

# **Helming (OWP) 43-19**

NESE Sec. 19-T3S-R62W

API #: 001-09548

Remediation Project #: 32255

Wellhead Decommissioning Package

December 2023

Prepared by Tasman, Inc.



On behalf of Painted Pegasus Petroleum LLC

## **FIELD NOTES AND PHOTO LOG**

SITE NAME: Helming (OWP) 43-19								DATE: 12/6/2023		REM. PROJECT #: 32255		WEATHER: 70F, Sunny	
SITE DIRECTIONS: Wolf Creek Rd. & E 26th Ave, N 1.5 mi, W 0.125 mi INTO								CLIENT: Painted Pegasus Petroleum LLC					
LEGALS AND LAT/LONG: 39.772690, -104.360480								TASMAN PERSONNEL: Daniel Hensel					
SOIL TYPES: CL - lean clay								SURFACE GRADIENT: Southeast					
SURROUNDING LAND USE: Cropland								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)					
12/6/2023 12:39	WH-B01@7'	5.4	No Staining	No Odor	Y	CL	Y	Produced Water Vessel (PWV)					
12/6/2023 12:43	WH-N01@6'	5.3	No Staining	No Odor	Y	CL	N	Separator (SEP)					
12/6/2023 12:46	WH-S01@6'	14.5	No Staining	Slight HC Od	Y	CL	Y	Emission Control Device (ECD)					
12/6/2023 12:49	WH-E01@6'	4.5	No Staining	No Odor	Y	CL	N	Dump Line (DL)					
12/6/2023 12:51	WH-W01@6'	3.7	No Staining	No Odor	Y	CL	N	Wellhead (WH)		1			
12/6/2023 12:56	SP-CS01	3.6	No Staining	No Odor	N	SW	Y	Flowline (FL)					
								FL Method of Closure					
								FL Footage Removed					
								Footaged Abandoned in Place					
								Other:					
								Soil Loads Removed					
								IMPACTED SOIL IDENTIFIED?					
								ESTIMATED VOLUME OF IMPACTS:					
								Date		Number	CY		
								Total Removed		0	0		
								Disposal Facility:					
								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

 <p>06 Dec 2023, 13:05:44</p>			 <p>06 Dec 2023, 13:05:58</p>		
<b>Equipment ID:</b>			<b>Equipment Type:</b>		
<b>Material:</b>		<b>Volume:</b>	<b>Material:</b>		<b>Volume:</b>
<b>Contents:</b>			<b>Contents:</b>		
<b>Notes/Conditions:</b> Surrounding land use facing N			<b>Notes/Conditions:</b> Surrounding land use facing S		





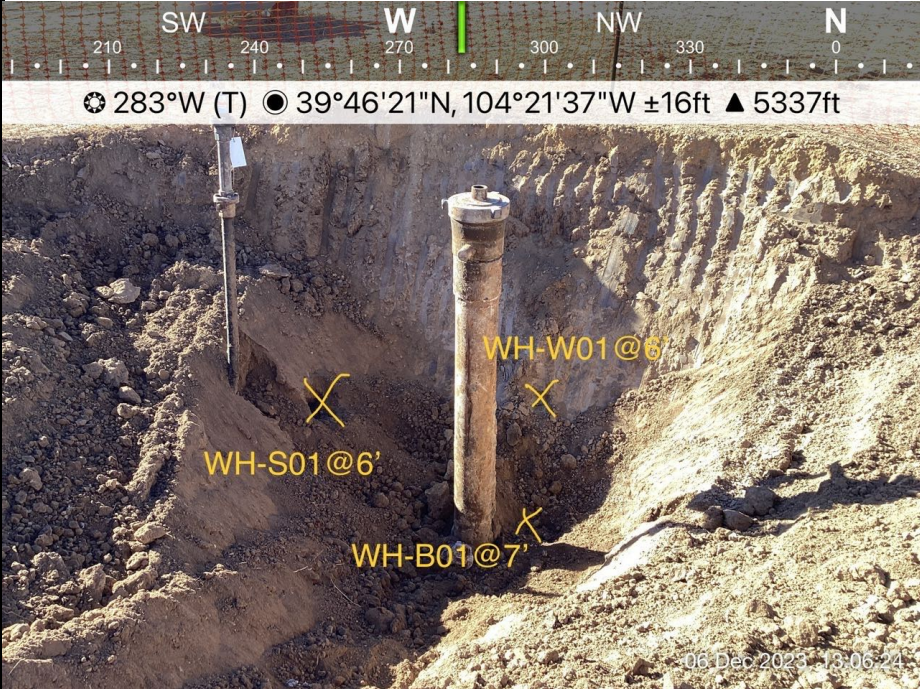

## Photographic Log

90°E (T) 39°46'21"N, 104°21'37"W ±29ft ▲ 5337ft			300°NW (T) 39°46'21"N, 104°21'37"W ±16ft ▲ 5336ft		
 <p>06 Dec 2023, 13:05:49</p>			 <p>06 Dec 2023, 13:06:10</p>		
Equipment ID:		Equipment Type:	Equipment ID:		Equipment Type:
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Surrounding land use facing E			Notes/Conditions: Surrounding land use facing W		



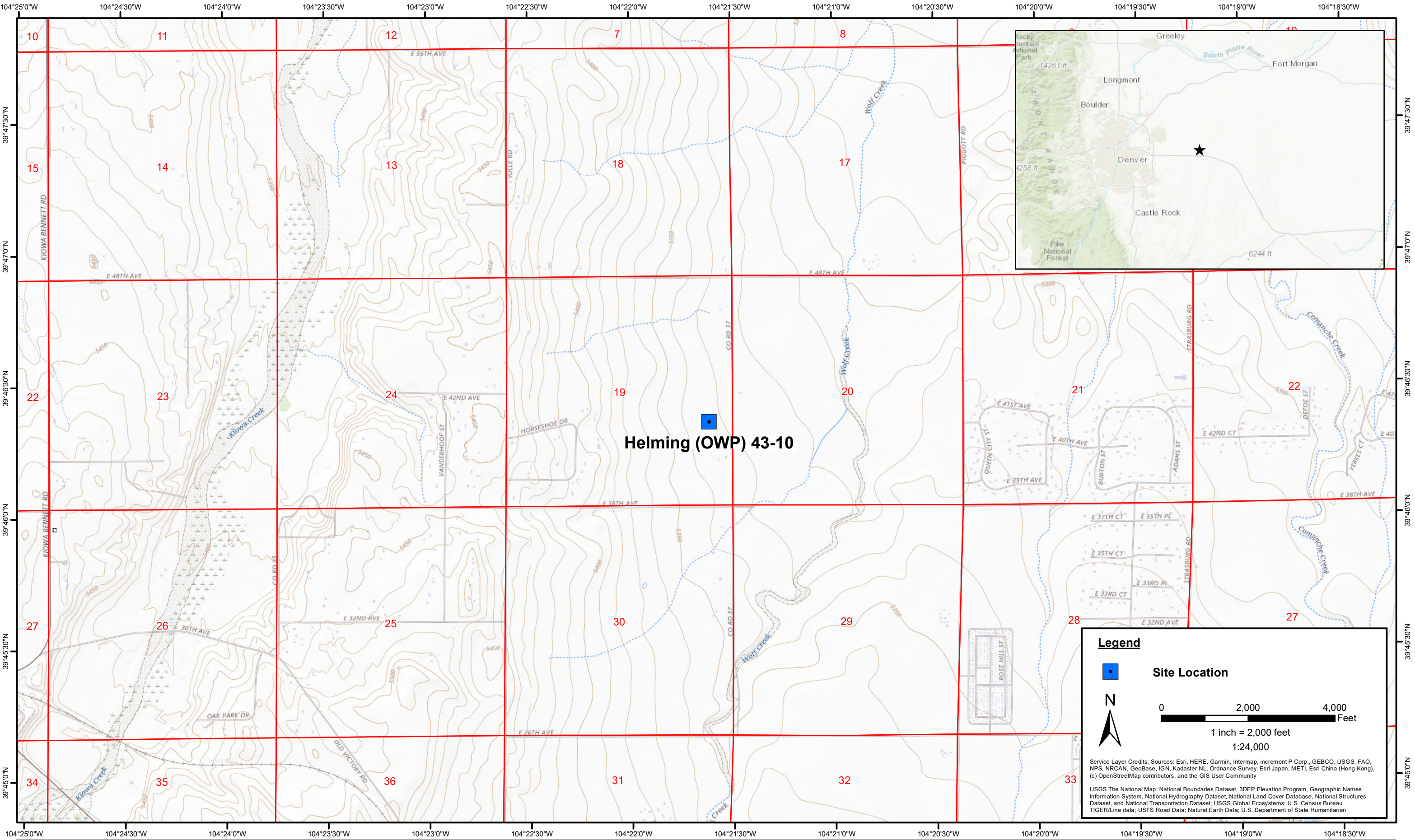


Photographic Log

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

## FIGURES





DATE: February 2024	 <b>Tasman, Inc.</b> <b>6855 W. 119th Ave</b> <b>Broomfield, CO 80020</b>	<b>Painted Pegasus Petroleum LLC</b> <b>Helming (OWP) 43-10</b> NESE Sec. 19-T3S-R62W Adams County, Colorado	Site Location Map	Figure 1
DESIGNED BY: S. Vogt				
DRAWN BY: L. Reed				





DATE:	February 07, 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	B. LeVasseur



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

**Painted Pegasus Petroleum LLC**  
**Helming (OWP) 43-19**  
NESE Sec. 19-T3S-R62W  
Adams County, Colorado

Soil Sample Location Map

Figure  
2

# TABLES



**TABLE 1**  
**HELMING (OWP) 43-19**  
**SOIL SAMPLE LOCATIONS**  
**PAINTED PEGASUS PETROLEUM LLC**



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
WH-B01@7'	7'	12/06/2023	5.4	39.772673	-104.360465	1.1	Y
WH-N01@6'	6'	12/06/2023	5.3	39.772680	-104.360460	0.9	N
WH-S01@6'	6'	12/06/2023	14.5	39.772663	-104.360470	1.2	Y
WH-E01@6'	6'	12/06/2023	4.5	39.772676	-104.360450	1	N
WH-W01@6'	6'	12/06/2023	3.7	39.772673	-104.360478	1	N
SP-CS01	-	12/06/2023	3.6	39.772692	-104.360370	1.1	Y

**Notes:**

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

**TABLE 2**  
**HELMING (OWP) 43-19**  
**SOIL ANALYTICAL DATA - VOCs**  
**PAINTED PEGASUS PETROLEUM LLC**

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
SP-CS01	-	12/06/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
WH-B01@7'	7'	12/06/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
WH-S01@6'	6'	12/06/2023	<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**  
**HELMING (OWP) 43-19**  
**SOIL ANALYTICAL DATA - PAHs**  
**PAINTED PEGASUS PETROLEUM LLC**

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
SP-CS01	-	12/06/2023	<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
WH-B01@7'	7'	12/06/2023	<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
WH-S01@6'	6'	12/06/2023	<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**  
**HELMING (OWP) 43-19**  
**SOIL ANALYTICAL DATA - METALS**  
**PAINTED PEGASUS PETROLEUM LLC**

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
SP-CS01	-	12/06/2023	0.853	95.0	<0.200	<0.30	2.97	11.7	2.20	<0.260	0.0369	7.84
WH-B01@7'	7'	12/06/2023	0.891	95.7	<0.200	<0.30	2.99	13.4	2.34	<0.260	0.0496	7.45
WH-S01@6'	6'	12/06/2023	0.964	133	<0.200	<0.30	2.72	10.9	2.53	<0.260	0.0469	8.55

**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**

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

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



**TABLE 5**  
**HELMING (OWP) 43-19**  
**SOIL ANALYTICAL DATA - SOIL RECLAMATION**  
**PAINTED PEGASUS PETROLEUM LLC**



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>
SP-CS01	-	12/06/2023	<b>8.89</b>	0.558	0.158	<2.00
WH-B01@7'	7'	12/06/2023	<b>8.98</b>	0.432	0.115	<2.00
WH-S01@6'	6'	12/06/2023	<b>8.86</b>	0.321	0.148	<2.00

**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**

\* Result exceeded the ECMCC Table 915-1 standard, but was within site-specific background concentrations

## **LABORATORY ANALYTICAL DATA**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 03, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

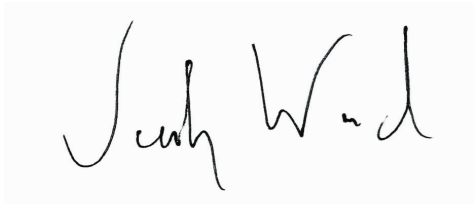
Broomfield, CO 80020

RE: Civitas - Helming (OWP) 43-19

Work Order #2312122

Enclosed are the results of analyses for samples received by Summit Scientific on 12/06/23 17:57. 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". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President





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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@7'	2312122-01	Soil	12/06/23 12:39	12/06/23 17:57
WH-S01@6'	2312122-02	Soil	12/06/23 12:46	12/06/23 17:57
SP-CS01	2312122-03	Soil	12/06/23 12:56	12/06/23 17:57

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 1
2312122	

Client: Civitas/Tasman	Send Data To: Project Manager: Sam Vogt, Jacod Evans	Send Invoice To: Company:
Address: 6855 W. 119th Ave	E-Mail: svogt@tasman-geo.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020	jevens@civiresources.com	AFE#: 23583
Phone: PM 610-405-9078	Project Name: Helming (owp) 43-19	PO/Billing Codes:
Sampler Name: Daniel Hensel	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	TPH	TMBs(1,2,4)&(1,3,5)	PAH	pH, EC, SAR	Boron	Metals		
1	WH-BØ1 @ 7'	12/6/23	12:39	2			X			X			X	X	X	X	X	X	X		
2	WH-SØ1 @ 6'	↓	12:46	↓			↓			↓			↓	↓	↓	↓	↓	↓	↓		
3	SW-LS Ø1	↓	12:56	↓			↓			↓			↓	↓	↓	↓	↓	↓	↓		
4													↓	↓	↓	↓	↓	↓	↓		
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: [Signature] 12/6/23	Date/Time: 16:30	Received by: Tasman Lockbox	Date/Time: 16:30	TAT Business Days	Field DO	Notes: Methods: *Sat. paste **Hot water
Relinquished by: [Signature] 12/6/23	Date/Time: 17:57	Received by: [Signature]	Date/Time: 17:57	Same Day	Field EC	
Relinquished by: [Signature] 12/6/23	Date/Time: 17:57	Received by: [Signature]	Date/Time: 17:57	1 Day	Field ORP	
Relinquished by: [Signature] 12/6/23	Date/Time: 17:57	Received by: [Signature]	Date/Time: 17:57	2 Days	Field pH	
Relinquished by: [Signature] 12/6/23	Date/Time: 17:57	Received by: [Signature]	Date/Time: 17:57	3 Days	Field Temp.	
Temperature Upon Receipt: 9.1	Corrected Temperature: 9.1	IR gun #: 1	HNO3 lot #:	Standard	X Field Turb.	

S2

## Sample Receipt Checklist

S2 Work Order# 2312122

Client: Civilian

Client Project ID:

Helming (owp) 43-19Shipped 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

☐

Soil

Solid

☐

Water

☐

Other

☐

Temp (°C)

9.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature $< 6^{\circ}\text{C}$ ? <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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NOTE
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron ( $\text{Fe}^{2+}$ ), Hexavalent Chromium ( $\text{Cr}^{6+}$ , 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no time stamps
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"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, $\text{H}_2\text{SO}_4$ , NaOH, $\text{HNO}_3$ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH $\leq 2$ ? <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 Name12/6/23  
Date/Time

2023





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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-B01@7'**  
**2312122-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0413	12/12/23	12/13/23	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: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0438	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0412	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0417	12/12/23	12/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.5	100 %	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 - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-B01@7'**  
**2312122-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0528	12/14/23	12/15/23	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: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	54.9 %	40-150		"	"	"	"	

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

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0531	12/14/23	12/26/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/06/23 12:39**

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 - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-B01@7'**  
**2312122-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.891	0.200	mg/kg dry	1	BGL0539	12/14/23	12/28/23	EPA 6020B
Barium	95.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.99	0.400	"	"	"	"	"	"
Lead	13.4	0.200	"	"	"	"	"	"
Nickel	2.34	0.400	"	"	"	"	"	"
Silver	0.0496	0.0200	"	"	"	"	"	"
Zinc	7.45	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0460	12/12/23	12/13/23	EPA 7196A	

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

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.6	0.0500	mg/L dry	1	BGL0933	12/27/23	12/30/23	EPA 6020B	
Magnesium	7.86	0.0500	"	"	"	"	"	"	
Sodium	12.2	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.432	0.00100	units	1	BHA0051	01/02/24	01/02/24	Calculation	

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

Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-B01@7'**  
**2312122-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.8		%	1	BGL0602	12/15/23	12/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.115	0.0100	mmhos/cm	1	BGL1027	12/28/23	12/29/23	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.98		pH Units	1	BGL1026	12/28/23	12/29/23	EPA 9045D	

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-S01@6'**  
**2312122-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0413	12/12/23	12/13/23	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: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0441	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0417	12/12/23	12/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.0	95.8 %	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 - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-S01@6'**  
**2312122-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0528	12/14/23	12/15/23	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: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

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

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0531	12/14/23	12/26/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-S01@6'**  
**2312122-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.964	0.200	mg/kg dry	1	BGL0539	12/14/23	12/28/23	EPA 6020B
Barium	133	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.72	0.400	"	"	"	"	"	"
Lead	10.9	0.200	"	"	"	"	"	"
Nickel	2.53	0.400	"	"	"	"	"	"
Silver	0.0469	0.0200	"	"	"	"	"	"
Zinc	8.55	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/06/23 12:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0460	12/12/23	12/13/23	EPA 7196A	

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

Date Sampled: 12/06/23 12:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	98.6	0.0500	mg/L dry	1	BGL0933	12/27/23	12/30/23	EPA 6020B	
Magnesium	14.3	0.0500	"	"	"	"	"	"	
Sodium	12.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/06/23 12:46

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.321	0.00100	units	1	BHA0051	01/02/24	01/02/24	Calculation	

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

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**WH-S01@6'**  
**2312122-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.4		%	1	BGL0602	12/15/23	12/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.148	0.0100	mmhos/cm	1	BGL1027	12/28/23	12/29/23	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.86		pH Units	1	BGL1026	12/28/23	12/29/23	EPA 9045D	

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**SP-CS01**  
**2312122-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0413	12/12/23	12/13/23	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: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0417	12/12/23	12/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/06/23 12:56**

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**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**SP-CS01**  
**2312122-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0528	12/14/23	12/15/23	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: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0146	43.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.4 %	40-150		"	"	"	"	

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

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0531	12/14/23	12/26/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**SP-CS01**  
**2312122-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.853	0.200	mg/kg dry	1	BGL0539	12/14/23	12/28/23	EPA 6020B
Barium	95.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.97	0.400	"	"	"	"	"	"
Lead	11.7	0.200	"	"	"	"	"	"
Nickel	2.20	0.400	"	"	"	"	"	"
Silver	0.0369	0.0200	"	"	"	"	"	"
Zinc	7.84	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/06/23 12:56

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGL0460	12/12/23	12/13/23	EPA 7196A	

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

Date Sampled: 12/06/23 12:56

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.7	0.0500	mg/L dry	1	BGL0933	12/27/23	12/30/23	EPA 6020B	
Magnesium	8.72	0.0500	"	"	"	"	"	"	
Sodium	16.6	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/06/23 12:56

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.558	0.00100	units	1	BHA0051	01/02/24	01/02/24	Calculation	

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

Summit Scientific

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**SP-CS01**  
**2312122-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BGL0602	12/15/23	12/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.158	0.0100	mmhos/cm	1	BGL1027	12/28/23	12/29/23	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **12/06/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.89		pH Units	1	BGL1026	12/28/23	12/29/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

## 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 BGL0413 - EPA 5030 Soil MS

##### Blank (BGL0413-BLK1)

Prepared & Analyzed: 12/12/23

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	0.0419		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150			

##### LCS (BGL0413-BS1)

Prepared & Analyzed: 12/12/23

Benzene	0.103	0.0020	mg/kg	0.100		103	70-130			
Toluene	0.0972	0.0050	"	0.100		97.2	70-130			
Ethylbenzene	0.102	0.0050	"	0.100		102	70-130			
m,p-Xylene	0.198	0.010	"	0.200		98.9	70-130			
o-Xylene	0.0937	0.0050	"	0.100		93.7	70-130			
1,2,4-Trimethylbenzene	0.0920	0.0050	"	0.100		92.0	70-130			
1,3,5-Trimethylbenzene	0.0931	0.0050	"	0.100		93.1	70-130			
Naphthalene	0.0788	0.0038	"	0.100		78.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	50-150			

##### Matrix Spike (BGL0413-MS1)

Source: 2312119-01

Prepared & Analyzed: 12/12/23

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
Ethylbenzene	0.0988	0.0050	"	0.100	ND	98.8	70-130			
m,p-Xylene	0.189	0.010	"	0.200	ND	94.6	70-130			
o-Xylene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
1,2,4-Trimethylbenzene	0.0890	0.0050	"	0.100	ND	89.0	70-130			
1,3,5-Trimethylbenzene	0.0911	0.0050	"	0.100	ND	91.1	70-130			
Naphthalene	0.0819	0.0038	"	0.100	ND	81.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0413 - EPA 5030 Soil MS**

**Matrix Spike Dup (BGL0413-MSD1)**

**Source: 2312119-01**

**Prepared & Analyzed: 12/12/23**

Benzene	0.0850	0.0020	mg/kg	0.100	ND	85.0	70-130	17.2	30	
Toluene	0.0781	0.0050	"	0.100	ND	78.1	70-130	18.5	30	
Ethylbenzene	0.0843	0.0050	"	0.100	ND	84.3	70-130	15.9	30	
m,p-Xylene	0.166	0.010	"	0.200	ND	82.9	70-130	13.2	30	
o-Xylene	0.0789	0.0050	"	0.100	ND	78.9	70-130	15.3	30	
1,2,4-Trimethylbenzene	0.0751	0.0050	"	0.100	ND	75.1	70-130	17.0	30	
1,3,5-Trimethylbenzene	0.0766	0.0050	"	0.100	ND	76.6	70-130	17.4	30	
Naphthalene	0.0755	0.0038	"	0.100	ND	75.5	70-130	8.04	30	
Surrogate: 1,2-Dichloroethane-d4	0.0438		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0417 - EPA 3550A**

**Blank (BGL0417-BLK1)**

Prepared: 12/12/23 Analyzed: 12/14/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	8.74		"	12.5		69.9	30-150			

**LCS (BGL0417-BS1)**

Prepared: 12/12/23 Analyzed: 12/14/23

C10-C28 (DRO)	390	50	mg/kg	500		78.1	70-130			
Surrogate: o-Terphenyl	9.71		"	12.5		77.7	30-150			

**Matrix Spike (BGL0417-MS1)**

Source: 2312119-01

Prepared: 12/12/23 Analyzed: 12/14/23

C10-C28 (DRO)	394	50	mg/kg	500	22.0	74.4	70-130			
Surrogate: o-Terphenyl	7.80		"	12.5		62.4	30-150			

**Matrix Spike Dup (BGL0417-MSD1)**

Source: 2312119-01

Prepared: 12/12/23 Analyzed: 12/14/23

C10-C28 (DRO)	420	50	mg/kg	500	22.0	79.7	70-130	6.55	20	
Surrogate: o-Terphenyl	10.6		"	12.5		85.0	30-150			

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Broomfield CO, 80020

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

## 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 BGL0528 - EPA 5030 Soil MS

##### Blank (BGL0528-BLK1)

Prepared: 12/14/23 Analyzed: 12/15/23

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	0.0225		"	0.0333		67.6	40-150			
Surrogate: Fluoranthene-d10	0.0408		"	0.0333		122	40-150			

##### LCS (BGL0528-BS1)

Prepared: 12/14/23 Analyzed: 12/15/23

Acenaphthene	0.0358	0.00500	mg/kg	0.0333	107	31-137
Anthracene	0.0376	0.00500	"	0.0333	113	30-120
Benzo (a) anthracene	0.0341	0.00500	"	0.0333	102	30-120
Benzo (a) pyrene	0.0262	0.00500	"	0.0333	78.5	30-120
Benzo (b) fluoranthene	0.0337	0.00500	"	0.0333	101	30-120
Benzo (k) fluoranthene	0.0367	0.00500	"	0.0333	110	30-120
Chrysene	0.0390	0.00500	"	0.0333	117	30-120
Dibenz (a,h) anthracene	0.0348	0.00500	"	0.0333	104	30-120
Fluoranthene	0.0358	0.00500	"	0.0333	108	30-120
Fluorene	0.0323	0.00500	"	0.0333	97.0	30-120
Indeno (1,2,3-cd) pyrene	0.0372	0.00500	"	0.0333	112	30-120
Pyrene	0.0392	0.00500	"	0.0333	117	35-142
1-Methylnaphthalene	0.0299	0.00500	"	0.0333	89.7	35-142
2-Methylnaphthalene	0.0348	0.00500	"	0.0333	104	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0298		"	0.0333	89.5	40-150
Surrogate: Fluoranthene-d10	0.0367		"	0.0333	110	40-150

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Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

## 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 BGL0528 - EPA 5030 Soil MS

##### Matrix Spike (BGL0528-MS1)

Source: 2312115-21

Prepared: 12/14/23 Analyzed: 12/15/23

Acenaphthene	0.0258	0.00500	mg/kg	0.0333	ND	77.4	31-137			
Anthracene	0.0255	0.00500	"	0.0333	ND	76.6	30-120			
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.6	30-120			
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.0	30-120			
Benzo (b) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.1	30-120			
Benzo (k) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.7	30-120			
Chrysene	0.0261	0.00500	"	0.0333	ND	78.3	30-120			
Dibenz (a,h) anthracene	0.0259	0.00500	"	0.0333	ND	77.7	30-120			
Fluoranthene	0.0252	0.00500	"	0.0333	ND	75.5	30-120			
Fluorene	0.0243	0.00500	"	0.0333	ND	72.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0237	0.00500	"	0.0333	ND	71.1	30-120			
Pyrene	0.0328	0.00500	"	0.0333	ND	98.5	35-142			
1-Methylnaphthalene	0.0217	0.00500	"	0.0333	ND	65.2	15-130			
2-Methylnaphthalene	0.0242	0.00500	"	0.0333	ND	72.7	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0231		"	0.0333		69.3	40-150			
Surrogate: Fluoranthene-d10	0.0264		"	0.0333		79.2	40-150			

##### Matrix Spike Dup (BGL0528-MSD1)

Source: 2312115-21

Prepared: 12/14/23 Analyzed: 12/15/23

Acenaphthene	0.0163	0.00500	mg/kg	0.0333	ND	49.0	31-137	44.9	30	QR-02
Anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	38.4	30	QR-02
Benzo (a) anthracene	0.0169	0.00500	"	0.0333	ND	50.6	30-120	39.5	30	QR-02
Benzo (a) pyrene	0.0153	0.00500	"	0.0333	ND	45.9	30-120	14.3	30	
Benzo (b) fluoranthene	0.0154	0.00500	"	0.0333	ND	46.2	30-120	41.1	30	QR-02
Benzo (k) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	38.9	30	QR-02
Chrysene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	36.8	30	QR-02
Dibenz (a,h) anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	26.9	30	
Fluoranthene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	42.1	30	QR-02
Fluorene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	38.7	30	QR-02
Indeno (1,2,3-cd) pyrene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	22.4	30	
Pyrene	0.0221	0.00500	"	0.0333	ND	66.2	35-142	39.3	30	QR-02
1-Methylnaphthalene	0.0140	0.00500	"	0.0333	ND	42.0	15-130	43.2	50	
2-Methylnaphthalene	0.0172	0.00500	"	0.0333	ND	51.5	15-130	34.1	50	
Surrogate: 2-Methylnaphthalene-d10	0.0148		"	0.0333		44.3	40-150			
Surrogate: Fluoranthene-d10	0.0175		"	0.0333		52.5	40-150			

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0531 - EPA 3050B**

**Blank (BGL0531-BLK1)**

Prepared: 12/14/23 Analyzed: 12/26/23

Boron ND 2.00 mg/L

**LCS (BGL0531-BS1)**

Prepared: 12/14/23 Analyzed: 12/26/23

Boron 5.06 2.00 mg/L 5.00 101 80-120

**Duplicate (BGL0531-DUP1)**

**Source: 2311392-02**

Prepared: 12/14/23 Analyzed: 12/26/23

Boron 0.170 2.00 mg/L 0.174 2.82 20

**Matrix Spike (BGL0531-MS1)**

**Source: 2311392-02**

Prepared: 12/14/23 Analyzed: 12/26/23

Boron 6.12 2.00 mg/L 5.00 0.174 119 75-125

**Matrix Spike Dup (BGL0531-MSD1)**

**Source: 2311392-02**

Prepared: 12/14/23 Analyzed: 12/26/23

Boron 6.13 2.00 mg/L 5.00 0.174 119 75-125 0.0336 25

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

### 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 BGL0539 - EPA 3050B

##### Blank (BGL0539-BLK1)

Prepared: 12/14/23 Analyzed: 12/27/23

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 (BGL0539-BS1)

Prepared: 12/14/23 Analyzed: 12/27/23

Arsenic	32.9	0.200	mg/kg wet	40.0	82.2	80-120
Barium	33.5	0.400	"	40.0	83.7	80-120
Cadmium	1.65	0.200	"	2.00	82.4	80-120
Copper	33.4	0.400	"	40.0	83.6	80-120
Lead	16.7	0.200	"	20.0	83.3	80-120
Nickel	32.7	0.400	"	40.0	81.8	80-120
Silver	1.69	0.0200	"	2.00	84.4	80-120
Zinc	33.2	0.400	"	40.0	82.9	80-120
Selenium	3.37	0.260	"	4.00	84.3	80-120


##### Duplicate (BGL0539-DUP1)

Source: 2312117-01

Prepared: 12/14/23 Analyzed: 12/27/23

Arsenic	0.526	0.200	mg/kg dry	0.584	10.4	20
Barium	31.8	0.400	"	32.7	2.81	20
Cadmium	0.127	0.200	"	0.141	10.3	20
Copper	1.45	0.400	"	1.51	3.93	20
Lead	4.25	0.200	"	4.51	5.99	20
Nickel	1.63	0.400	"	1.73	5.74	20
Silver	0.0129	0.0200	"	0.0134	3.51	20
Zinc	5.46	0.400	"	5.67	3.78	20
Selenium	ND	0.260	"	ND		20

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6855 W. 119th Ave.  
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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0539 - EPA 3050B**

**Matrix Spike (BGL0539-MS1)**

Source: 2312117-01

Prepared: 12/14/23 Analyzed: 12/27/23

Arsenic	12.4	0.200	mg/kg dry	46.2	0.584	25.6	75-125			QM-07
Barium	58.8	0.400	"	46.2	32.7	56.6	75-125			QM-07
Cadmium	1.65	0.200	"	2.31	0.141	65.4	75-125			QM-07
Copper	13.3	0.400	"	46.2	1.51	25.6	75-125			QM-07
Lead	18.5	0.200	"	23.1	4.51	60.4	75-125			QM-07
Nickel	13.5	0.400	"	46.2	1.73	25.5	75-125			QM-07
Silver	1.59	0.0200	"	2.31	0.0134	68.1	75-125			QM-07
Zinc	17.6	0.400	"	46.2	5.67	25.9	75-125			QM-07
Selenium	3.02	0.260	"	4.62	ND	65.3	75-125			QM-07

**Matrix Spike Dup (BGL0539-MSD1)**

Source: 2312117-01

Prepared: 12/14/23 Analyzed: 12/27/23

Arsenic	12.5	0.200	mg/kg dry	46.2	0.584	25.9	75-125	1.11	25	QM-07
Barium	56.8	0.400	"	46.2	32.7	52.2	75-125	3.55	25	QM-07
Cadmium	1.60	0.200	"	2.31	0.141	63.4	75-125	2.95	25	QM-07
Copper	13.4	0.400	"	46.2	1.51	25.8	75-125	0.745	25	QM-07
Lead	17.8	0.200	"	23.1	4.51	57.5	75-125	3.64	25	QM-07
Nickel	13.6	0.400	"	46.2	1.73	25.8	75-125	0.871	25	QM-07
Silver	1.53	0.0200	"	2.31	0.0134	65.5	75-125	3.83	25	QM-07
Zinc	17.7	0.400	"	46.2	5.67	26.1	75-125	0.460	25	QM-07
Selenium	2.83	0.260	"	4.62	ND	61.3	75-125	6.45	25	QM-07

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BGL0460 - 3060A Mod**

**Blank (BGL0460-BLK1)**

Prepared: 12/12/23 Analyzed: 12/13/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGL0460-BS1)**

Prepared: 12/12/23 Analyzed: 12/13/23

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

**Duplicate (BGL0460-DUP1)**

**Source: 2312122-01**

Prepared: 12/12/23 Analyzed: 12/13/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGL0460-MS1)**

**Source: 2312122-01**

Prepared: 12/12/23 Analyzed: 12/13/23

Chromium, Hexavalent 28.4 0.30 mg/kg dry 28.2 ND 101 75-125

**Matrix Spike Dup (BGL0460-MSD1)**

**Source: 2312122-01**

Prepared: 12/12/23 Analyzed: 12/13/23

Chromium, Hexavalent 27.1 0.30 mg/kg dry 28.2 ND 96.2 75-125 4.87 20

Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0933 - General Preparation**

**Blank (BGL0933-BLK1)**

Prepared: 12/27/23 Analyzed: 12/30/23

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

**LCS (BGL0933-BS1)**

Prepared: 12/27/23 Analyzed: 12/30/23

Calcium	5.47	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.14	0.0500	"	5.00	103	70-130
Sodium	4.94	0.0500	"	5.00	98.7	70-130

Summit Scientific

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Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**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 BGL0602 - General Preparation**

Duplicate (BGL0602-DUP1)		Source: 2312117-01		Prepared: 12/15/23 Analyzed: 12/18/23	
% Solids	87.4		%	86.6	0.852 20

Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

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

**Batch BGL1027 - General Preparation**

**Blank (BGL1027-BLK1)**

Prepared: 12/28/23 Analyzed: 12/29/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL1027-BS1)**

Prepared: 12/28/23 Analyzed: 12/29/23

Specific Conductance (EC) 0.147 0.0100 mmhos/cm 0.150 97.8 95-105

**Duplicate (BGL1027-DUP1)**

**Source: 2311392-02**

Prepared: 12/28/23 Analyzed: 12/29/23

Specific Conductance (EC) 0.0771 0.0100 mmhos/cm 0.0772 0.220 20

Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**  
**Summit Scientific**

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

**Batch BGL1026 - General Preparation**

**LCS (BGL1026-BS1)**

Prepared: 12/28/23 Analyzed: 12/29/23

pH	9.07	pH Units	9.18	98.8	95-105
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**Duplicate (BGL1026-DUP1)**

Source: 2311392-02

Prepared: 12/28/23 Analyzed: 12/29/23

pH	9.01	pH Units	8.95	0.668	20
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Summit Scientific

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

Project: Civitas - Helming (OWP) 43-19

Project Number: 23583  
Project Manager: Sam Vogt

**Reported:**  
01/03/24 09:16

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
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