								Date	BBLS	
Date/Time	Groundwater Sample ID	Depth Collected	Turbid?	Sheen?	Odor?	Photo?				
								Total Removed	0	
								Disposal Facility:		



Photographic Log

											
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:					
Material:		Volume:		Contents:		Material:		Volume:		Contents:	
Notes/Conditions: Surrounding land use, facing N						Notes/Conditions: Surrounding land use, facing S					



Photographic Log

☼ 89°E (T) ● 40°30'49"N, 104°55'23"W ±16ft ▲ 4881ft			☼ 271°W (T) ● 40°30'49"N, 104°55'23"W ±13ft ▲ 4881ft				
 04 Apr 2024, 11:32:17			 04 Apr 2024, 11:32:10				
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:				Contents:			
Notes/Conditions: Surrounding land use, facing E				Notes/Conditions: Surrounding land use, facing W			



Photographic Log

					
Equipment ID:			Equipment ID:		
Equipment Type:			Equipment Type:		
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil sampling location			Notes/Conditions: Soil sampling location		



Photographic Log

					
Equipment ID:			Equipment ID:		
Equipment Type:			Equipment Type:		
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil sampling location			Notes/Conditions: Soil sampling location		





Photographic Log


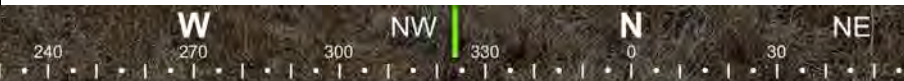


							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:				Contents:			
Notes/Conditions: Soil sampling location				Notes/Conditions:			

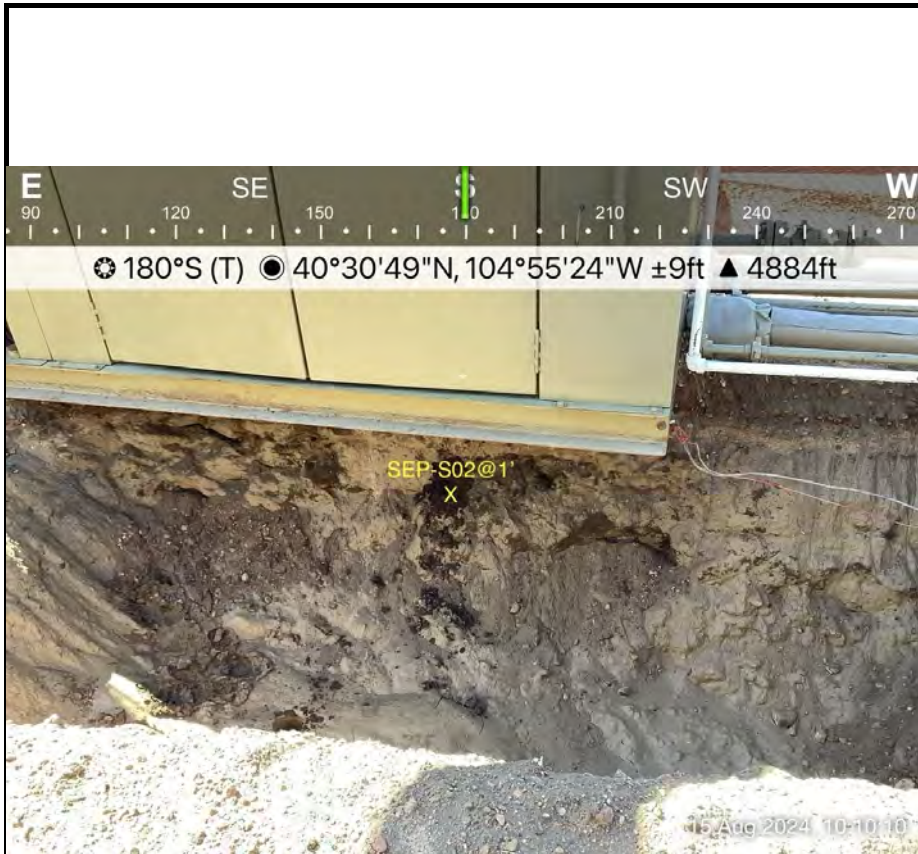
Photographic Log

							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:				Contents:			
Notes/Conditions: Soil sampling locations.				Notes/Conditions: Soil sampling locations.			

							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Background soil samples.				Notes/Conditions: Background soil sample location.			

					
					
Equipment ID:		Equipment Type:		Equipment ID:	
Material:		Volume:		Equipment Type:	
Notes/Conditions: Background soil sample location.			Notes/Conditions: Background soil sample location.		

							
15°N (T) ● 40°30'50"N, 104°55'26"W ±16ft ▲ 4874ft			324°NW (T) ● 40°30'49"N, 104°55'26"W ±16ft ▲ 4875ft				
							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
		Contents:				Contents:	
Notes/Conditions: Background soil sample location.				Notes/Conditions: Background soil sample location.			



Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Soil sampling location.			

Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions:			

ATTACHMENT B
LABORATORY ANALYTICAL DATA



ANALYTICAL REPORT

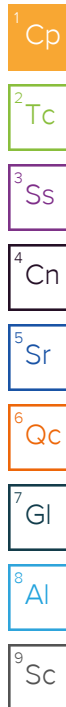
August 27, 2024

Revised Report

Civitas - CO

Sample Delivery Group: L1746531
Samples Received: 06/13/2024
Project Number: COX0920
Description: Mickey 5-F

Report To: Sam Vogt / Jacob Evans
6855 W. 118th Ave
Broomfield, CO 80020



Entire Report Reviewed By:

Shane Gambill
Project Manager

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

Pace Analytical National

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

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SAMPLE SUMMARY

SEP-B01 @ 2' L1746531-01 Solid

				Collected by CL/SC	Collected date/time 06/11/24 10:24	Received date/time 06/13/24 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2310930	1	06/25/24 17:11	06/25/24 17:11	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2306274	1	06/16/24 13:44	06/17/24 03:26	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2307602	1	06/16/24 13:44	06/18/24 23:17	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2308617	1	06/20/24 15:14	06/21/24 02:40	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2308217	1	06/19/24 17:09	06/20/24 04:42	DSH	Mt. Juliet, TN

SEP-N01 @ 1' L1746531-02 Solid

				Collected by CL/SC	Collected date/time 06/11/24 10:26	Received date/time 06/13/24 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2310921	1	06/25/24 11:10	06/25/24 11:10	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2306286	1	06/16/24 13:44	06/17/24 03:16	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2307602	1	06/16/24 13:44	06/18/24 23:36	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2308617	1	06/20/24 15:14	06/21/24 03:32	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2308217	1	06/19/24 17:09	06/20/24 04:59	DSH	Mt. Juliet, TN

SEP-S01 @ 1' L1746531-03 Solid

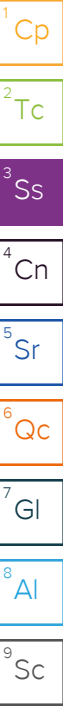
				Collected by CL/SC	Collected date/time 06/11/24 10:28	Received date/time 06/13/24 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2310921	1	06/25/24 11:12	06/25/24 11:12	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2306286	1	06/16/24 13:44	06/17/24 03:39	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2307602	1	06/16/24 13:44	06/18/24 23:55	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2308617	1	06/20/24 15:14	06/21/24 03:19	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2308217	1	06/19/24 17:09	06/20/24 05:17	DSH	Mt. Juliet, TN

SEP-E01 @ 1' L1746531-04 Solid

				Collected by CL/SC	Collected date/time 06/11/24 10:30	Received date/time 06/13/24 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2310930	1	06/25/24 17:14	06/25/24 17:14	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2306286	1	06/16/24 13:44	06/17/24 04:02	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2307602	1	06/16/24 13:44	06/19/24 00:14	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2308617	1	06/20/24 15:14	06/21/24 02:14	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2308217	1	06/19/24 17:09	06/20/24 05:34	DSH	Mt. Juliet, TN

SEP-W01 @ 1' L1746531-05 Solid

				Collected by CL/SC	Collected date/time 06/11/24 10:32	Received date/time 06/13/24 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2310927	1	06/25/24 11:57	06/25/24 11:57	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2306286	1	06/16/24 13:44	06/17/24 04:26	KSD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2307602	1	06/16/24 13:44	06/19/24 00:33	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2308617	1	06/20/24 15:14	06/21/24 00:16	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2308217	1	06/19/24 17:09	06/20/24 05:52	DSH	Mt. Juliet, TN



CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



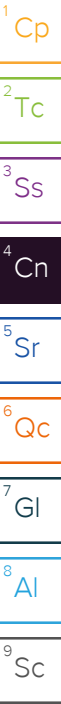
Shane Gambill
Project Manager

Report Revision History

Level II Report - Version 1: 06/26/24 12:29
Level II Report - Version 2: 07/03/24 15:31

Project Narrative

Report reissued 7/3 to provide raw SAR data
Report reissued 08/26 to not report metals per client request



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.05		1	06/25/2024 17:11	WG2310930

Sample Narrative:
L1746531-01 WG2310930: Ca: 57.86316mg/L ; Mg: 23.10137mg/L; Na: 72.98486mg/L

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.0217	0.100	1	06/17/2024 03:26	WG2306274
(S) a,a,a-Trifluorotoluene(FID)	88.0			77.0-120		06/17/2024 03:26	WG2306274

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000467	0.00100	1	06/18/2024 23:17	WG2307602
Toluene	ND		0.00130	0.00500	1	06/18/2024 23:17	WG2307602
Ethylbenzene	ND		0.000737	0.00250	1	06/18/2024 23:17	WG2307602
Xylenes, Total	ND		0.000880	0.00650	1	06/18/2024 23:17	WG2307602
1,2,4-Trimethylbenzene	ND		0.00158	0.00500	1	06/18/2024 23:17	WG2307602
1,3,5-Trimethylbenzene	ND		0.00200	0.00500	1	06/18/2024 23:17	WG2307602
(S) Toluene-d8	103			75.0-131		06/18/2024 23:17	WG2307602
(S) 4-Bromofluorobenzene	101			67.0-138		06/18/2024 23:17	WG2307602
(S) 1,2-Dichloroethane-d4	116			70.0-130		06/18/2024 23:17	WG2307602

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		1.61	4.00	1	06/21/2024 02:40	WG2308617
C28-C36 Motor Oil Range	2.72	B J	0.274	4.00	1	06/21/2024 02:40	WG2308617
(S) o-Terphenyl	70.5			18.0-148		06/21/2024 02:40	WG2308617

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00209	0.00600	1	06/20/2024 04:42	WG2308217
Anthracene	ND		0.00230	0.00600	1	06/20/2024 04:42	WG2308217
Benzo(a)anthracene	ND		0.00173	0.00600	1	06/20/2024 04:42	WG2308217
Benzo(b)fluoranthene	ND		0.00153	0.00600	1	06/20/2024 04:42	WG2308217
Benzo(k)fluoranthene	ND		0.00215	0.00600	1	06/20/2024 04:42	WG2308217
Benzo(a)pyrene	ND		0.00179	0.00600	1	06/20/2024 04:42	WG2308217
Chrysene	ND		0.00232	0.00600	1	06/20/2024 04:42	WG2308217
Dibenz(a,h)anthracene	ND		0.00172	0.00600	1	06/20/2024 04:42	WG2308217
Fluoranthene	ND		0.00227	0.00600	1	06/20/2024 04:42	WG2308217
Fluorene	ND		0.00205	0.00600	1	06/20/2024 04:42	WG2308217
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600	1	06/20/2024 04:42	WG2308217
1-Methylnaphthalene	ND		0.00449	0.0200	1	06/20/2024 04:42	WG2308217
2-Methylnaphthalene	ND		0.00427	0.0200	1	06/20/2024 04:42	WG2308217
Naphthalene	ND		0.00408	0.0200	1	06/20/2024 04:42	WG2308217
Pyrene	ND		0.00200	0.00600	1	06/20/2024 04:42	WG2308217
(S) p-Terphenyl-d14	88.7			23.0-120		06/20/2024 04:42	WG2308217
(S) Nitrobenzene-d5	89.5			14.0-149		06/20/2024 04:42	WG2308217
(S) 2-Fluorobiphenyl	92.7			34.0-125		06/20/2024 04:42	WG2308217

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.892		1	06/25/2024 11:10	WG2310921

Sample Narrative:
L1746531-02 WG2310921: Ca: 60.15188mg/L ; Mg: 19.48663mg/L; Na: 31.12953mg/L

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0277	J	0.0217	0.100	1	06/17/2024 03:16	WG2306286
(S) a,a,a-Trifluorotoluene(FID)	90.6			77.0-120		06/17/2024 03:16	WG2306286

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000467	0.00100	1	06/18/2024 23:36	WG2307602
Toluene	ND		0.00130	0.00500	1	06/18/2024 23:36	WG2307602
Ethylbenzene	ND		0.000737	0.00250	1	06/18/2024 23:36	WG2307602
Xylenes, Total	ND		0.000880	0.00650	1	06/18/2024 23:36	WG2307602
1,2,4-Trimethylbenzene	ND		0.00158	0.00500	1	06/18/2024 23:36	WG2307602
1,3,5-Trimethylbenzene	ND		0.00200	0.00500	1	06/18/2024 23:36	WG2307602
(S) Toluene-d8	101			75.0-131		06/18/2024 23:36	WG2307602
(S) 4-Bromofluorobenzene	100			67.0-138		06/18/2024 23:36	WG2307602
(S) 1,2-Dichloroethane-d4	118			70.0-130		06/18/2024 23:36	WG2307602

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		1.61	4.00	1	06/21/2024 03:32	WG2308617
C28-C36 Motor Oil Range	4.10	B	0.274	4.00	1	06/21/2024 03:32	WG2308617
(S) o-Terphenyl	54.5			18.0-148		06/21/2024 03:32	WG2308617

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00209	0.00600	1	06/20/2024 04:59	WG2308217
Anthracene	ND		0.00230	0.00600	1	06/20/2024 04:59	WG2308217
Benzo(a)anthracene	ND		0.00173	0.00600	1	06/20/2024 04:59	WG2308217
Benzo(b)fluoranthene	ND		0.00153	0.00600	1	06/20/2024 04:59	WG2308217
Benzo(k)fluoranthene	ND		0.00215	0.00600	1	06/20/2024 04:59	WG2308217
Benzo(a)pyrene	ND		0.00179	0.00600	1	06/20/2024 04:59	WG2308217
Chrysene	ND		0.00232	0.00600	1	06/20/2024 04:59	WG2308217
Dibenz(a,h)anthracene	ND		0.00172	0.00600	1	06/20/2024 04:59	WG2308217
Fluoranthene	ND		0.00227	0.00600	1	06/20/2024 04:59	WG2308217
Fluorene	ND		0.00205	0.00600	1	06/20/2024 04:59	WG2308217
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600	1	06/20/2024 04:59	WG2308217
1-Methylnaphthalene	ND		0.00449	0.0200	1	06/20/2024 04:59	WG2308217
2-Methylnaphthalene	ND		0.00427	0.0200	1	06/20/2024 04:59	WG2308217
Naphthalene	ND		0.00408	0.0200	1	06/20/2024 04:59	WG2308217
Pyrene	ND		0.00200	0.00600	1	06/20/2024 04:59	WG2308217
(S) p-Terphenyl-d14	107			23.0-120		06/20/2024 04:59	WG2308217
(S) Nitrobenzene-d5	84.4			14.0-149		06/20/2024 04:59	WG2308217
(S) 2-Fluorobiphenyl	91.5			34.0-125		06/20/2024 04:59	WG2308217

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	6.15		1	06/25/2024 11:12	WG2310921

Sample Narrative:
L1746531-03 WG2310921: Ca: 363.0923mg/L ; Mg: 115.0085mg/L; Na: 525.1876mg/L

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0262	J	0.0217	0.100	1	06/17/2024 03:39	WG2306286
(S) a,a,a-Trifluorotoluene(FID)	91.1			77.0-120		06/17/2024 03:39	WG2306286

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000467	0.00100	1	06/18/2024 23:55	WG2307602
Toluene	ND		0.00130	0.00500	1	06/18/2024 23:55	WG2307602
Ethylbenzene	ND		0.000737	0.00250	1	06/18/2024 23:55	WG2307602
Xylenes, Total	ND		0.000880	0.00650	1	06/18/2024 23:55	WG2307602
1,2,4-Trimethylbenzene	ND		0.00158	0.00500	1	06/18/2024 23:55	WG2307602
1,3,5-Trimethylbenzene	ND		0.00200	0.00500	1	06/18/2024 23:55	WG2307602
(S) Toluene-d8	103			75.0-131		06/18/2024 23:55	WG2307602
(S) 4-Bromofluorobenzene	102			67.0-138		06/18/2024 23:55	WG2307602
(S) 1,2-Dichloroethane-d4	113			70.0-130		06/18/2024 23:55	WG2307602

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		1.61	4.00	1	06/21/2024 03:19	WG2308617
C28-C36 Motor Oil Range	4.22	B	0.274	4.00	1	06/21/2024 03:19	WG2308617
(S) o-Terphenyl	58.1			18.0-148		06/21/2024 03:19	WG2308617

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00209	0.00600	1	06/20/2024 05:17	WG2308217
Anthracene	ND		0.00230	0.00600	1	06/20/2024 05:17	WG2308217
Benzo(a)anthracene	ND		0.00173	0.00600	1	06/20/2024 05:17	WG2308217
Benzo(b)fluoranthene	ND		0.00153	0.00600	1	06/20/2024 05:17	WG2308217
Benzo(k)fluoranthene	ND		0.00215	0.00600	1	06/20/2024 05:17	WG2308217
Benzo(a)pyrene	ND		0.00179	0.00600	1	06/20/2024 05:17	WG2308217
Chrysene	ND		0.00232	0.00600	1	06/20/2024 05:17	WG2308217
Dibenz(a,h)anthracene	ND		0.00172	0.00600	1	06/20/2024 05:17	WG2308217
Fluoranthene	ND		0.00227	0.00600	1	06/20/2024 05:17	WG2308217
Fluorene	ND		0.00205	0.00600	1	06/20/2024 05:17	WG2308217
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600	1	06/20/2024 05:17	WG2308217
1-Methylnaphthalene	ND		0.00449	0.0200	1	06/20/2024 05:17	WG2308217
2-Methylnaphthalene	ND		0.00427	0.0200	1	06/20/2024 05:17	WG2308217
Naphthalene	ND		0.00408	0.0200	1	06/20/2024 05:17	WG2308217
Pyrene	ND		0.00200	0.00600	1	06/20/2024 05:17	WG2308217
(S) p-Terphenyl-d14	129	J1		23.0-120		06/20/2024 05:17	WG2308217
(S) Nitrobenzene-d5	91.8			14.0-149		06/20/2024 05:17	WG2308217
(S) 2-Fluorobiphenyl	107			34.0-125		06/20/2024 05:17	WG2308217

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.03		1	06/25/2024 17:14	WG2310930

Sample Narrative:

L1746531-04 WG2310930: Ca: 34.9981mg/L ; Mg: 14.84081mg/L; Na: 28.78389mg/L

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		0.0217	0.100	1	06/17/2024 04:02	WG2306286
(S) a,a,a-Trifluorotoluene(FID)	90.7			77.0-120		06/17/2024 04:02	WG2306286

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000467	0.00100	1	06/19/2024 00:14	WG2307602
Toluene	ND		0.00130	0.00500	1	06/19/2024 00:14	WG2307602
Ethylbenzene	ND		0.000737	0.00250	1	06/19/2024 00:14	WG2307602
Xylenes, Total	ND		0.000880	0.00650	1	06/19/2024 00:14	WG2307602
1,2,4-Trimethylbenzene	ND		0.00158	0.00500	1	06/19/2024 00:14	WG2307602
1,3,5-Trimethylbenzene	ND		0.00200	0.00500	1	06/19/2024 00:14	WG2307602
(S) Toluene-d8	98.9			75.0-131		06/19/2024 00:14	WG2307602
(S) 4-Bromofluorobenzene	101			67.0-138		06/19/2024 00:14	WG2307602
(S) 1,2-Dichloroethane-d4	115			70.0-130		06/19/2024 00:14	WG2307602

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		1.61	4.00	1	06/21/2024 02:14	WG2308617
C28-C36 Motor Oil Range	1.11	B J	0.274	4.00	1	06/21/2024 02:14	WG2308617
(S) o-Terphenyl	53.4			18.0-148		06/21/2024 02:14	WG2308617

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00209	0.00600	1	06/20/2024 05:34	WG2308217
Anthracene	ND		0.00230	0.00600	1	06/20/2024 05:34	WG2308217
Benzo(a)anthracene	ND		0.00173	0.00600	1	06/20/2024 05:34	WG2308217
Benzo(b)fluoranthene	ND		0.00153	0.00600	1	06/20/2024 05:34	WG2308217
Benzo(k)fluoranthene	ND		0.00215	0.00600	1	06/20/2024 05:34	WG2308217
Benzo(a)pyrene	ND		0.00179	0.00600	1	06/20/2024 05:34	WG2308217
Chrysene	ND		0.00232	0.00600	1	06/20/2024 05:34	WG2308217
Dibenz(a,h)anthracene	ND		0.00172	0.00600	1	06/20/2024 05:34	WG2308217
Fluoranthene	ND		0.00227	0.00600	1	06/20/2024 05:34	WG2308217
Fluorene	ND		0.00205	0.00600	1	06/20/2024 05:34	WG2308217
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600	1	06/20/2024 05:34	WG2308217
1-Methylnaphthalene	ND		0.00449	0.0200	1	06/20/2024 05:34	WG2308217
2-Methylnaphthalene	ND		0.00427	0.0200	1	06/20/2024 05:34	WG2308217
Naphthalene	ND		0.00408	0.0200	1	06/20/2024 05:34	WG2308217
Pyrene	ND		0.00200	0.00600	1	06/20/2024 05:34	WG2308217
(S) p-Terphenyl-d14	118			23.0-120		06/20/2024 05:34	WG2308217
(S) Nitrobenzene-d5	93.0			14.0-149		06/20/2024 05:34	WG2308217
(S) 2-Fluorobiphenyl	106			34.0-125		06/20/2024 05:34	WG2308217

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.87		1	06/25/2024 11:57	WG2310927

Sample Narrative:

L1746531-05 WG2310927: Ca: 137.8838mg/L ; Mg: 41.96371mg/L; Na: 97.57161mg/L

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0385	J	0.0217	0.100	1	06/17/2024 04:26	WG2306286
(S) a,a,a-Trifluorotoluene(FID)	90.7			77.0-120		06/17/2024 04:26	WG2306286

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000467	0.00100	1	06/19/2024 00:33	WG2307602
Toluene	ND		0.00130	0.00500	1	06/19/2024 00:33	WG2307602
Ethylbenzene	ND		0.000737	0.00250	1	06/19/2024 00:33	WG2307602
Xylenes, Total	ND		0.000880	0.00650	1	06/19/2024 00:33	WG2307602
1,2,4-Trimethylbenzene	ND		0.00158	0.00500	1	06/19/2024 00:33	WG2307602
1,3,5-Trimethylbenzene	ND		0.00200	0.00500	1	06/19/2024 00:33	WG2307602
(S) Toluene-d8	101			75.0-131		06/19/2024 00:33	WG2307602
(S) 4-Bromofluorobenzene	102			67.0-138		06/19/2024 00:33	WG2307602
(S) 1,2-Dichloroethane-d4	119			70.0-130		06/19/2024 00:33	WG2307602

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		1.61	4.00	1	06/21/2024 00:16	WG2308617
C28-C36 Motor Oil Range	0.830	B J	0.274	4.00	1	06/21/2024 00:16	WG2308617
(S) o-Terphenyl	44.4			18.0-148		06/21/2024 00:16	WG2308617

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00209	0.00600	1	06/20/2024 05:52	WG2308217
Anthracene	ND		0.00230	0.00600	1	06/20/2024 05:52	WG2308217
Benzo(a)anthracene	ND		0.00173	0.00600	1	06/20/2024 05:52	WG2308217
Benzo(b)fluoranthene	ND		0.00153	0.00600	1	06/20/2024 05:52	WG2308217
Benzo(k)fluoranthene	ND		0.00215	0.00600	1	06/20/2024 05:52	WG2308217
Benzo(a)pyrene	ND		0.00179	0.00600	1	06/20/2024 05:52	WG2308217
Chrysene	ND		0.00232	0.00600	1	06/20/2024 05:52	WG2308217
Dibenz(a,h)anthracene	ND		0.00172	0.00600	1	06/20/2024 05:52	WG2308217
Fluoranthene	ND		0.00227	0.00600	1	06/20/2024 05:52	WG2308217
Fluorene	ND		0.00205	0.00600	1	06/20/2024 05:52	WG2308217
Indeno(1,2,3-cd)pyrene	ND		0.00181	0.00600	1	06/20/2024 05:52	WG2308217
1-Methylnaphthalene	ND		0.00449	0.0200	1	06/20/2024 05:52	WG2308217
2-Methylnaphthalene	ND		0.00427	0.0200	1	06/20/2024 05:52	WG2308217
Naphthalene	ND		0.00408	0.0200	1	06/20/2024 05:52	WG2308217
Pyrene	ND		0.00200	0.00600	1	06/20/2024 05:52	WG2308217
(S) p-Terphenyl-d14	104			23.0-120		06/20/2024 05:52	WG2308217
(S) Nitrobenzene-d5	86.1			14.0-149		06/20/2024 05:52	WG2308217
(S) 2-Fluorobiphenyl	106			34.0-125		06/20/2024 05:52	WG2308217

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4082821-2 06/16/24 23:20

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)	97.0			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4082821-1 06/16/24 22:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.03	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			105	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4083241-2 06/17/24 02:16

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)	92.4			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4083241-1 06/17/24 01:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	5.78	116	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			94.8	77.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4083659-3 06/18/24 19:11

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	101			75.0-131
(S) 4-Bromofluorobenzene	104			67.0-138
(S) 1,2-Dichloroethane-d4	121			70.0-130

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

(LCS) R4083659-1 06/18/24 17:37 • (LCSD) R4083659-2 06/18/24 17:56

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	0.106	0.108	84.8	86.4	70.0-123			1.87	20
Toluene	0.125	0.109	0.110	87.2	88.0	75.0-121			0.913	20
Ethylbenzene	0.125	0.112	0.116	89.6	92.8	74.0-126			3.51	20
Xylenes, Total	0.375	0.344	0.350	91.7	93.3	72.0-127			1.73	20
1,2,4-Trimethylbenzene	0.125	0.122	0.129	97.6	103	70.0-126			5.58	20
1,3,5-Trimethylbenzene	0.125	0.127	0.131	102	105	73.0-127			3.10	20
(S) Toluene-d8				101	101	75.0-131				
(S) 4-Bromofluorobenzene				100	99.5	67.0-138				
(S) 1,2-Dichloroethane-d4				115	113	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4084748-1 06/20/24 23:12

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	1.35	⬇	0.274	4.00
(S) o-Terphenyl	71.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4084748-2 06/20/24 23:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	34.6	69.2	50.0-150	
(S) o-Terphenyl			79.4	18.0-148	

L1746531-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746531-01 06/21/24 02:40 • (MS) R4084748-3 06/21/24 02:53 • (MSD) R4084748-4 06/21/24 03:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.3	ND	31.0	30.8	64.2	63.1	1	50.0-150			0.647	20
(S) o-Terphenyl					81.5	80.0		18.0-148				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R4084254-2 06/20/24 01:46

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	103			23.0-120
(S) Nitrobenzene-d5	52.0			14.0-149
(S) 2-Fluorobiphenyl	72.2			34.0-125

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS)

(LCS) R4084254-1 06/20/24 01:28

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0623	77.9	50.0-120	
Anthracene	0.0800	0.0586	73.3	50.0-126	
Benzo(a)anthracene	0.0800	0.0602	75.3	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0676	84.5	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0648	81.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0577	72.1	42.0-120	
Chrysene	0.0800	0.0682	85.3	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0584	73.0	47.0-125	
Fluoranthene	0.0800	0.0676	84.5	49.0-129	
Fluorene	0.0800	0.0654	81.8	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0550	68.8	46.0-125	
1-Methylnaphthalene	0.0800	0.0652	81.5	51.0-121	
2-Methylnaphthalene	0.0800	0.0614	76.8	50.0-120	
Naphthalene	0.0800	0.0619	77.4	50.0-120	
Pyrene	0.0800	0.0713	89.1	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4084254-1 06/20/24 01:28

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			82.4	14.0-149	
(S) 2-Fluorobiphenyl			103	34.0-125	

L1746484-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1746484-08 06/20/24 03:31 • (MS) R4084254-3 06/20/24 03:49 • (MSD) R4084254-4 06/20/24 04:06

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0792	ND	0.0515	0.0492	65.0	62.1	1	14.0-127			4.57	27
Anthracene	0.0792	ND	0.0505	0.0484	63.8	61.1	1	10.0-145			4.25	30
Benzo(a)anthracene	0.0792	ND	0.0483	0.0465	61.0	58.7	1	10.0-139			3.80	30
Benzo(b)fluoranthene	0.0792	ND	0.0572	0.0518	72.2	65.4	1	10.0-140			9.91	36
Benzo(k)fluoranthene	0.0792	ND	0.0543	0.0535	68.6	67.6	1	10.0-137			1.48	31
Benzo(a)pyrene	0.0792	ND	0.0520	0.0532	65.7	67.2	1	10.0-141			2.28	31
Chrysene	0.0792	ND	0.0607	0.0586	76.6	74.0	1	10.0-145			3.52	30
Dibenz(a,h)anthracene	0.0792	ND	0.0515	0.0499	65.0	63.0	1	10.0-132			3.16	31
Fluoranthene	0.0792	ND	0.0625	0.0558	78.9	70.5	1	10.0-153			11.3	33
Fluorene	0.0792	ND	0.0538	0.0533	67.9	67.3	1	11.0-130			0.934	29
Indeno(1,2,3-cd)pyrene	0.0792	ND	0.0463	0.0443	58.5	55.9	1	10.0-137			4.42	32
1-Methylnaphthalene	0.0792	ND	0.0541	0.0500	68.3	63.1	1	10.0-142			7.88	28
2-Methylnaphthalene	0.0792	ND	0.0500	0.0465	63.1	58.7	1	10.0-137			7.25	28
Naphthalene	0.0792	ND	0.0510	0.0466	64.4	58.8	1	10.0-135			9.02	27
Pyrene	0.0792	ND	0.0659	0.0584	83.2	73.7	1	10.0-148			12.1	35
(S) p-Terphenyl-d14					93.7	83.1		23.0-120				
(S) Nitrobenzene-d5					65.4	66.3		14.0-149				
(S) 2-Fluorobiphenyl					78.7	77.4		34.0-125				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

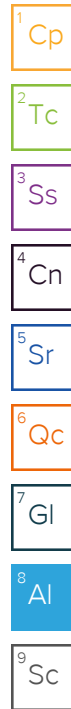
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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:

Civitas/Tasman - CO6855 W. 118th Ave
Broomfield, CO 80020

Billing Information:

Accounts Payable
650 Southgate Dr.
Windsor, CO 80550Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



MT JULIET, TN

12085 Lebanon Rd. Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/sub/pas-standard-terms.pdf>

SDG #

H109

Acctnum: CIVTASBCO

Template: T250702

Prelogin: P1068185

PM: 824 - Chris Ward

PB:

Shipped Via: FedEX Ground

Project Manager:

Sam Vogt / Jacob Evans^{SC} Costin McQueen

Email: svogt@tasman-geo.com;

jevans@civitasresources.com

Project Name:

Mickey 5-F

Please Circle:

PT MT CT ET

Phone: 610-405-9078

Lab Project #:

AFE# or C/C:

COX0920

Collected by (print):

Sean Clarke
Conor Lovell

Site/Facility ID #:

Billing Code #:

8520-162

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 #

Date Results Needed

of Containers

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

of Containers

Full TABLE915 8ozClr-NoPres

Background TABLE915 8ozClr-NoPres

V8260 (GW TABLE915) 40mL Amb-HCl

Chloride, Sulfate 125mL HDPE-NoPres

TDS 1L-HDPE-NoPres

SEP-B01@2'
 SEP-N01@1'
 SEP-S01@1'
 SEP-F01@1'
 SEP-W01@1'

Grab

SS

2'

6/11/24

10:24

2

X

Remarks

Sample # (lab only)

-01
 -02
 -03
 -04
 -05

* Matrix:

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

Remarks:

pH, EC, SAR by saturated paste preparation method

Boron by hot water soluble preparation method

Table 915-1 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier

Tracking #

pH _____ Temp _____
 Flow _____ Other _____

Sample Receipt Checklist

CQC Seal Present/Intact: ☐ Y ☐ N
 CQC 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:

6/11/24

Time:

16:30

Received by: (Signature)

Sage Corning

Trip Blank Received: Yes / No

HCL / MeOH

TBR: 6/23/24

Relinquished by: (Signature)

Date:

5/12/24

Time:

1800

Received by: (Signature)

FEDEX

Temp: °C Bottles Received:

38.5°C 4/24 10-80

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

6/13/24

Time:

0900

Hold:

Condition:


NCF / OK

Civitas - CO

Sample Delivery Group: L1749814
Samples Received: 06/22/2024
Project Number: COX0920
Description: Mickey 5-F Separator

Report To: Sam Vogt / Jacob Evans
6855 W. 118th Ave
Broomfield, CO 80020

Entire Report Reviewed By:



Chris Ward
Project Manager

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

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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

SAMPLE SUMMARY

BG01@1' L1749814-01 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:00	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311748	1	06/27/24 12:07	06/27/24 12:07	DJS	Mt. Juliet, TN

BG01@2' L1749814-02 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:05	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311548	1	07/01/24 19:05	07/01/24 19:05	ZSA	Mt. Juliet, TN

BG02@1' L1749814-03 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:10	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311531	1	07/05/24 15:56	07/05/24 15:56	JTM	Mt. Juliet, TN

BG02@2' L1749814-04 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:15	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311672	1	06/28/24 10:17	06/28/24 10:17	JTM	Mt. Juliet, TN

BG03@1' L1749814-05 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:20	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311562	1	06/29/24 15:18	06/29/24 15:18	JTM	Mt. Juliet, TN

BG03@2' L1749814-06 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:25	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311672	1	06/28/24 10:19	06/28/24 10:19	JTM	Mt. Juliet, TN

BG04@1' L1749814-07 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:30	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311591	1	07/03/24 18:39	07/03/24 18:39	ZSA	Mt. Juliet, TN

BG04@2' L1749814-08 Solid

				Collected by Angela Kirylo	Collected date/time 06/21/24 11:35	Received date/time 06/22/24 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311562	1	06/29/24 15:19	06/29/24 15:19	JTM	Mt. Juliet, TN



SAMPLE SUMMARY

BG05@1' L1749814-09 Solid

Collected by
Angela Kirylo

Collected date/time
06/21/24 11:40

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311582	1	07/02/24 12:06	07/02/24 12:06	DJS	Mt. Juliet, TN

¹Cp

 ^{99m}Tc 3S_1 ${}^4\text{Cn}$ ^{87}Sr ⁶G| ${}^7\text{Al}$ ⁸Sc

BG05@2' L1749814-10 Solid

Collected by
Angela Kirylo

Collected date/time
06/21/24 11:45

Received date/time
06/22/24 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2311562	1	06/29/24 15:21	06/29/24 15:21	JTM	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



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.26		1	06/27/2024 12:07	WG2311748

Sample Narrative:

L1749814-01 WG2311748: Ca: 313.9707mg/L ; Mg: 92.46623mg/L; Na: 99.03615mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.02		1	07/01/2024 19:05	WG2311548

Sample Narrative:

L1749814-02 WG2311548: Ca: 381.9432mg/L ; Mg: 232.6871mg/L; Na: 203.284mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.34		1	07/05/2024 15:56	WG2311531

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.856		1	06/28/2024 10:17	WG2311672

Sample Narrative:

L1749814-04 WG2311672: Ca: 108.4473mg/L ; Mg: 34.69406mg/L; Na: 39.98435mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.724		1	06/29/2024 15:18	WG2311562

Sample Narrative:

L1749814-05 WG2311562: Ca: 29.90709mg/L ; Mg: 8.965364mg/L; Na: 17.56638mg/L

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.546		1	06/28/2024 10:19	WG2311672

Sample Narrative:

L1749814-06 WG2311672: Ca: 123.6993mg/L ; Mg: 37.36158mg/L; Na: 26.98212mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.19		1	07/03/2024 18:39	WG2311591

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.903		1	06/29/2024 15:19	WG2311562

Sample Narrative:

L1749814-08 WG2311562: Ca: 98.08188mg/L ; Mg: 30.52375mg/L; Na: 39.94616mg/L

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Gl

⁷Al

⁸Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.913		1	07/02/2024 12:06	WG2311582

Sample Narrative:

L1749814-09 WG2311582: Ca: 35.39331mg/L ; Mg: 6.298332mg/L; Na: 22.44096mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	0.558		1	06/29/2024 15:21	WG2311562

Sample Narrative:

L1749814-10 WG2311562: Ca: 30.45391mg/L ; Mg: 7.062641mg/L; Na: 13.15603mg/L

1Cp

2Tc

3Ss

4Cn

5Sr

6Gl

7Al

8Sc

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

SDG	Sample Delivery Group.
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.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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: Civitas/Tasman - CO 6855 W. 118th Ave Broomfield, CO 80020				Billing Information: Accounts Payable 650 Southgate Dr. Windsor, CO 80550				Pres Chk		Analysis / Container / Preservative										Chain of Custody Page 1 of 1 MT JULIET, TN <small>12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubs/pas-standard-terms.pdf</small> SDG # 1749814 A117 Accnum: CIVTASBCO Template: T250702 Prelogin: P1068185 PM: 824 - Chris Ward PB: Shipped Via: FedEX Ground	
Project Manager: AK Sam Vogt / Jacob Evans Costin McQueen				Email: svogt@tasman-geo.com; jevans@civitasresources.com				Please Circle: PT <input checked="" type="radio"/> M <input type="radio"/> CT <input type="radio"/> ET		Full TABLE915 8ozClr-NoPres Background TABLE915 8ozClr-NoPres V8260 (GW TABLE915) 40mL Amb-HCl Chloride, Sulfate 125mL HDPE-NoPres TDS 1L-HDPE-NoPres SAR											
Project Name: Mickey 5-F Separator				AFE# or C/C: COX0920																	
Phone: 610-405-9078		Lab Project #: 8520.162		Billing Code #: 8520.162																	
Collected by (print): Angela Kirylo		Site/Facility ID #: 8520.162		Quote # STD																	
Collected by (signature): <i>Angela Kirylo</i> Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Rush? (Lab MUST Be Notified) Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/>				Date Results Needed STD		# of Containers											
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	# of Containers														
BG0101'		Grab	SS	1'	6/21/24	1100	2														
BG0102'				2'		1105															
BG0201'				1'		1110															
BG0202'				2'		1115															
BG0301'				1'		1120															
BG0302'				2'		1125															
BG0401'				1'		1130															
BG0402'				2'		1135															
BG0501'				1'		1140															
BG0502'				2'		1145															
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other _____		Remarks: pH, EC, SAR by saturated paste preparation method Boron by hot water soluble preparation method Table 915-1 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier										Tracking # 7315 3261 5117		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> N <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> N <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> N <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> N <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> N <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> N <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> N <input type="checkbox"/> N					
Relinquished by: (Signature) <i>Angela Kirylo</i>		Date: 6/21/24		Time: 1530		Received by: (Signature) <i>Sale Contino</i>		Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		HCL / MeOH TBR		Temp: _____ °C Bottles Received: _____		If preservation required by Login: Date/Time							
Relinquished by: (Signature) <i>Sale Contino</i>		Date: 6/21/24		Time: 1800		Received by: (Signature) FEDEx		Temp: _____ °C Bottles Received: _____		If preservation required by Login: Date/Time		Hold: _____		Condition: _____ NCF / OK							
Relinquished by: (Signature) <i>WV Wey</i>		Date: 6-22-24		Time: 9:15		Received for lab by: (Signature)		Date: _____ Time: _____		Hold: _____		Condition: _____ NCF / OK									



ANALYTICAL REPORT

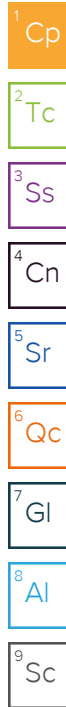
August 29, 2024

Revised Report

Civitas - CO

Sample Delivery Group: L1768825
Samples Received: 08/17/2024
Project Number: COX0920
Description: Mickey 5-F SEP

Report To: Sam Vogt / Jacob Evans
6855 W. 118th Ave
Broomfield, CO 80020



Entire Report Reviewed By:

Tony Gibson
Project Manager

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

Pace Analytical National

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

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Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
SEP-S02 @ 1' L1768825-01	5	
Qc: Quality Control Summary	6	⁴ Cn
Volatile Organic Compounds (GC) by Method 8015D/GRO	6	⁵ Sr
Volatile Organic Compounds (GC/MS) by Method 8260B	7	
Semi-Volatile Organic Compounds (GC) by Method 8015M	8	⁶ Qc
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	9	
Gl: Glossary of Terms	11	⁷ Gl
Al: Accreditations & Locations	12	⁸ Al
Sc: Sample Chain of Custody	13	⁹ Sc

SAMPLE SUMMARY

SEP-S02 @ 1' L1768825-01 Solid

Collected by
Sean Clarke

Collected date/time
08/15/24 09:50

Received date/time
08/17/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2349079	1	08/24/24 21:31	08/24/24 21:31	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2349630	1	08/21/24 02:13	08/24/24 04:07	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2347988	1	08/21/24 02:13	08/22/24 05:32	JBE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2349017	1	08/25/24 16:39	08/26/24 12:17	KKS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2349661	1	08/24/24 17:43	08/25/24 17:18	JCH	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

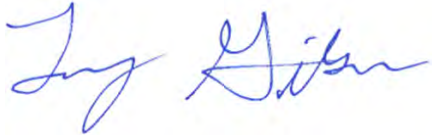
⁷Gl

⁸Al

⁹Sc

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.



Tony Gibson
Project Manager

Report Revision History

Level II Report - Version 1: 08/28/24 15:41

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.

Report reissued 8/28 to remove extra test



Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	1.73		1	08/24/2024 21:31	WG2349079

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

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
TPH (GC/FID) Low Fraction	ND		0.500	1	08/24/2024 04:07	WG2349630
(S) a,a,a-Trifluorotoluene(FID)	81.2			77.0-120	08/24/2024 04:07	WG2349630

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

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Benzene	ND		0.00200	1	08/22/2024 05:32	WG2347988
Toluene	ND		0.00500	1	08/22/2024 05:32	WG2347988
Ethylbenzene	ND		0.00500	1	08/22/2024 05:32	WG2347988
Xylenes, Total	ND		0.0100	1	08/22/2024 05:32	WG2347988
1,2,4-Trimethylbenzene	ND		0.00500	1	08/22/2024 05:32	WG2347988
1,3,5-Trimethylbenzene	ND		0.00500	1	08/22/2024 05:32	WG2347988
(S) Toluene-d8	99.1			75.0-131	08/22/2024 05:32	WG2347988
(S) 4-Bromofluorobenzene	99.7			67.0-138	08/22/2024 05:32	WG2347988
(S) 1,2-Dichloroethane-d4	92.3			70.0-130	08/22/2024 05:32	WG2347988

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

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
C10-C28 Diesel Range	ND		50.0	1	08/26/2024 12:17	WG2349017
C28-C36 Motor Oil Range	ND		50.0	1	08/26/2024 12:17	WG2349017
(S) o-Terphenyl	58.1			18.0-148	08/26/2024 12:17	WG2349017

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

	Result	Qualifier	RL	Dilution	Analysis date / time	Batch
Analyte	mg/kg		mg/kg			
Acenaphthene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Anthracene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Benzo(a)anthracene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Benzo(b)fluoranthene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Benzo(k)fluoranthene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Benzo(a)pyrene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Chrysene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Dibenz(a,h)anthracene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Fluoranthene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Fluorene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Indeno(1,2,3-cd)pyrene	ND		0.00500	1	08/25/2024 17:18	WG2349661
1-Methylnaphthalene	ND	J4	0.00500	1	08/25/2024 17:18	WG2349661
2-Methylnaphthalene	ND		0.00500	1	08/25/2024 17:18	WG2349661
Naphthalene	ND		0.00408	1	08/25/2024 17:18	WG2349661
Pyrene	ND		0.00500	1	08/25/2024 17:18	WG2349661
(S) p-Terphenyl-d14	65.2			23.0-120	08/25/2024 17:18	WG2349661
(S) Nitrobenzene-d5	80.8			14.0-149	08/25/2024 17:18	WG2349661
(S) 2-Fluorobiphenyl	68.3			34.0-125	08/25/2024 17:18	WG2349661

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4112204-3 08/23/24 23:11

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)	84.0			77.0-120

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

(LCS) R4112204-1 08/23/24 22:13 • (LCSD) R4112204-2 08/23/24 22:32

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	5.15	4.96	103	99.2	72.0-127			3.76	20
(S) a,a,a-Trifluorotoluene(FID)				95.4	94.5	77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4112046-3 08/22/24 00:55

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	99.4			75.0-131
(S) 4-Bromofluorobenzene	95.3			67.0-138
(S) 1,2-Dichloroethane-d4	88.4			70.0-130

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

(LCS) R4112046-1 08/21/24 23:16 • (LCSD) R4112046-2 08/21/24 23:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.119	0.120	95.2	96.0	70.0-123			0.837	20
Toluene	0.125	0.117	0.116	93.6	92.8	75.0-121			0.858	20
Ethylbenzene	0.125	0.119	0.117	95.2	93.6	74.0-126			1.69	20
Xylenes, Total	0.375	0.364	0.351	97.1	93.6	72.0-127			3.64	20
1,2,4-Trimethylbenzene	0.125	0.109	0.104	87.2	83.2	70.0-126			4.69	20
1,3,5-Trimethylbenzene	0.125	0.111	0.109	88.8	87.2	73.0-127			1.82	20
(S) Toluene-d8				93.7	94.6	75.0-131				
(S) 4-Bromofluorobenzene				96.5	93.4	67.0-138				
(S) 1,2-Dichloroethane-d4				103	99.2	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4112182-1 08/26/24 10:57

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	78.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4112182-2 08/26/24 11:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	38.9	77.8	50.0-150	
(S) o-Terphenyl			70.0	18.0-148	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4111608-2 08/25/24 09:16

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	104			23.0-120
(S) Nitrobenzene-d5	93.8			14.0-149
(S) 2-Fluorobiphenyl	95.7			34.0-125

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R4111608-1 08/25/24 08:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0865	108	50.0-120	
Anthracene	0.0800	0.0870	109	50.0-126	
Benzo(a)anthracene	0.0800	0.0845	106	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0835	104	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0874	109	49.0-125	
Benzo(a)pyrene	0.0800	0.0791	98.9	42.0-120	
Chrysene	0.0800	0.0937	117	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0940	117	47.0-125	
Fluoranthene	0.0800	0.0995	124	49.0-129	
Fluorene	0.0800	0.0943	118	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0806	101	46.0-125	
1-Methylnaphthalene	0.0800	0.0977	122	51.0-121	J4
2-Methylnaphthalene	0.0800	0.0927	116	50.0-120	
Naphthalene	0.0800	0.0877	110	50.0-120	
Pyrene	0.0800	0.0943	118	43.0-123	

Laboratory Control Sample (LCS)

(LCS) R4111608-1 08/25/24 08:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
(S) p-Terphenyl-d14			109	23.0-120	
(S) Nitrobenzene-d5			117	14.0-149	
(S) 2-Fluorobiphenyl			110	34.0-125	

L1768844-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1768844-01 08/25/24 16:47 • (MS) R4111725-1 08/25/24 17:05 • (MSD) R4111725-2 08/25/24 17:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0800	ND	0.0663	0.0642	82.9	80.3	1	14.0-127			3.22	27
Anthracene	0.0800	ND	0.0680	0.0672	85.0	84.0	1	10.0-145			1.18	30
Benzo(a)anthracene	0.0800	ND	0.0693	0.0701	83.6	84.6	1	10.0-139			1.15	30
Benzo(b)fluoranthene	0.0800	0.00874	0.0723	0.0815	79.5	90.9	1	10.0-140			12.0	36
Benzo(k)fluoranthene	0.0800	ND	0.0646	0.0641	80.7	80.1	1	10.0-137			0.777	31
Benzo(a)pyrene	0.0800	ND	0.0668	0.0678	80.5	81.7	1	10.0-141			1.49	31
Chrysene	0.0800	ND	0.0701	0.0703	83.6	83.8	1	10.0-145			0.285	30
Dibenz(a,h)anthracene	0.0800	ND	0.0619	0.0645	77.4	80.6	1	10.0-132			4.11	31
Fluoranthene	0.0800	ND	0.0796	0.0806	94.7	96.0	1	10.0-153			1.25	33
Fluorene	0.0800	ND	0.0674	0.0697	84.3	87.1	1	11.0-130			3.36	29
Indeno(1,2,3-cd)pyrene	0.0800	ND	0.0660	0.0720	76.3	83.8	1	10.0-137			8.70	32
1-Methylnaphthalene	0.0800	ND	0.0712	0.0716	89.0	89.5	1	10.0-142			0.560	28
2-Methylnaphthalene	0.0800	ND	0.0689	0.0697	86.1	87.1	1	10.0-137			1.15	28
Naphthalene	0.0800	ND	0.0690	0.0687	86.3	85.9	1	10.0-135			0.436	27
Pyrene	0.0800	ND	0.0676	0.0678	79.3	79.5	1	10.0-148			0.295	35
(S) p-Terphenyl-d14					77.5	71.3		23.0-120				
(S) Nitrobenzene-d5					94.8	97.6		14.0-149				
(S) 2-Fluorobiphenyl					77.1	75.8		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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
J4	The associated batch QC was outside the established quality control range for accuracy.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

ACCREDITATIONS & LOCATIONS

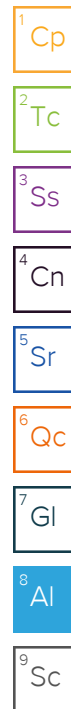
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



[illegible]

676825

Tracking Numbers	Temperature
72910715 3369	$2.6 + 0.3 = 2.9$
7315 3194 7826	$2.3 + 0.3 = 2.6$
72440215 3375	$3.1 + 0.3 = 3.4$
4647 5440 0956	$2.1 + 0.3 = 2.4$
4647 5440 0945	$2.5 + 0.3 = 2.8$
7315 3195 1940	$2.8 + 0.3 = 3.1$
7315 3195 1062	$3.3 + 0.3 = 3.6$

Name _____

Date _____