

# **PC 1S-66-2928 PW Line**

NWSW Sec. 29-T1S-R66W

Facility ID: 450043

Remediation Project #: 25342

Excavation Summary Report & No Further Action Request

March and May 2024

Prepared by Tasman, Inc.



On behalf of Extraction Oil & Gas, Inc.



July 9, 2024

Costin McQueen  
Senior Environmental Specialist  
Extraction Oil & Gas, Inc.

**Re: PC 1S-66-2928 PW Line  
Excavation Summary Report and No Further Action Request  
Facility IDs #: 450043  
Remediation Project #: 25342  
NWSW, Section 29, Township 1 S, Range 66 W  
Adams County, Colorado**

Mr. McQueen:

On January 12, 2024 Extraction Oil & Gas, Inc. (Client) reported a recent spill to the Colorado Energy & Carbon Management Commission (ECMC) via Form 19-Initial/Supplemental Document No. 403653114. The release was caused by a compromised above ground produced water line located in the northwest quarter of the northwest quarter of Section 29, Township 1 South, Range 66 West (Site) [Figure 1].

An initial waste characterization sample (WC01) and background soil sample (WC-BG01) were collected by the Client on January 12, 2024 and the results were provided as an attachment to Form 19-Supplemental Document No. 403659230. Based on the results of WC01 and WC-BG01, a modified ECMC Table 915-1 analytical suite was approved, which included total petroleum hydrocarbons (TPH, C6-C36), organics, arsenic, sodium adsorption ratio (SAR), and boron. This report describes excavation of impacted material, confirmation sampling, and background sampling activities completed in May 2024.

### **Excavation Confirmation Sampling**

Tasman collected a total of eleven (11) confirmation soil samples from the sidewalls and base of the produced water vault excavation at depths ranging from 1 to 3 feet below ground surface (bgs). The final excavation area for the produced water vault excavation measured approximately 12 to 15 feet wide (east to west) by 28 feet long (north to south) by 2 to 3 feet deep. In total, approximately 31 cubic yards (cyd) of impacted soil were excavated and transported to the Waste Management Landfill in Bennett, Colorado. Excavation extents, confirmation soil sample locations, and field screening locations for the produced water vault excavation are illustrated on Figures 2A and 2B. Confirmation soil sample global positioning system (GPS) locations and photoionization detector (PID) readings are listed in Table 1. Field notes and photo documentation of the sample locations are provided in Attachment A.

Confirmation soil samples were collected and submitted to Summit Scientific in Golden, Colorado and Pace Analytical in Mount Juliet, Tennessee for a modified analysis of the ECMC Table 915-1 analytical suite, per approved Form 19-Supplemental Document No. 403659230.

### **Excavation Analytical Results**

Based on analytical results, no concentrations above applicable Table 915-1 soil standards are currently left in place along the sidewalls and base of the produced water vault excavation. Soil analytical results

are presented in Tables 2 through 5 and illustrated in Figures 2A and 2B. Laboratory analytical reports are provided as Attachment B.

### Background Soils

A total of fifteen (15) background samples were collected from soils at similar depths and lithologies to the excavation. The site lithology generally consists of light brown to tan sandy clay from approximately 0 to 3 feet bgs. Background soil samples representative of the light brown to tan sandy clay were collected at depths of approximately 1 to 3 feet bgs. Field notes and photos describing the site lithology are presented in Attachment A.

Concentrations of arsenic exceeded Table 915-1 standards but were below site-specific backgrounds. Site-specific background concentrations for metals are calculated by taking the highest concentration for each lithology (excluding any anomalously high concentrations) and multiplying by 1.25. Site-specific background concentrations for soil suitability parameters were based on the highest concentration for each lithology (excluding any anomalously high concentrations).

A comparison of the site-specific backgrounds and the range of concentrations left in place (sandy clay, 1 to 3 feet bgs) is listed below for clarification:

Arsenic - milligrams per kilogram (mg/kg)

- Highest background sample: BG03@1'
- Site-specific background concentration:  $5.41 \text{ mg/kg} * 1.25 = 6.76 \text{ mg/kg}$
- Range of concentrations left in place: 1.99 to 4.46 mg/kg

Background soil sample locations are illustrated in Figure 3. The site-specific background concentrations for metals are provided in Table 4 and for soil suitability parameters are provided in Table 5.

### Conclusions and Recommendations

Soil concentrations were compared to site-specific background concentrations for arsenic for samples left in place. Based on analytical results, no exceedances of Table 915-1 Soil Standards or site-specific background concentrations are currently left in place at the Site.

Based on the data presented in the report, Tasman, on behalf of the Client, requests that a No Further Action determination be issued for the PC 1S-66-2928 location.

Following your review, feel free to contact me at 214-298-4608 if you have any questions.

Sincerely,  
Written by:



Tracey Smith, PG  
Project Manager

Reviewed by:



Sam Vogt  
Program Manager

Figures:

Figure 1 – Site Location Map

Figure 2A – Soil Sample Location Map (03/04/2024)

Figure 2B – Soil Sample Location Map (05/17/2024)

Figure 3 – Background Soil Sample Location Map (03/04/2024 & 05/17/2024)

Tables – Materials Left in Place:

Table 1 – Soil Sample Locations Left in Place

Table 2 – Soil Analytical Data Left In Place – VOCs

Table 3 – Soil Analytical Data Left In Place – PAHs

Table 4 – Soil Analytical Data Left In Place – Metals

Table 5 – Soil Analytical Data Left In Place – Soil Reclamation

Tables – Impacted Material Removed:

Table 1 – Soil Sample Locations Removed

Table 2 – Soil Analytical Data Removed – VOCs

Table 3 – Soil Analytical Data Removed – PAHs

Table 4 – Soil Analytical Data Removed – Metals

Table 5 – Soil Analytical Data Removed – Soil Reclamation

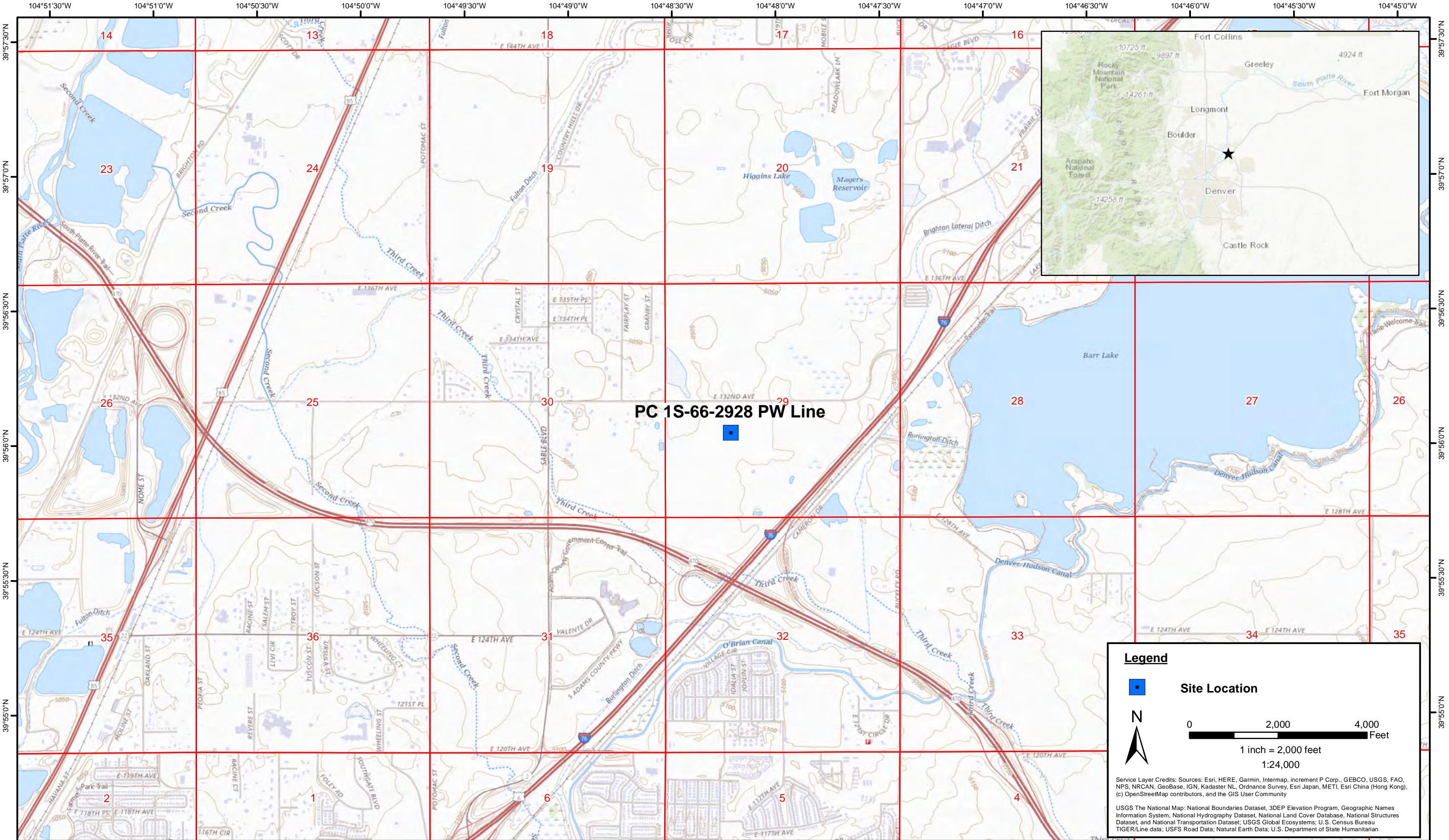
Attachments:

Attachment A – Excavation Field Notes and Photolog

Attachment B – Laboratory Analytical Data

## FIGURES





DATE:	April 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	J. Woffinden



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

**Extraction Oil & Gas, Inc.**  
**PC 1S-66-2928 PW Line**  
NWSW Sec. 29-T1S-R66W  
Adams County, Colorado

Site Location Map

Figure  
1



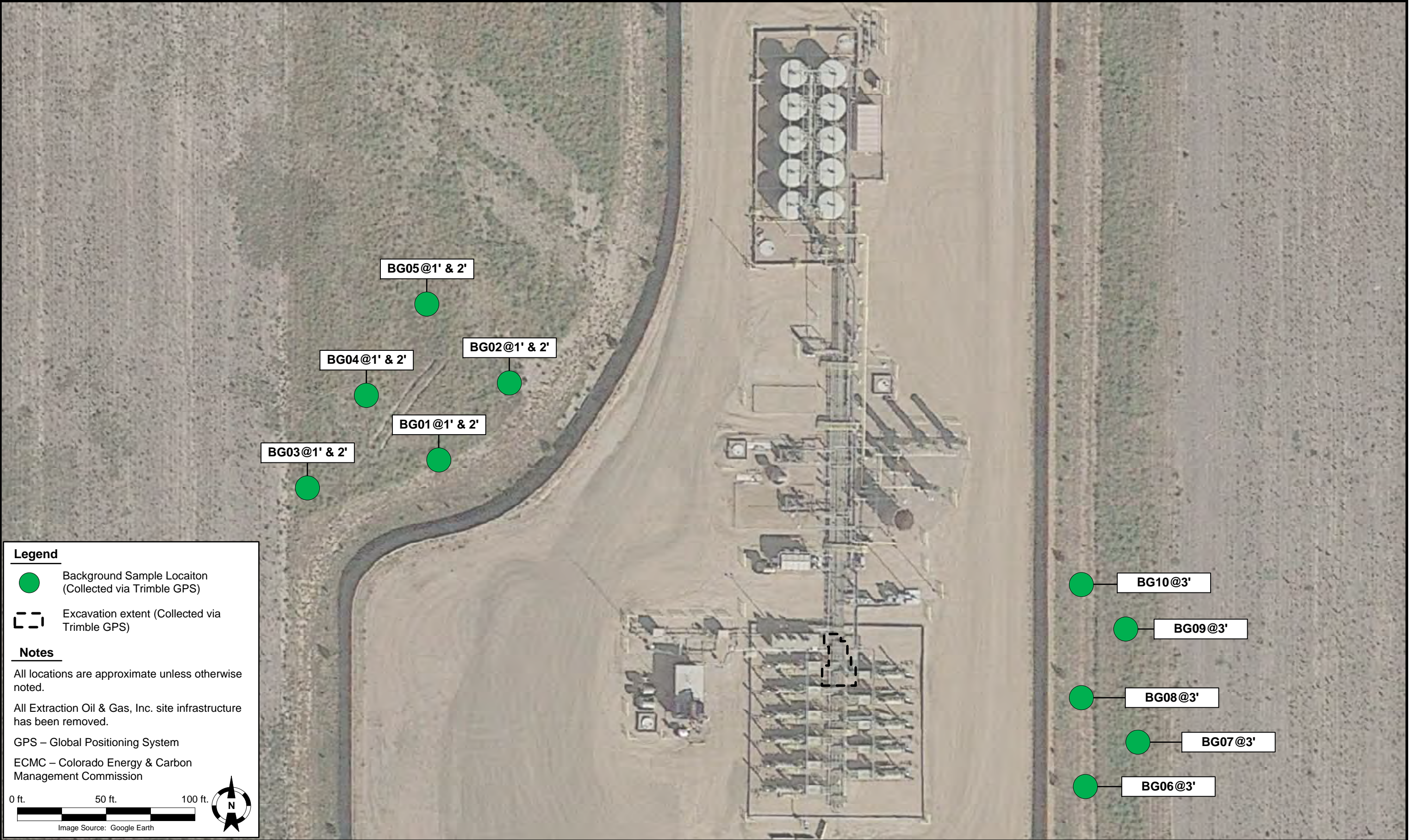






DATE: July 8, 2024	 <b>TASMAN</b> Tasman, Inc. 6855 W119th Ave. Broomfield, CO 80020	Extraction Oil & Gas, Inc PC 1S-66-2928 PW Line NWSW Sec. 29-T1S-R66W Adams County, Colorado	Soil Sample Location Map (05/17/2024)	Figure 2B
DESIGNED BY: S. Vogt				
DRAWN BY: T. Smith				





DATE:	April 9, 2024	 <b>Tasman, Inc.</b> 6855 W119th Ave. Broomfield, CO 80020	<b>Extraction Oil &amp; Gas, Inc</b> <b>PC 1S-66-2928 PW Line</b> NWSW Sec. 29-T1S-R66W Adams County, Colorado	Background Soil Sample Location Map (03/04/2024 & 05/17/2024)	Figure 3
DESIGNED BY:	S. Vogt				
DRAWN BY:	L. Molson				



## **TABLES**

### **MATERIAL LEFT IN PLACE**



**TABLE 1**  
**PC 1S-66-2928 PW LINE**  
**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)
PW-B02@2'	2'	03/04/2024	1.5	39.934287	-104.804247	-	Y
PW-N01@1'	1'	03/04/2024	2.3	39.934344	-104.804247	-	Y
PW-S01@1'	1'	03/04/2024	1.1	39.934269	-104.804246	-	Y
PW-E01@1'	1'	03/04/2024	1.6	39.934332	-104.804226	0.8	Y
PW-W02@1'	1'	03/04/2024	1.6	39.934287	-104.804270	-	Y
BG01@1'	1'	03/04/2024	0.8	39.934614	-104.805043	-	Y
BG01@2'	2'	03/04/2024	1.2	39.934614	-104.805043	-	Y
BG02@1'	1'	03/04/2024	0.5	39.934736	-104.804900	-	Y
BG02@2'	2'	03/04/2024	1.6	39.934736	-104.804900	-	Y
BG03@1'	1'	03/04/2024	0.6	39.934574	-104.805305	-	Y
BG03@2'	2'	03/04/2024	1.4	39.934574	-104.805305	-	Y
BG04@1'	1'	03/04/2024	0.6	39.934718	-104.805187	-	Y
BG04@2'	2'	03/04/2024	0.2	39.934718	-104.805187	-	Y
BG05@1'	1'	03/04/2024	0.5	39.934858	-104.805065	-	Y
BG05@2'	2'	03/04/2024	0.5	39.934858	-104.805065	-	Y
PW-B01@3'	3'	05/17/2024	1.7	39.934327	-104.804225	1.5	Y
PW-E03@1'	1'	05/17/2024	6.7	39.934278	-104.804191	1.2	Y
PW-W03@2'	2'	05/17/2024	5.0	39.934334	-104.804239	1.5	Y
BG06@3'	3'	05/17/2024	18.7	39.934110	-104.803744	1	Y
BG07@3'	3'	05/17/2024	17.2	39.934173	-104.803640	0.9	Y
BG08@3'	3'	05/17/2024	15.4	39.934252	-104.803749	0.9	Y
BG09@3'	3'	05/17/2024	13.6	39.934359	-104.803658	0.9	Y
BG10@3'	3'	05/17/2024	9.7	39.934431	-104.803744	0.9	Y

**Notes:**

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

**TABLE 2**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL <sup>(2)</sup>			1.2	490	5.8	58	2	500			30	27
PW-B02@2'	2'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	91	77	<0.0050	<0.0050
PW-N01@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-S01@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-E01@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-W02@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-B01@3'	3'	05/17/2024	<0.00101	<0.00505	<0.00253	<0.00656	<0.00408	0.0375	5.26	9.67	<0.00505	<0.00505
PW-E03@1'	1'	05/17/2024	<0.00100	<0.00500	<0.00250	<0.00650	<0.00408	0.0314	<4.00	1.39	<0.00500	<0.00500
PW-W03@2'	2'	05/17/2024	<0.00101	<0.00505	<0.00253	<0.00656	<0.00408	0.0409	<4.00	1.29	<0.00505	<0.00505

**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



**TABLE 3**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			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 <sup>(2)</sup>			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
PW-B02@2'	2'	03/04/2024	<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
PW-N01@1'	1'	03/04/2024	<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
PW-S01@1'	1'	03/04/2024	<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
PW-E01@1'	1'	03/04/2024	<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
PW-W02@1'	1'	03/04/2024	<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
PW-B01@3'	3'	05/17/2024	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00449	<0.00427	<0.00600
PW-E03@1'	1'	05/17/2024	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00449	<0.00427	<0.00600
PW-W03@2'	2'	05/17/2024	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00600	<0.00449	<0.00427	<0.00600

**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 = 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





**TABLE 4**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL <sup>(2)</sup>			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Highest Background @ 1' - 3' x1.25 (SC)			6.76	-	-	-	-	-	-	-	-	-

**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

RSL = Residential Soil Screening Level

(<) = 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

**Highest background concentration x1.25**

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

\*\*Result is considered anomalously high and not considered for site-specific background concentration

**TABLE 5**  
**PC 1S-66-2968 PW LINE**  
**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)
<b>ECMC Soil Suitability for Reclamation<sup>(1)</sup></b>			<b>6 - 8.3</b>	<b>&lt; 6</b>	<b>&lt; 4</b>	<b>2</b>
PW-B02@2'	2'	03/04/2024	-	4.08	-	<2.00
PW-N01@1'	1'	03/04/2024	-	2.48	-	<2.00
PW-S01@1'	1'	03/04/2024	-	1.13	-	<2.00
PW-E01@1'	1'	03/04/2024	-	5.43	-	<2.00
PW-W02@1'	1'	03/04/2024	-	0.657	-	<2.00
PW-B01@3'	3'	05/17/2024	-	3.37	-	0.280
PW-E03@1'	1'	05/17/2024	-	1.07	-	0.389
PW-W03@2'	2'	05/17/2024	-	3.94	-	0.259
<b>BACKGROUND</b>						
BG01@1'	1'	03/04/2024	-	0.181	-	<2.00
BG01@2'	2'	03/04/2024	-	0.310	-	<2.00
BG02@1'	1'	03/04/2024	-	0.222	-	<2.00
BG02@2'	2'	03/04/2024	-	0.299	-	<2.00
BG03@1'	1'	03/04/2024	-	0.715	-	<2.00
BG03@2'	2'	03/04/2024	-	1.69	-	<2.00
BG04@1'	1'	03/04/2024	-	1.10	-	<2.00
BG04@2'	2'	03/04/2024	-	2.20	-	<2.00
BG05@1'	1'	03/04/2024	-	0.120	-	<2.00
BG05@2'	2'	03/04/2024	-	0.144	-	<2.00
BG06@3'	3'	05/17/2024	-	2.41	-	0.484
BG07@3'	3'	05/17/2024	-	1.32	-	0.410
BG08@3'	3'	05/17/2024	-	2.86	-	<b>0.521</b>
BG09@3'	3'	05/17/2024	-	3.10	-	0.208
BG10@3'	3'	05/17/2024	-	<b>3.24</b>	-	0.254
<b>Highest Background @ 1' - 3' (SC)</b>			-	<b>3.24</b>	-	<b>0.521</b>

**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

**TABLE 5**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			6 - 8.3	< 6	< 4	2

EC = Electrical Conductivity

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

**Highest background concentration**

- = Constituent not analyzed



## **TABLES**

**IMPACTED MATERIAL REMOVED**

**TABLE 1**  
**PC 1S-66-2928 PW LINE**  
**SOIL SAMPLE LOCATIONS REMOVED**  
**EXTRACTION OIL & GAS, INC.**



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
PW-B01@2'	2'	03/04/2024	3.8	39.934334	-104.804247	-	Y
PW-E02@1'	1'	03/04/2024	2.9	39.934292	-104.804217	0.8	Y
PW-W01@1'	1'	03/04/2024	1.6	39.934339	-104.804265	0.9	Y

**Notes:**

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

**TABLE 2**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL <sup>(2)</sup>			1.2	490	5.8	58	2	500			30	27
PW-B01@2'	2'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-E02@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-W01@1'	1'	03/04/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050

**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



**TABLE 3**  
**PC 1S-66-2968 PW LINE**  
**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 <sup>(1)</sup>			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 <sup>(2)</sup>			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
PW-B01@2'	2'	03/04/2024	<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
PW-E02@1'	1'	03/04/2024	<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
PW-W01@1'	1'	03/04/2024	<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

**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

**TABLE 4**  
**PC 1S-66-2968 PW LINE**  
**SOIL ANALYTICAL DATA REMOVED - 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 <sup>(1)</sup>			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL <sup>(2)</sup>			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
PW-B01@2'	2'	03/04/2024	4.49*	-	-	-	-	-	-	-	-	-
PW-E02@1'	1'	03/04/2024	3.80*	-	-	-	-	-	-	-	-	-
PW-W01@1'	1'	03/04/2024	2.39*	-	-	-	-	-	-	-	-	-
BACKGROUND												
BG01@1'	1'	03/04/2024	4.93	-	-	-	-	-	-	-	-	-
BG01@2'	2'	03/04/2024	2.61	-	-	-	-	-	-	-	-	-
BG02@1'	1'	03/04/2024	4.39	-	-	-	-	-	-	-	-	-
BG02@2'	2'	03/04/2024	4.08	-	-	-	-	-	-	-	-	-
BG03@1'	1'	03/04/2024	5.41	-	-	-	-	-	-	-	-	-
BG03@2'	2'	03/04/2024	5.08	-	-	-	-	-	-	-	-	-
BG04@1'	1'	03/04/2024	7.15**	-	-	-	-	-	-	-	-	-
BG04@2'	2'	03/04/2024	4.84	-	-	-	-	-	-	-	-	-
BG05@1'	1'	03/04/2024	4.21	-	-	-	-	-	-	-	-	-
BG05@2'	2'	03/04/2024	3.83	-	-	-	-	-	-	-	-	-
BG06@3'	3'	05/17/2024	2.40	-	-	-	-	-	-	-	-	-
BG07@3'	3'	05/17/2024	1.66	-	-	-	-	-	-	-	-	-
BG08@3'	3'	05/17/2024	2.31	-	-	-	-	-	-	-	-	-
BG09@3'	3'	05/17/2024	1.33	-	-	-	-	-	-	-	-	-
BG10@3'	3'	05/17/2024	3.28	-	-	-	-	-	-	-	-	-
Highest Background @ 1' - 3' x1.25 (SC)			6.76	-	-	-	-	-	-	-	-	-

**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

**TABLE 4**  
**PC 1S-66-2968 PW LINE**  
**SOIL ANALYTICAL DATA REMOVED - 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 <sup>(1)</sup>			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL <sup>(2)</sup>			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000

RSL = Residential Soil Screening Level

(<) = 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

**Highest background concentration x1.25**

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

\*\*Result is considered anomalously high and not considered for site-specific background concentration

**TABLE 5**  
**PC 1S-66-2968 PW LINE**  
**SOIL ANALYTICAL DATA REMOVED - SOIL RECLAMATION**  
**EXTRACTION OIL & GAS, INC.**



Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
<b>ECMC Soil Suitability for Reclamation<sup>(1)</sup></b>			<b>6 - 8.3</b>	<b>&lt; 6</b>	<b>&lt; 4</b>	<b>2</b>
PW-B01@2'	2'	03/04/2024	-	<b>10.5</b>	-	<2.00
PW-E02@1'	1'	03/04/2024	-	<b>14.2</b>	-	<2.00
PW-W01@1'	1'	03/04/2024	-	<b>6.43</b>	-	<2.00
<b>BACKGROUND</b>						
BG01@1'	1'	03/04/2024	-	0.181	-	<2.00
BG01@2'	2'	03/04/2024	-	0.310	-	<2.00
BG02@1'	1'	03/04/2024	-	0.222	-	<2.00
BG02@2'	2'	03/04/2024	-	0.299	-	<2.00
BG03@1'	1'	03/04/2024	-	0.715	-	<2.00
BG03@2'	2'	03/04/2024	-	1.69	-	<2.00
BG04@1'	1'	03/04/2024	-	1.10	-	<2.00
BG04@2'	2'	03/04/2024	-	2.20	-	<2.00
BG05@1'	1'	03/04/2024	-	0.120	-	<2.00
BG05@2'	2'	03/04/2024	-	0.144	-	<2.00
BG06@3'	3'	05/17/2024	-	2.41	-	0.484
BG07@3'	3'	05/17/2024	-	1.32	-	0.410
BG08@3'	3'	05/17/2024	-	2.86	-	<b>0.521</b>
BG09@3'	3'	05/17/2024	-	3.10	-	0.208
BG10@3'	3'	05/17/2024	-	<b>3.24</b>	-	0.254
<b>Highest Background @ 1' - 3' (SC)</b>			-	<b>3.24</b>	-	<b>0.521</b>

**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

**Highest background concentration**

- = Constituent not analyzed



**ATTACHMENT A**  
**FIELD NOTES AND PHOTO LOG**

SITE NAME: PC 1S-66-2928								DATE: 3/4/2024	REM. PROJECT #:		WEATHER: 55 F, Sunny	
SITE DIRECTIONS: Sable Blvd and E 132nd Ave								CLIENT: Extraction Oil & Gas, Inc.				
LEGALS AND LAT/LONG: 39.934311, -104.804252								TASMAN PERSONNEL: Sean Clarke				
SOIL TYPES: GW - well-graded gravel, fine to coarse gravel								SURFACE GRADIENT: East				
SURROUNDING LAND USE: Rangeland								CROP: None				
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)				
3/4/2024 11:55	PW-B01@2'	3.8	No Staining	No Odor	Y	SC	Y	Produced Water Vessel (PWV)				
3/4/2024 12:00	PW-B02@2'	1.5	No Staining	No Odor	Y	SC	Y	Separator (SEP)				
3/4/2024 12:05	PW-N01@1'	2.3	No Staining	No Odor	Y	SC	Y	Emission Control Device (ECD)				
3/4/2024 12:10	PW-S01@1'	1.1	No Staining	No Odor	Y	SC	Y	Dump Line (DL)				
3/4/2024 12:15	PW-E01@1'	1.6	No Staining	No Odor	Y	SC	Y	Wellhead (WH)				
3/4/2024 12:20	PW-E02@1'	2.9	No Staining	No Odor	Y	SC	Y	Flowline (FL)				
3/4/2024 12:25	PW-W01@1'	1.6	No Staining	No Odor	Y	SC	Y	FL Method of Closure				
3/4/2024 12:30	PW-W02@1'	1.6	No Staining	No Odor	Y	SC	Y	FL Footage Removed				
3/4/2024 13:00	BG01@1'	0.8	No Staining	No Odor	Y	SC	Y	Footaged Abandoned in Place				
3/4/2024 13:05	BG01@2'	1.2	No Staining	No Odor	Y	SC	Y	Other:				
3/4/2024 13:10	BG02@1'	0.5	No Staining	No Odor	Y	SC	Y	Soil Loads Removed				
3/4/2024 13:15	BG02@2'	1.6	No Staining	No Odor	Y	SC	Y	IMPACTED SOIL IDENTIFIED? Yes				
3/4/2024 13:20	BG03@1'	0.6	No Staining	No Odor	Y	SC	Y	ESTIMATED VOLUME OF IMPACTS: Excavation Activities Ongoing				
3/4/2024 13:25	BG03@2'	1.4	No Staining	No Odor	Y	SC	Y	Date		Number	CY	
3/4/2024 13:30	BG04@1'	0.6	No Staining	No Odor	Y	SC	Y	March to May 2024		1	31	
3/4/2024 13:35	BG04@2'	0.2	No Staining	No Odor	Y	SC	Y					
3/4/2024 13:40	BG05@1'	0.5	No Staining	No Odor	Y	SC	Y					
3/4/2024 13:45	BG05@2'	0.5	No Staining	No Odor	Y	SC	Y					
								Total Removed		1	31	
								Disposal Facility: WM Landfill Bennett, CO				
								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:				

Civitas Decommissioning Form



SITE NAME: PC 1S-66-2928								DATE: 5/17/2024	REM. PROJECT #:		WEATHER: 69 (F) Sunny	
SITE DIRECTIONS: Sable Blvd/E 132nd Ave, E 0.756 mi, S onto access road, INTO								CLIENT: Extraction Oil & Gas, Inc.				
LEGALS AND LAT/LONG: 39.934311, -104.804252								TASMAN PERSONNEL: Ben Long				
SOIL TYPES: CL - lean clay								SURFACE GRADIENT: East				
SURROUNDING LAND USE: Other								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)				
5/17/2024 09:00	PW-B01@3'	1.7	No Staining	No Odor	Y	SC	Y	Produced Water Vessel (PWV)				
5/17/2024 09:05	PW-E03@1'	6.7	No Staining	No Odor	Y	SC	Y	Separator (SEP)				
5/17/2024 09:10	PW-W03@2'	5.0	No Staining	No Odor	Y	SC	Y	Emission Control Device (ECD)				
5/17/2024 10:00	BG06@3'	18.7	No Staining	No Odor	Y	SC	Y	Dump Line (DL)				
5/17/2024 10:05	BG07@3'	17.2	No Staining	No Odor	Y	SC	Y	Wellhead (WH)				
5/17/2024 10:10	BG08@3'	15.4	No Staining	No Odor	Y	SC	Y	Flowline (FL)				
5/17/2024 10:15	BG09@3'	13.6	No Staining	No Odor	Y	SC	Y	FL Method of Closure				
5/17/2024 10:20	BG10@3'	9.7	No Staining	No Odor	Y	SC	Y	FL Footage Removed				
								Footaged Abandoned in Place				
								Other:				
								Soil Loads Removed				
								IMPACTED SOIL IDENTIFIED?				
								ESTIMATED VOLUME OF IMPACTS:				
								Date		Number	CY	
								March to May 2024		1	31	
								Total Removed		1	31	
								Disposal Facility: WM Landfill Bennett, CO				
								Groundwater Recovery				
								DATE GW ENCOUNTERED:		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

<b>Equipment ID:</b>			<b>Equipment ID:</b>		
<b>Equipment Type:</b>			<b>Equipment Type:</b>		
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>	<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>
<b>Notes/Conditions:</b> Soil sampling location.			<b>Notes/Conditions:</b> Soil sampling locations.		



## Photographic Log

 <p>197°S (T) 39°56'3"N, 104°48'15"W ±16ft ▲ 5075ft</p> <p>PW-W02@1 X</p> <p>04 Mar 2024 13:22:01</p>	 <p>92°E (T) 39°56'3"N, 104°48'15"W ±16ft ▲ 5071ft</p> <p>PW-E02@1 X</p> <p>PW-S02@1 X</p> <p>PW-B02@2 X</p> <p>04 Mar 2024 13:22:17</p>																
<table border="1"> <tr> <td colspan="2">Equipment ID:</td> <td colspan="2">Equipment Type:</td> </tr> <tr> <td>Material:</td> <td>Volume:</td> <td colspan="2">Contents:</td> </tr> </table>	Equipment ID:		Equipment Type:		Material:	Volume:	Contents:		<table border="1"> <tr> <td colspan="2">Equipment ID:</td> <td colspan="2">Equipment Type:</td> </tr> <tr> <td>Material:</td> <td>Volume:</td> <td colspan="2">Contents:</td> </tr> </table>	Equipment ID:		Equipment Type:		Material:	Volume:	Contents:	
Equipment ID:		Equipment Type:															
Material:	Volume:	Contents:															
Equipment ID:		Equipment Type:															
Material:	Volume:	Contents:															
<b>Notes/Conditions:</b> Soil sampling location.	<b>Notes/Conditions:</b> Soil sampling locations.																





## Photographic Log

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





## Photographic Log

							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:		Contents:		Contents:		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: Background soil samples.			





## Photographic Log

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



					
<p>             ☼ 127°SE (T)    ● 39°56'3"N, 104°48'15"W ±65ft    ▲ 5068ft           </p>					
<p> <b>Equipment ID:</b>      <b>Equipment Type:</b> </p>			<p> <b>Equipment ID:</b>      <b>Equipment Type:</b> </p>		
<p> <b>Material:</b>      <b>Volume:</b>      <b>Contents:</b> </p>		<p> <b>Material:</b>      <b>Volume:</b>      <b>Contents:</b> </p>			
<p> <b>Notes/Conditions:</b> Soil Sample Locations         </p>			<p> <b>Notes/Conditions:</b> Soil Sample Location         </p>		



								
<b>Equipment ID:</b>		<b>Equipment Type:</b>		<b>Equipment ID:</b>		<b>Equipment Type:</b>		
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>		<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>		
<b>Notes/Conditions:</b> Background Soil Sample Location				<b>Notes/Conditions:</b> Background Soil Sample Lithology				

**ATTACHMENT B**  
**LABORATORY ANALYTICAL DATA**

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 23, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

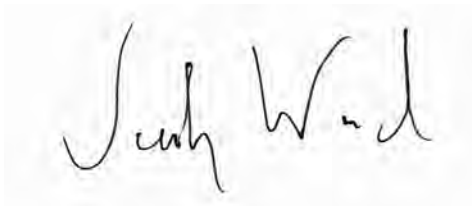
Broomfield, CO 80020

RE: Civitas - PC 1S-66-2928

Work Order #2403050

Enclosed are the results of analyses for samples received by Summit Scientific on 03/04/24 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood", is written on a light gray rectangular background.

Jacob Wood For Paul Shrewsbury

President





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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW-B01@2'	2403050-01	Soil	03/04/24 11:55	03/04/24 17:45
PW-B02@2'	2403050-02	Soil	03/04/24 12:00	03/04/24 17:45
PW-N01@1'	2403050-03	Soil	03/04/24 12:05	03/04/24 17:45
PW-S01@1'	2403050-04	Soil	03/04/24 12:10	03/04/24 17:45
PW-E01@1'	2403050-05	Soil	03/04/24 12:15	03/04/24 17:45
PW-E02@1'	2403050-06	Soil	03/04/24 12:20	03/04/24 17:45
PW-W01@1'	2403050-07	Soil	03/04/24 12:25	03/04/24 17:45
PW-W02@1'	2403050-08	Soil	03/04/24 12:30	03/04/24 17:45
BG01@1'	2403050-09	Soil	03/04/24 13:00	03/04/24 17:45
BG01@2'	2403050-10	Soil	03/04/24 13:05	03/04/24 17:45
BG02@1'	2403050-11	Soil	03/04/24 13:10	03/04/24 17:45
BG02@2'	2403050-12	Soil	03/04/24 13:15	03/04/24 17:45
BG03@1'	2403050-13	Soil	03/04/24 13:20	03/04/24 17:45
BG03@2'	2403050-14	Soil	03/04/24 13:25	03/04/24 17:45
BG04@1'	2403050-15	Soil	03/04/24 13:30	03/04/24 17:45
BG04@2'	2403050-16	Soil	03/04/24 13:35	03/04/24 17:45
BG05@1'	2403050-17	Soil	03/04/24 13:40	03/04/24 17:45
BG05@2'	2403050-18	Soil	03/04/24 13:45	03/04/24 17:45

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

# SUMMIT SCIENTIFIC

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 1 of 2
2403050.1	

Send Data To:		Send Invoice To:	
Client: Civitas/Tasman	Project Manager: Sam Vogt/Jacob Evans	Company:	
Address: 6855 W. 119th Ave	E-Mail: <del>svogt</del> @tasman-geo.com; jevans@civiresources.com	Project Name/Location:	
City/State/Zip: Broomfield, CO 80020		AFE#: 91427	
Phone: PM (610) 405-9078	Project Name: PC 15-66-2928	PO/Billing Codes: 8520.162	
Sampler Name: Sean Clarke	Project Number:	Contact:	

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	PAHs SAR	pH, EC, SAR	Boron	Metals PAHs	Arsenic	pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI
1	PW-BØ1@2'	3/4/24	11:55	2			X			X			X	X	X	X		X	X	X	
2	PW-BØ2@2'		12:00																		
3	PW-NØ1@1'		12:05																		
4	PW-SØ1@1'		12:10																		
5	PW-FØ1@1'		12:15																		
6	PW-FØ2@1'		12:20																		
7	PW-WØ1@1'		12:25																		
8	PW-WØ2@1'		12:30																		
9	BGØ1@1'		13:00													X		X		X	
10	BGØ1@2'		13:05																		
11	BGØ2@1'		13:10																		
12	BGØ2@2'		13:15																		
13	BGØ3@1'		13:20																		
14	BGØ3@2'		13:25																		
15	BGØ4@1'		13:30																		

Relinquished by: <i>Sean Clarke</i>	Date/Time: 3/4/24 15:30	Received by: Tasman Lockbox	Date/Time: 3/4/24 15:30	TAT Business Days	Field DO	Notes:	
				Same Day	X		Field EC
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 3/4/24 1745	Received by: <i>[Signature]</i>	Date/Time: 3/4/24 1745	1 Day			Field ORP
				2 Days			Field pH
				3 Days			Field Temp.
				Standard		Field Turb.	
Temperature Upon Receipt: 7.3	Corrected Temperature: <i>7.3</i>	IR gun #:		HNO3 lot #:			




# SUMMIT SCIENTIFIC

4653 Table Mountain Drive  
Golden, CO 80403  
303-277-9310

Lab ID	Page 2 of 2
2403050-2	

Send Data To:		Send Invoice To:	
Client: Civitas/Tasman		Project Manager: Sam Vogt/Jacob Evans	
Address: 6855 W. 119th Ave		E-Mail: <del>svogt</del> @tasman-geo.com; jevans@civiresources.com	
City/State/Zip: Broomfield, CO 80020		Company:	
Phone: PM (610) 405-9078		Project Name/Location:	
Sampler Name: Sean Clarke		AFE#: P1427	
Project Name: PC 15-66-2928		PO/Billing Codes: 8520.162	
Project Number:		Contact:	

					Preservative				Matrix			Analysis Requested							Special Instructions			
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	PAHs <sup>SC</sup> SAR	pH, EC, SAR	Boron	Metals	Arsenic	pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI	
1	BG 04@2'	3/4/24	13:35	2			X			X						X		X		X		
2	BG 05@1'	↓	13:40	↓			↓			↓						↓		↓		↓		
3	BG 05@2'	↓	13:45	↓			↓			↓						↓		↓		↓		
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: 	Date/Time: 3/4/24 15:30	Received by: Tasman Lockbox	Date/Time: 3/4/24 15:30	TAT Business Days	Field DO	Notes:
Relinquished by: 	Date/Time: 3/4/24 1745	Received by: 	Date/Time: 3/4/24 1745	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
				3 Days <input type="checkbox"/>	Field Temp.	
				Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: 7.5	Corrected Temperature: 8	IR gun #:	HNO3 lot #:			

S<sub>2</sub>

2/2

## Sample Receipt Checklist

S2 Work Order# 24 03050Client: CurstasmanClient Project ID: PC 15-666-2928Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Sol

Solid

☐

Water

☐

Other

☐

Temp (°C)

7.3

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>012CE</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>"</u>
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.

AS

Custodian Printed Name

3/4/24  
Date/Time





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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B01@2'**  
**2403050-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/04/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0323	80.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/05/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	11.5	92.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B01@2'**  
**2403050-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/06/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	64.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0236	70.7 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B01@2'**  
**2403050-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.49	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B01@2'**  
**2403050-01 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Sodium Adsorption Ratio</b>	<b>10.5</b>	0.00100	units	1	BHD0792	03/18/24	04/23/24	Calculation	

Summit Scientific

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B01@2'**  
**2403050-01 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Calcium</b>	<b>76.8</b>	0.0500		mg/L dry	1	BHD0638	03/05/24	04/22/24	EPA 6020B	
<b>Magnesium</b>	<b>13.0</b>	0.0500		"	"	"	"	"	"	
<b>Sodium</b>	<b>378</b>	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B02@2'**  
**2403050-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/04/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0313	78.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0433	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.98	79.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B02@2'**  
**2403050-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/06/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0206	61.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0245	73.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-B02@2'**  
**2403050-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.46	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.3	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	9.14	0.0500	"	"	"	"	"	"	
Sodium	119	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.08	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.5		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-N01@1'**  
**2403050-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/04/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0264	65.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0424	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.3	107 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-N01@1'**  
**2403050-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/06/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0224	67.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0299	89.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-N01@1'**  
**2403050-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.26	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	61.5	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	17.8	0.0500	"	"	"	"	"	"	
Sodium	85.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.48	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.8		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-S01@1'**  
**2403050-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/04/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0235	58.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0432	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-S01@1'**  
**2403050-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/06/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0209	62.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0277	83.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-S01@1'**  
**2403050-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.69	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	99.2	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	19.3	0.0500	"	"	"	"	"	"	
Sodium	47.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.13	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E01@1'**  
**2403050-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/05/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0227	56.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	96.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E01@1'**  
**2403050-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0163	48.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0229	68.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E01@1'**  
**2403050-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.16	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	593	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	101	0.0500	"	"	"	"	"	"	
Sodium	543	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.43	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E02@1'**  
**2403050-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/05/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0260	65.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0436	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.7	110 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E02@1'**  
**2403050-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0195	58.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0283	84.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/15/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-E02@1'**  
**2403050-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.80	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	95.9	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	15.2	0.0500	"	"	"	"	"	"	
Sodium	569	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	14.2	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.2		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W01@1'**  
**2403050-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/05/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0285	71.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0434	109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	100 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W01@1'**  
**2403050-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0270	80.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W01@1'**  
**2403050-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.39	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W01@1'**  
**2403050-07 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Sodium Adsorption Ratio</b>	<b>6.43</b>	0.00100	units	1	BHD0792	03/18/24	04/23/24	Calculation	

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W01@1'**  
**2403050-07 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Calcium</b>	<b>67.3</b>	0.0500		mg/L dry	1	BHD0638	03/05/24	04/22/24	EPA 6020B	
<b>Magnesium</b>	<b>24.9</b>	0.0500		"	"	"	"	"	"	
<b>Sodium</b>	<b>243</b>	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W02@1'**  
**2403050-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0061	03/04/24	03/05/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0285	71.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0425	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0063	03/04/24	03/04/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.3	82.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W02@1'**  
**2403050-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0079	03/05/24	03/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0170	51.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0241	72.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**PW-W02@1'**  
**2403050-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.67	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B
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**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.3	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	14.6	0.0500	"	"	"	"	"	"	
Sodium	23.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.657	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.6		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG01@1'**  
**2403050-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>4.93</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>47.6</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>5.80</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>4.98</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.181</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>84.8</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG01@2'**  
**2403050-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>2.61</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>43.1</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>5.83</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>8.18</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.310</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>92.6</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG02@1'**  
**2403050-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.39	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.9	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	7.94	0.0500	"	"	"	"	"	"	
Sodium	6.60	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.222	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.5		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG02@2'**  
**2403050-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>4.08</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>39.2</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>4.74</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>7.44</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.299</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>89.0</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG03@1'**  
**2403050-13 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>5.41</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>85.1</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>6.00</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>25.3</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.715</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.6</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG03@2'**  
**2403050-14 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>5.08</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>48.0</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>9.97</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>49.3</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>1.69</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>89.2</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG04@1'**  
**2403050-15 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.15	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	43.3	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	9.70	0.0500	"	"	"	"	"	"	
Sodium	30.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.10	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.3		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG04@2'**  
**2403050-16 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>4.84</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>25.7</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>4.52</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>45.9</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>2.20</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.4</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG05@1'**  
**2403050-17 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.21	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.5	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	4.87	0.0500	"	"	"	"	"	"	
Sodium	3.43	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.120	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.2		%	1	BHC0272	03/11/24	03/13/24	Calculation	

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**BG05@2'**  
**2403050-18 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/04/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0372	03/13/24	03/16/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/04/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	<b>3.83</b>	0.200	mg/kg dry	1	BHC0252	03/10/24	03/13/24	EPA 6020B	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **03/04/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	<b>39.4</b>	0.0500	mg/L dry	1	BHC0121	03/05/24	03/15/24	EPA 6020B	
Magnesium	<b>5.36</b>	0.0500	"	"	"	"	"	"	
Sodium	<b>3.62</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/04/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>0.144</b>	0.00100	units	1	BHC0635	03/18/24	03/18/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/04/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.4</b>		%	1	BHC0272	03/11/24	03/13/24	Calculation	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BHC0061 - EPA 5030 Soil MS

##### Blank (BHC0061-BLK1)

Prepared: 03/04/24 Analyzed: 03/05/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0288		"	0.0400		72.0	50-150			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

##### LCS (BHC0061-BS1)

Prepared: 03/04/24 Analyzed: 03/05/24

Benzene	0.116	0.0020	mg/kg	0.100		116	70-130			
Toluene	0.113	0.0050	"	0.100		113	70-130			
Ethylbenzene	0.107	0.0050	"	0.100		107	70-130			
m,p-Xylene	0.205	0.010	"	0.200		103	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.0987	0.0050	"	0.100		98.7	70-130			
Naphthalene	0.118	0.0038	"	0.100		118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0260		"	0.0400		65.1	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0423		"	0.0400		106	50-150			

##### Matrix Spike (BHC0061-MS1)

Source: 2403043-02

Prepared: 03/04/24 Analyzed: 03/05/24

Benzene	0.123	0.0020	mg/kg	0.100	0.00573	118	70-130			
Toluene	0.526	0.0050	"	0.100	0.134	392	70-130			QM-02
Ethylbenzene	0.128	0.0050	"	0.100	0.0254	103	70-130			
m,p-Xylene	1.11	0.010	"	0.200	0.418	345	70-130			QM-02
o-Xylene	0.289	0.0050	"	0.100	0.0955	193	70-130			QM-02
1,2,4-Trimethylbenzene	0.424	0.0050	"	0.100	0.206	219	70-130			QM-02
1,3,5-Trimethylbenzene	0.262	0.0050	"	0.100	0.154	108	70-130			
Naphthalene	0.147	0.0038	"	0.100	0.0310	115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0262		"	0.0400		65.5	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0483		"	0.0400		121	50-150			

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0061 - EPA 5030 Soil MS**

Matrix Spike Dup (BHC0061-MSD1)	Source: 2403043-02			Prepared: 03/04/24 Analyzed: 03/05/24						
Benzene	0.111	0.0020	mg/kg	0.100	0.00573	106	70-130	10.1	30	
Toluene	0.262	0.0050	"	0.100	0.134	128	70-130	67.0	30	QM-02
Ethylbenzene	0.106	0.0050	"	0.100	0.0254	80.8	70-130	18.9	30	
m,p-Xylene	0.631	0.010	"	0.200	0.418	107	70-130	54.9	30	QM-02
o-Xylene	0.190	0.0050	"	0.100	0.0955	94.4	70-130	41.4	30	QM-02
1,2,4-Trimethylbenzene	0.266	0.0050	"	0.100	0.206	60.3	70-130	45.8	30	QM-02
1,3,5-Trimethylbenzene	0.181	0.0050	"	0.100	0.154	27.2	70-130	36.6	30	QM-02
Naphthalene	0.252	0.0038	"	0.100	0.0310	221	70-130	53.1	30	QM-02
Surrogate: 1,2-Dichloroethane-d4	0.0261		"	0.0400		65.3	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		105	50-150			

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0063 - EPA 3550A**

**Blank (BHC0063-BLK1)**

Prepared & Analyzed: 03/04/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	7.12		"	12.5		56.9	30-150			

**LCS (BHC0063-BS1)**

Prepared & Analyzed: 03/04/24

C10-C28 (DRO)	394	50	mg/kg	500		78.7	70-130			
Surrogate: o-Terphenyl	14.4		"	12.5		115	30-150			

**Matrix Spike (BHC0063-MS1)**

Source: 2403043-01

Prepared: 03/04/24 Analyzed: 03/05/24

C10-C28 (DRO)	392	50	mg/kg	500	20.6	74.3	70-130			
Surrogate: o-Terphenyl	11.0		"	12.5		88.1	30-150			

**Matrix Spike Dup (BHC0063-MSD1)**

Source: 2403043-01

Prepared: 03/04/24 Analyzed: 03/05/24

C10-C28 (DRO)	400	50	mg/kg	500	20.6	75.9	70-130	2.04	20	
Surrogate: o-Terphenyl	8.15		"	12.5		65.2	30-150			

Summit Scientific

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

Project: Civitas - PC 1S-66-2928  
Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

### PAH by EPA Method 8270D SIM - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch BHC0079 - EPA 5030 Soil MS

##### Blank (BHC0079-BLK1)

Prepared: 03/05/24 Analyzed: 03/06/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0407		"	0.0333		122	40-150			
Surrogate: Fluoranthene-d10	0.0418		"	0.0333		125	40-150			

##### LCS (BHC0079-BS1)

Prepared: 03/05/24 Analyzed: 03/06/24

Acenaphthene	0.0351	0.00500	mg/kg	0.0333	105	31-137
Anthracene	0.0381	0.00500	"	0.0333	114	30-120
Benzo (a) anthracene	0.0356	0.00500	"	0.0333	107	30-120
Benzo (a) pyrene	0.0370	0.00500	"	0.0333	111	30-120
Benzo (b) fluoranthene	0.0374	0.00500	"	0.0333	112	30-120
Benzo (k) fluoranthene	0.0370	0.00500	"	0.0333	111	30-120
Chrysene	0.0393	0.00500	"	0.0333	118	30-120
Dibenz (a,h) anthracene	0.0333	0.00500	"	0.0333	100	30-120
Fluoranthene	0.0374	0.00500	"	0.0333	112	30-120
Fluorene	0.0211	0.00500	"	0.0333	63.2	30-120
Indeno (1,2,3-cd) pyrene	0.0293	0.00500	"	0.0333	87.9	30-120
Pyrene	0.0425	0.00500	"	0.0333	127	35-142
1-Methylnaphthalene	0.0420	0.00500	"	0.0333	126	35-142
2-Methylnaphthalene	0.0232	0.00500	"	0.0333	69.5	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0402		"	0.0333	121	40-150
Surrogate: Fluoranthene-d10	0.0379		"	0.0333	114	40-150

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

#### Batch BHC0079 - EPA 5030 Soil MS

##### Matrix Spike (BHC0079-MS1)

Source: 2403042-01

Prepared: 03/05/24 Analyzed: 03/06/24

Acenaphthene	0.0253	0.00500	mg/kg	0.0333	ND	75.8	31-137		
Anthracene	0.0280	0.00500	"	0.0333	ND	84.0	30-120		
Benzo (a) anthracene	0.0292	0.00500	"	0.0333	ND	87.6	30-120		
Benzo (a) pyrene	0.0222	0.00500	"	0.0333	ND	66.7	30-120		
Benzo (b) fluoranthene	0.0228	0.00500	"	0.0333	ND	68.3	30-120		
Benzo (k) fluoranthene	0.0240	0.00500	"	0.0333	ND	72.0	30-120		
Chrysene	0.0288	0.00500	"	0.0333	ND	86.4	30-120		
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333	ND	60.6	30-120		
Fluoranthene	0.0294	0.00500	"	0.0333	ND	88.1	30-120		
Fluorene	0.0311	0.00500	"	0.0333	ND	93.3	30-120		
Indeno (1,2,3-cd) pyrene	0.0198	0.00500	"	0.0333	ND	59.5	30-120		
Pyrene	0.0305	0.00500	"	0.0333	ND	91.4	35-142		
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.4	15-130		
2-Methylnaphthalene	0.0321	0.00500	"	0.0333	ND	96.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.6	40-150		
Surrogate: Fluoranthene-d10	0.0296		"	0.0333		88.8	40-150		

##### Matrix Spike Dup (BHC0079-MSD1)

Source: 2403042-01

Prepared: 03/05/24 Analyzed: 03/06/24

Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.8	31-137	9.63	30
Anthracene	0.0239	0.00500	"	0.0333	ND	71.7	30-120	15.9	30
Benzo (a) anthracene	0.0247	0.00500	"	0.0333	ND	74.2	30-120	16.6	30
Benzo (a) pyrene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	12.9	30
Benzo (b) fluoranthene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	11.5	30
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	16.0	30
Chrysene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	19.3	30
Dibenz (a,h) anthracene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	12.4	30
Fluoranthene	0.0243	0.00500	"	0.0333	ND	72.8	30-120	18.9	30
Fluorene	0.0270	0.00500	"	0.0333	ND	80.9	30-120	14.3	30
Indeno (1,2,3-cd) pyrene	0.0181	0.00500	"	0.0333	ND	54.4	30-120	8.94	30
Pyrene	0.0257	0.00500	"	0.0333	ND	77.2	35-142	16.8	30
1-Methylnaphthalene	0.0257	0.00500	"	0.0333	ND	77.2	15-130	6.43	50
2-Methylnaphthalene	0.0305	0.00500	"	0.0333	ND	91.6	15-130	5.11	50
Surrogate: 2-Methylnaphthalene-d10	0.0258		"	0.0333		77.5	40-150		
Surrogate: Fluoranthene-d10	0.0248		"	0.0333		74.3	40-150		

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0372 - EPA 3050B**

**Blank (BHC0372-BLK1)**

Prepared: 03/13/24 Analyzed: 03/15/24

Boron ND 2.00 mg/L

**LCS (BHC0372-BS1)**

Prepared: 03/13/24 Analyzed: 03/15/24

Boron 5.06 2.00 mg/L 5.00 101 80-120

**Duplicate (BHC0372-DUP1)**

Source: 2402524-01

Prepared: 03/13/24 Analyzed: 03/15/24

Boron 0.0867 2.00 mg/L 0.0673 25.2 20 QR-01

**Matrix Spike (BHC0372-MS1)**

Source: 2402524-01

Prepared: 03/13/24 Analyzed: 03/15/24

Boron 4.52 2.00 mg/L 5.00 0.0673 89.1 75-125

**Matrix Spike Dup (BHC0372-MSD1)**

Source: 2402524-01

Prepared: 03/13/24 Analyzed: 03/15/24

Boron 5.17 2.00 mg/L 5.00 0.0673 102 75-125 13.4 25

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0252 - EPA 3050B**

**Blank (BHC0252-BLK1)**

Prepared: 03/10/24 Analyzed: 03/13/24

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

**LCS (BHC0252-BS1)**

Prepared: 03/10/24 Analyzed: 03/13/24

Arsenic	40.1	0.200	mg/kg wet	40.0	100	80-120
Barium	40.6	0.400	"	40.0	101	80-120
Cadmium	2.06	0.200	"	2.00	103	80-120
Copper	43.4	0.400	"	40.0	109	80-120
Lead	20.4	0.200	"	20.0	102	80-120
Nickel	42.7	0.400	"	40.0	107	80-120
Silver	2.04	0.0200	"	2.00	102	80-120
Zinc	43.2	0.400	"	40.0	108	80-120
Selenium	4.75	0.260	"	4.00	119	80-120

**Duplicate (BHC0252-DUP1)**

Source: 2402485-01

Prepared: 03/10/24 Analyzed: 03/13/24

Arsenic	2.32	0.200	mg/kg dry	2.25	3.04	20
Barium	55.6	0.400	"	51.8	7.15	20
Cadmium	0.531	0.200	"	0.557	4.85	20
Copper	8.70	0.400	"	8.68	0.223	20
Lead	22.8	0.200	"	16.2	33.9	20
Nickel	3.23	0.400	"	3.20	1.04	20
Silver	0.124	0.0200	"	0.125	0.709	20
Zinc	31.8	0.400	"	31.4	1.22	20
Selenium	ND	0.260	"	ND		20

QR-04

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0252 - EPA 3050B**

**Matrix Spike (BHC0252-MS1)**

Source: 2402485-01

Prepared: 03/10/24 Analyzed: 03/13/24

Arsenic	48.6	0.200	mg/kg dry	44.0	2.25	105	75-125			
Barium	100	0.400	"	44.0	51.8	110	75-125			
Cadmium	2.92	0.200	"	2.20	0.557	107	75-125			
Copper	40.8	0.400	"	44.0	8.68	73.1	75-125			QM-05
Lead	41.6	0.200	"	22.0	16.2	115	75-125			
Nickel	33.9	0.400	"	44.0	3.20	69.7	75-125			QM-05
Silver	2.39	0.0200	"	2.20	0.125	103	75-125			
Zinc	65.8	0.400	"	44.0	31.4	78.2	75-125			
Selenium	4.89	0.260	"	4.40	ND	111	75-125			

**Matrix Spike Dup (BHC0252-MSD1)**

Source: 2402485-01

Prepared: 03/10/24 Analyzed: 03/13/24

Arsenic	46.8	0.200	mg/kg dry	44.0	2.25	101	75-125	3.96	25	
Barium	97.0	0.400	"	44.0	51.8	103	75-125	3.46	25	
Cadmium	2.82	0.200	"	2.20	0.557	103	75-125	3.61	25	
Copper	41.2	0.400	"	44.0	8.68	73.9	75-125	0.876	25	QM-05
Lead	40.4	0.200	"	22.0	16.2	110	75-125	2.96	25	
Nickel	34.1	0.400	"	44.0	3.20	70.3	75-125	0.839	25	QM-05
Silver	2.32	0.0200	"	2.20	0.125	99.9	75-125	2.95	25	
Zinc	65.9	0.400	"	44.0	31.4	78.4	75-125	0.189	25	
Selenium	4.67	0.260	"	4.40	ND	106	75-125	4.75	25	

Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0121 - General Preparation**

**Blank (BHC0121-BLK1)**

Prepared: 03/05/24 Analyzed: 03/15/24

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BHC0121-BS1)**

Prepared: 03/05/24 Analyzed: 03/15/24

Calcium	5.73	0.0500	mg/L wet	5.00	115	70-130
Magnesium	5.47	0.0500	"	5.00	109	70-130
Sodium	5.36	0.0500	"	5.00	107	70-130

**Batch BHD0638 - General Preparation**

**Blank (BHD0638-BLK1)**

Prepared: 04/18/24 Analyzed: 04/22/24

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

**LCS (BHD0638-BS1)**

Prepared: 04/18/24 Analyzed: 04/22/24

Calcium	4.29	0.0500	mg/L wet	5.00	85.7	70-130
Magnesium	5.22	0.0500	"	5.00	104	70-130
Sodium	5.02	0.0500	"	5.00	100	70-130

Summit Scientific

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

Project: Civitas - PC IS-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

**Batch BHC0272 - General Preparation**

**Duplicate (BHC0272-DUP1)**

**Source: 2402485-01**

Prepared: 03/11/24 Analyzed: 03/13/24

% Solids	92.0	%	90.9	1.24	20
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Summit Scientific

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

Project: Civitas - PC 1S-66-2928

Project Number: P1427  
Project Manager: Sam Vogt

**Reported:**  
04/23/24 11:13

### Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference



May 31, 2024

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## Civitas - CO

Sample Delivery Group: L1738254  
Samples Received: 05/18/2024  
Project Number: P1427  
Description: PC 1S-66-2928

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 National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [mydata.pacelabs.com](https://mydata.pacelabs.com)

# TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	5
Sr: Sample Results	6
PW-B01@3' L1738254-01	6
PW-E03@1' L1738254-02	8
PW-W03@2' L1738254-03	10
BG06@3' L1738254-04	12
BG07@3' L1738254-05	13
BG08@3' L1738254-06	14
BG09@3' L1738254-07	15
BG10@3' L1738254-08	16
Qc: Quality Control Summary	17
Metals (ICP) by Method 6010B-NE493 Ch 2	17
Metals (ICPMS) by Method 6020	20
Volatile Organic Compounds (GC) by Method 8015D/GRO	21
Volatile Organic Compounds (GC/MS) by Method 8260B	22
Semi-Volatile Organic Compounds (GC) by Method 8015M	23
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	25
Gl: Glossary of Terms	27
Al: Accreditations & Locations	28
Sc: Sample Chain of Custody	29

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

# SAMPLE SUMMARY

## PW-B01@3' L1738254-01 Solid

Collected by Ben Long  
Collected date/time 05/17/24 09:00  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292095	1	05/29/24 21:00	05/29/24 21:00	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292101	1	05/30/24 12:05	05/31/24 10:20	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:38	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2291064	1.01	05/22/24 23:24	05/23/24 09:27	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2293465	1.01	05/22/24 23:24	05/28/24 04:01	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2293581	1	05/28/24 19:58	05/29/24 12:38	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2294366	1	05/28/24 16:03	05/29/24 05:47	DSH	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## PW-E03@1' L1738254-02 Solid

Collected by Ben Long  
Collected date/time 05/17/24 09:05  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292111	1	05/29/24 16:07	05/29/24 16:07	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292109	1	05/29/24 07:52	05/29/24 13:20	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:41	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2291064	1.01	05/22/24 23:24	05/23/24 10:09	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2293465	1	05/22/24 23:24	05/28/24 04:20	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2293581	1	05/28/24 19:58	05/29/24 12:11	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2294366	1	05/28/24 16:03	05/29/24 06:05	DSH	Mt. Juliet, TN

## PW-W03@2' L1738254-03 Solid

Collected by Ben Long  
Collected date/time 05/17/24 09:10  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292095	1	05/29/24 21:04	05/29/24 21:04	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292101	1	05/30/24 12:05	05/31/24 10:22	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:44	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2291064	1	05/22/24 23:24	05/23/24 10:33	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2293465	1.01	05/22/24 23:24	05/28/24 04:39	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015M	WG2294624	1	05/29/24 10:25	05/29/24 21:06	JAS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG2294366	1	05/28/24 16:03	05/29/24 06:22	DSH	Mt. Juliet, TN

## BG06@3' L1738254-04 Solid

Collected by Ben Long  
Collected date/time 05/17/24 10:00  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292099	1	05/30/24 12:46	05/30/24 12:46	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292103	1	05/29/24 11:59	05/29/24 17:06	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:48	LD	Mt. Juliet, TN

## BG07@3' L1738254-05 Solid

Collected by Ben Long  
Collected date/time 05/17/24 10:05  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292099	1	05/30/24 12:49	05/30/24 12:49	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292103	1	05/29/24 11:59	05/29/24 17:16	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:51	LD	Mt. Juliet, TN

# SAMPLE SUMMARY

## BG08@3' L1738254-06 Solid

Collected by Ben Long  
Collected date/time 05/17/24 10:10  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292111	1	05/29/24 16:09	05/29/24 16:09	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292109	1	05/29/24 07:52	05/29/24 13:24	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:54	LD	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

## BG09@3' L1738254-07 Solid

Collected by Ben Long  
Collected date/time 05/17/24 10:15  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292095	1	05/29/24 21:07	05/29/24 21:07	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292101	1	05/30/24 12:05	05/31/24 10:24	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 15:58	LD	Mt. Juliet, TN

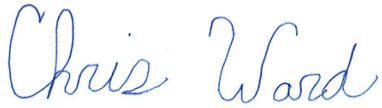
## BG10@3' L1738254-08 Solid

Collected by Ben Long  
Collected date/time 05/17/24 10:20  
Received date/time 05/18/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2292095	1	05/29/24 18:05	05/29/24 18:05	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010B-NE493 Ch 2	WG2292101	1	05/30/24 12:05	05/31/24 10:25	JTM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2290498	5	05/29/24 08:21	05/29/24 16:01	LD	Mt. Juliet, TN

# CASE NARRATIVE

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



Chris Ward  
Project Manager



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.37		1	05/29/2024 21:00	WG2292095

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.280		0.0167	0.200	1	05/31/2024 10:20	<a href="#">WG2292101</a>

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.34		0.100	1.00	5	05/29/2024 15:38	<a href="#">WG2290498</a>

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	0.0375	<a href="#">B J</a>	0.0219	0.101	1.01	05/23/2024 09:27	<a href="#">WG2291064</a>
(S) a,a,a-Trifluorotoluene(FID)	89.2			77.0-120		05/23/2024 09:27	<a href="#">WG2291064</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	U		0.000472	0.00101	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
Toluene	U		0.00131	0.00505	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
Ethylbenzene	U		0.000744	0.00253	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
Xylenes, Total	U		0.000889	0.00656	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
1,2,4-Trimethylbenzene	U		0.00160	0.00505	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
1,3,5-Trimethylbenzene	U		0.00202	0.00505	1.01	05/28/2024 04:01	<a href="#">WG2293465</a>
(S) Toluene-d8	101			75.0-131		05/28/2024 04:01	<a href="#">WG2293465</a>
(S) 4-Bromofluorobenzene	108			67.0-138		05/28/2024 04:01	<a href="#">WG2293465</a>
(S) 1,2-Dichloroethane-d4	92.8			70.0-130		05/28/2024 04:01	<a href="#">WG2293465</a>

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	5.26		1.61	4.00	1	05/29/2024 12:38	<a href="#">WG2293581</a>
C28-C36 Motor Oil Range	9.67		0.274	4.00	1	05/29/2024 12:38	<a href="#">WG2293581</a>
(S) o-Terphenyl	32.9			18.0-148		05/29/2024 12:38	<a href="#">WG2293581</a>

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

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.00209	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Anthracene	U		0.00230	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Chrysene	U		0.00232	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Fluoranthene	U		0.00227	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Fluorene	U		0.00205	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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
1-Methylnaphthalene	U		0.00449	0.0200	1	05/29/2024 05:47	<a href="#">WG2294366</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Naphthalene	U		0.00408	0.0200	1	05/29/2024 05:47	<a href="#">WG2294366</a>
Pyrene	U		0.00200	0.00600	1	05/29/2024 05:47	<a href="#">WG2294366</a>
(S) p-Terphenyl-d14	82.6			23.0-120		05/29/2024 05:47	<a href="#">WG2294366</a>
(S) Nitrobenzene-d5	88.4			14.0-149		05/29/2024 05:47	<a href="#">WG2294366</a>
(S) 2-Fluorobiphenyl	83.8			34.0-125		05/29/2024 05:47	<a href="#">WG2294366</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	1.07		1	05/29/2024 16:07	WG2292111

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

	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Analyte							
Hot Water Sol. Boron	0.389		0.0167	0.200	1	05/29/2024 13:20	<a href="#">WG2292109</a>

Metals (ICPMS) by Method 6020

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Arsenic	2.71		0.100	1.00	5	05/29/2024 15:41	<a href="#">WG2290498</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
TPH (GC/FID) Low Fraction	0.0314	<a href="#">B J</a>	0.0219	0.101	1.01	05/23/2024 10:09	<a href="#">WG2291064</a>
(S) a,a,a-Trifluorotoluene(FID)	89.3			77.0-120		05/23/2024 10:09	<a href="#">WG2291064</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Benzene	U		0.000467	0.00100	1	05/28/2024 04:20	<a href="#">WG2293465</a>
Toluene	U		0.00130	0.00500	1	05/28/2024 04:20	<a href="#">WG2293465</a>
Ethylbenzene	U		0.000737	0.00250	1	05/28/2024 04:20	<a href="#">WG2293465</a>
Xylenes, Total	U		0.000880	0.00650	1	05/28/2024 04:20	<a href="#">WG2293465</a>
1,2,4-Trimethylbenzene	U		0.00158	0.00500	1	05/28/2024 04:20	<a href="#">WG2293465</a>
1,3,5-Trimethylbenzene	U		0.00200	0.00500	1	05/28/2024 04:20	<a href="#">WG2293465</a>
(S) Toluene-d8	101			75.0-131		05/28/2024 04:20	<a href="#">WG2293465</a>
(S) 4-Bromofluorobenzene	103			67.0-138		05/28/2024 04:20	<a href="#">WG2293465</a>
(S) 1,2-Dichloroethane-d4	98.6			70.0-130		05/28/2024 04:20	<a href="#">WG2293465</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
C10-C28 Diesel Range	U		1.61	4.00	1	05/29/2024 12:11	<a href="#">WG2293581</a>
C28-C36 Motor Oil Range	1.39	<a href="#">B J</a>	0.274	4.00	1	05/29/2024 12:11	<a href="#">WG2293581</a>
(S) o-Terphenyl	34.0			18.0-148		05/29/2024 12:11	<a href="#">WG2293581</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Acenaphthene	U		0.00209	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Anthracene	U		0.00230	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Chrysene	U		0.00232	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Fluoranthene	U		0.00227	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Fluorene	U		0.00205	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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
1-Methylnaphthalene	U		0.00449	0.0200	1	05/29/2024 06:05	<a href="#">WG2294366</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Naphthalene	U		0.00408	0.0200	1	05/29/2024 06:05	<a href="#">WG2294366</a>
Pyrene	U		0.00200	0.00600	1	05/29/2024 06:05	<a href="#">WG2294366</a>
(S) p-Terphenyl-d14	79.6			23.0-120		05/29/2024 06:05	<a href="#">WG2294366</a>
(S) Nitrobenzene-d5	87.8			14.0-149		05/29/2024 06:05	<a href="#">WG2294366</a>
(S) 2-Fluorobiphenyl	83.3			34.0-125		05/29/2024 06:05	<a href="#">WG2294366</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Calculated Results

	Result	Qualifier	Dilution	Analysis date / time	Batch
Analyte					
Sodium Adsorption Ratio	3.94		1	05/29/2024 21:04	WG2292095

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

	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Analyte							
Hot Water Sol. Boron	0.259		0.0167	0.200	1	05/31/2024 10:22	<a href="#">WG2292101</a>

Metals (ICPMS) by Method 6020

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Arsenic	1.99		0.100	1.00	5	05/29/2024 15:44	<a href="#">WG2290498</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
TPH (GC/FID) Low Fraction	0.0409	<a href="#">B J</a>	0.0217	0.100	1	05/23/2024 10:33	<a href="#">WG2291064</a>
(S) a,a,a-Trifluorotoluene(FID)	89.3			77.0-120		05/23/2024 10:33	<a href="#">WG2291064</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Benzene	U		0.000472	0.00101	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
Toluene	U		0.00131	0.00505	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
Ethylbenzene	U		0.000744	0.00253	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
Xylenes, Total	U		0.000889	0.00656	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
1,2,4-Trimethylbenzene	U		0.00160	0.00505	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
1,3,5-Trimethylbenzene	U		0.00202	0.00505	1.01	05/28/2024 04:39	<a href="#">WG2293465</a>
(S) Toluene-d8	101			75.0-131		05/28/2024 04:39	<a href="#">WG2293465</a>
(S) 4-Bromofluorobenzene	106			67.0-138		05/28/2024 04:39	<a href="#">WG2293465</a>
(S) 1,2-Dichloroethane-d4	91.9			70.0-130		05/28/2024 04:39	<a href="#">WG2293465</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
C10-C28 Diesel Range	U		1.61	4.00	1	05/29/2024 21:06	<a href="#">WG2294624</a>
C28-C36 Motor Oil Range	1.29	<a href="#">B J</a>	0.274	4.00	1	05/29/2024 21:06	<a href="#">WG2294624</a>
(S) o-Terphenyl	23.7			18.0-148		05/29/2024 21:06	<a href="#">WG2294624</a>

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

	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Analyte							
Acenaphthene	U		0.00209	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Anthracene	U		0.00230	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Benzo(a)anthracene	U		0.00173	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Benzo(b)fluoranthene	U		0.00153	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Benzo(k)fluoranthene	U		0.00215	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Benzo(a)pyrene	U		0.00179	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Chrysene	U		0.00232	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Dibenz(a,h)anthracene	U		0.00172	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Fluoranthene	U		0.00227	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Fluorene	U		0.00205	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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
1-Methylnaphthalene	U		0.00449	0.0200	1	05/29/2024 06:22	<a href="#">WG2294366</a>
2-Methylnaphthalene	U		0.00427	0.0200	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Naphthalene	U		0.00408	0.0200	1	05/29/2024 06:22	<a href="#">WG2294366</a>
Pyrene	U		0.00200	0.00600	1	05/29/2024 06:22	<a href="#">WG2294366</a>
(S) p-Terphenyl-d14	81.7			23.0-120		05/29/2024 06:22	<a href="#">WG2294366</a>
(S) Nitrobenzene-d5	86.7			14.0-149		05/29/2024 06:22	<a href="#">WG2294366</a>
(S) 2-Fluorobiphenyl	83.8			34.0-125		05/29/2024 06:22	<a href="#">WG2294366</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.41		1	05/30/2024 12:46	WG2292099

1  
Cp

2  
Tc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.484		0.0167	0.200	1	05/29/2024 17:06	<a href="#">WG2292103</a>

3  
Ss

4  
Cn

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.40		0.100	1.00	5	05/29/2024 15:48	<a href="#">WG2290498</a>

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc



Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	1.32		1	05/30/2024 12:49	WG2292099

1  
Cp

2  
Tc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.410		0.0167	0.200	1	05/29/2024 17:16	<a href="#">WG2292103</a>

3  
Ss

4  
Cn

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.66		0.100	1.00	5	05/29/2024 15:51	<a href="#">WG2290498</a>

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.86		1	05/29/2024 16:09	WG2292111

1  
Cp

2  
Tc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.521		0.0167	0.200	1	05/29/2024 13:24	<a href="#">WG2292109</a>

3  
Ss

4  
Cn

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.31		0.100	1.00	5	05/29/2024 15:54	<a href="#">WG2290498</a>

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.10		1	05/29/2024 21:07	WG2292095

1  
Cp

2  
Tc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.208		0.0167	0.200	1	05/31/2024 10:24	<a href="#">WG2292101</a>

3  
Ss

4  
Cn

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	1.33		0.100	1.00	5	05/29/2024 15:58	<a href="#">WG2290498</a>

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	3.24		1	05/29/2024 18:05	WG2292095

1  
Cp

2  
Tc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Hot Water Sol. Boron	0.254		0.0167	0.200	1	05/31/2024 10:25	<a href="#">WG2292101</a>

3  
Ss

4  
Cn

Metals (ICPMS) by Method 6020

Analyte	Result mg/kg	Qualifier	MDL mg/kg	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.28		0.100	1.00	5	05/29/2024 16:01	<a href="#">WG2290498</a>

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

Method Blank (MB)

(MB) R4075773-1 05/31/24 09:54

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

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

(LCS) R4075773-2 05/31/24 09:56 • (LCSD) R4075773-3 05/31/24 09:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.00	1.01	100	101	80.0-120			0.116	20

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4075159-1 05/29/24 16:35

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

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

(LCS) R4075159-2 05/29/24 16:38 • (LCSD) R4075159-3 05/29/24 16:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.10	1.11	110	111	80.0-120			0.823	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R4074972-1 05/29/24 13:00

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

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

(LCS) R4074972-2 05/29/24 13:03 • (LCSD) R4074972-3 05/29/24 13:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hot Water Sol. Boron	1.00	1.13	1.15	113	115	80.0-120			1.45	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R4075046-1 05/29/24 14:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00

Laboratory Control Sample (LCS)

(LCS) R4075046-2 05/29/24 14:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	105	105	80.0-120	

L1738178-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1738178-09 05/29/24 14:58 • (MS) R4075046-5 05/29/24 15:08 • (MSD) R4075046-6 05/29/24 15:11

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	100	7.65	111	99.8	103	92.1	5	75.0-125			10.6	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4073319-2 05/23/24 02:48

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	0.0246	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	91.0			77.0-120

Laboratory Control Sample (LCS)

(LCS) R4073319-1 05/23/24 01:17

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.00	4.72	94.4	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			98.9	77.0-120	

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4075197-3 05/27/24 22:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000467	0.00100
Toluene	U		0.00130	0.00500
Ethylbenzene	U		0.000737	0.00250
Xylenes, Total	U		0.000880	0.00650
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
(S) Toluene-d8	100			75.0-131
(S) 4-Bromofluorobenzene	106			67.0-138
(S) 1,2-Dichloroethane-d4	99.1			70.0-130

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

(LCS) R4075197-1 05/27/24 21:04 • (LCSD) R4075197-2 05/27/24 21:23

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	0.111	0.113	88.8	90.4	70.0-123			1.79	20
Toluene	0.125	0.113	0.110	90.4	88.0	75.0-121			2.69	20
Ethylbenzene	0.125	0.117	0.117	93.6	93.6	74.0-126			0.000	20
Xylenes, Total	0.375	0.344	0.345	91.7	92.0	72.0-127			0.290	20
1,2,4-Trimethylbenzene	0.125	0.107	0.107	85.6	85.6	70.0-126			0.000	20
1,3,5-Trimethylbenzene	0.125	0.111	0.109	88.8	87.2	73.0-127			1.82	20
(S) Toluene-d8				99.7	98.6	75.0-131				
(S) 4-Bromofluorobenzene				103	107	67.0-138				
(S) 1,2-Dichloroethane-d4				96.0	99.4	70.0-130				

1  
Cp

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Tc

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Ss

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Cn

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Qc

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Sc

Method Blank (MB)

(MB) R4075038-1 05/29/24 09:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.294	⬇	0.274	4.00
(S) o-Terphenyl	50.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4075038-2 05/29/24 10:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	34.4	68.8	50.0-150	
(S) o-Terphenyl			53.5	18.0-148	

L1738760-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1738760-08 05/29/24 11:32 • (MS) R4075038-3 05/29/24 11:45 • (MSD) R4075038-4 05/29/24 11:58

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.7	U	28.4	28.5	57.1	58.2	1	50.0-150			0.351	20
(S) o-Terphenyl					46.7	44.2		18.0-148				

1  
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R4075135-1 05/29/24 17:51

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C36 Motor Oil Range	0.470	⬇	0.274	4.00
(S) o-Terphenyl	43.1			18.0-148

Laboratory Control Sample (LCS)

(LCS) R4075135-2 05/29/24 18:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	33.4	66.8	50.0-150	
(S) o-Terphenyl			49.7	18.0-148	

L1738703-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1738703-01 05/29/24 20:14 • (MS) R4075135-3 05/29/24 20:27 • (MSD) R4075135-4 05/29/24 20:40

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	49.0	33.7	76.1	76.2	86.5	86.4	1	50.0-150			0.131	20
(S) o-Terphenyl					30.7	30.2		18.0-148				

1  
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc



Method Blank (MB)

(MB) R4074890-2 05/29/24 01:23

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acenaphthene	U		0.00209	0.00600
Anthracene	U		0.00230	0.00600
Benzo(a)anthracene	U		0.00173	0.00600
Benzo(b)fluoranthene	U		0.00153	0.00600
Benzo(k)fluoranthene	U		0.00215	0.00600
Benzo(a)pyrene	U		0.00179	0.00600
Chrysene	U		0.00232	0.00600
Dibenz(a,h)anthracene	U		0.00172	0.00600
Fluoranthene	U		0.00227	0.00600
Fluorene	U		0.00205	0.00600
Indeno(1,2,3-cd)pyrene	U		0.00181	0.00600
1-Methylnaphthalene	U		0.00449	0.0200
2-Methylnaphthalene	U		0.00427	0.0200
Naphthalene	U		0.00408	0.0200
Pyrene	U		0.00200	0.00600
(S) p-Terphenyl-d14	86.6			23.0-120
(S) Nitrobenzene-d5	92.7			14.0-149
(S) 2-Fluorobiphenyl	85.6			34.0-125

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS)

(LCS) R4074890-1 05/29/24 01:06

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0800	0.0634	79.3	50.0-120	
Anthracene	0.0800	0.0645	80.6	50.0-126	
Benzo(a)anthracene	0.0800	0.0658	82.3	45.0-120	
Benzo(b)fluoranthene	0.0800	0.0637	79.6	42.0-121	
Benzo(k)fluoranthene	0.0800	0.0600	75.0	49.0-125	
Benzo(a)pyrene	0.0800	0.0568	71.0	42.0-120	
Chrysene	0.0800	0.0670	83.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0644	80.5	47.0-125	
Fluoranthene	0.0800	0.0675	84.4	49.0-129	
Fluorene	0.0800	0.0666	83.3	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0603	75.4	46.0-125	
1-Methylnaphthalene	0.0800	0.0678	84.8	51.0-121	
2-Methylnaphthalene	0.0800	0.0674	84.3	50.0-120	
Naphthalene	0.0800	0.0635	79.4	50.0-120	
Pyrene	0.0800	0.0667	83.4	43.0-123	

${}^1\text{Cp}$  ${}^2\text{Tc}$  $^3S_s$  ${}^4\text{Cn}$  ${}^5\text{Sr}$  ${}^6\text{Qc}$ 

GI

 ${}^8\text{Al}$ <sup>9</sup>Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

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

### Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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 <sup>1 6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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]