

TABLE 1  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
CIVITAS RESOURCES  
GRANT BROS 43-23, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-050

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
SB-1 8 Ft	3/15/2023	8	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

\* Indicates laboratory minimum detection limit in excess of SSL

\*\* Summation of GRO+DRO+ORO must be less than 500 mg/kg

TABLE 2  
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA  
CIVITAS RESOURCES  
GRANT BROS 43-23, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-050

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3- cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SB-1 8 Ft	3/15/2023	8	<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

Bold faced values exceed the COGCC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

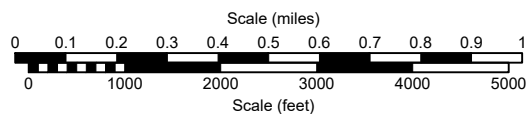
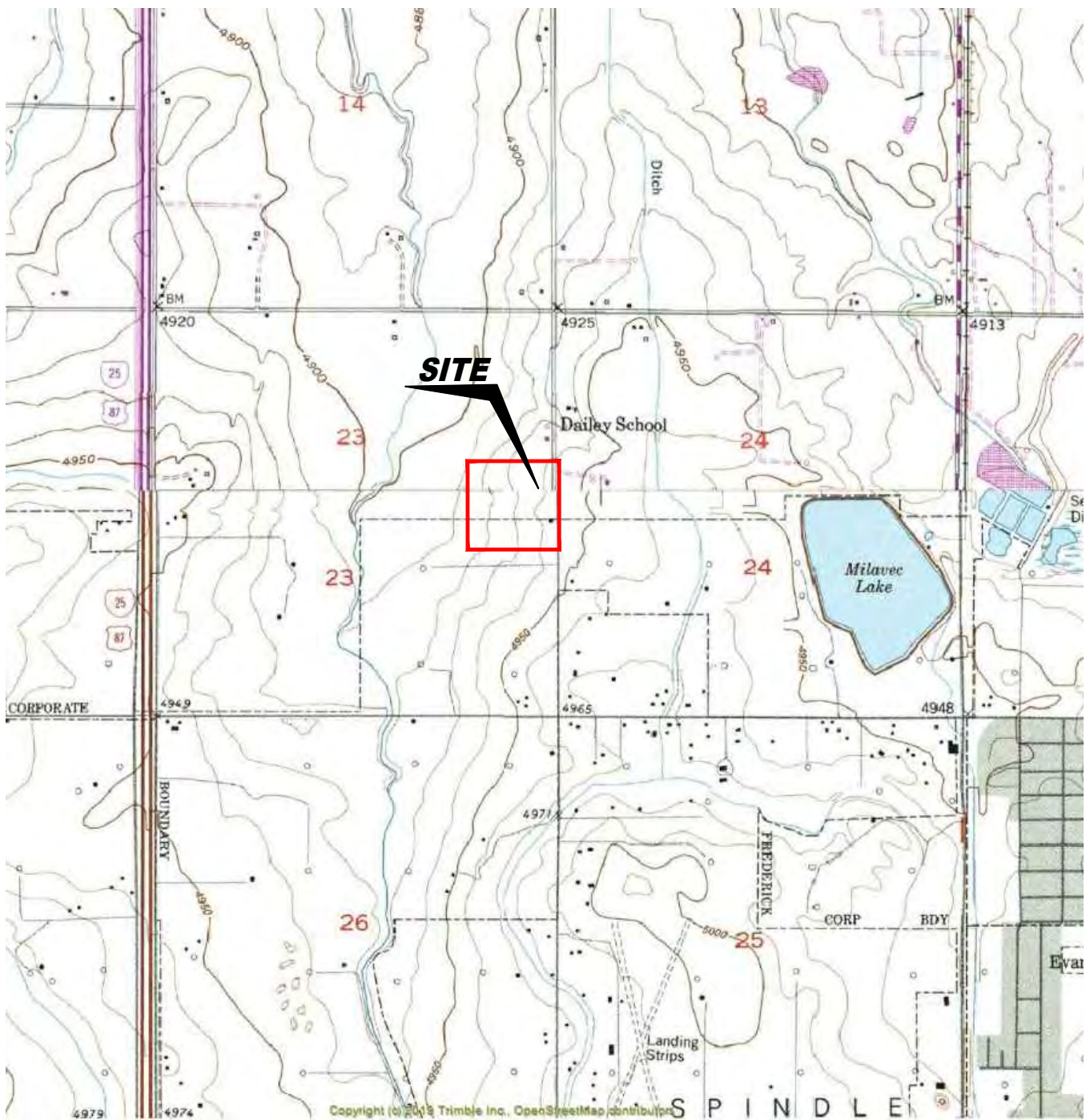
\* Indicates laboratory minimum detection limit in excess of SSL

**TABLE 3**  
**SUMMARY OF SOIL SUITABILITY FOR RECLAMATION**  
**CIVITAS RESOURCES**  
**GRANT BROS 43-23, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-050**

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Site Specific Background Concentration/Value						
SB-1 8 Ft	3/15/2023	8	7.96	0.342	0.149	0.348

Bold faced values exceed the COGCC Table 915-1 concentrations

Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

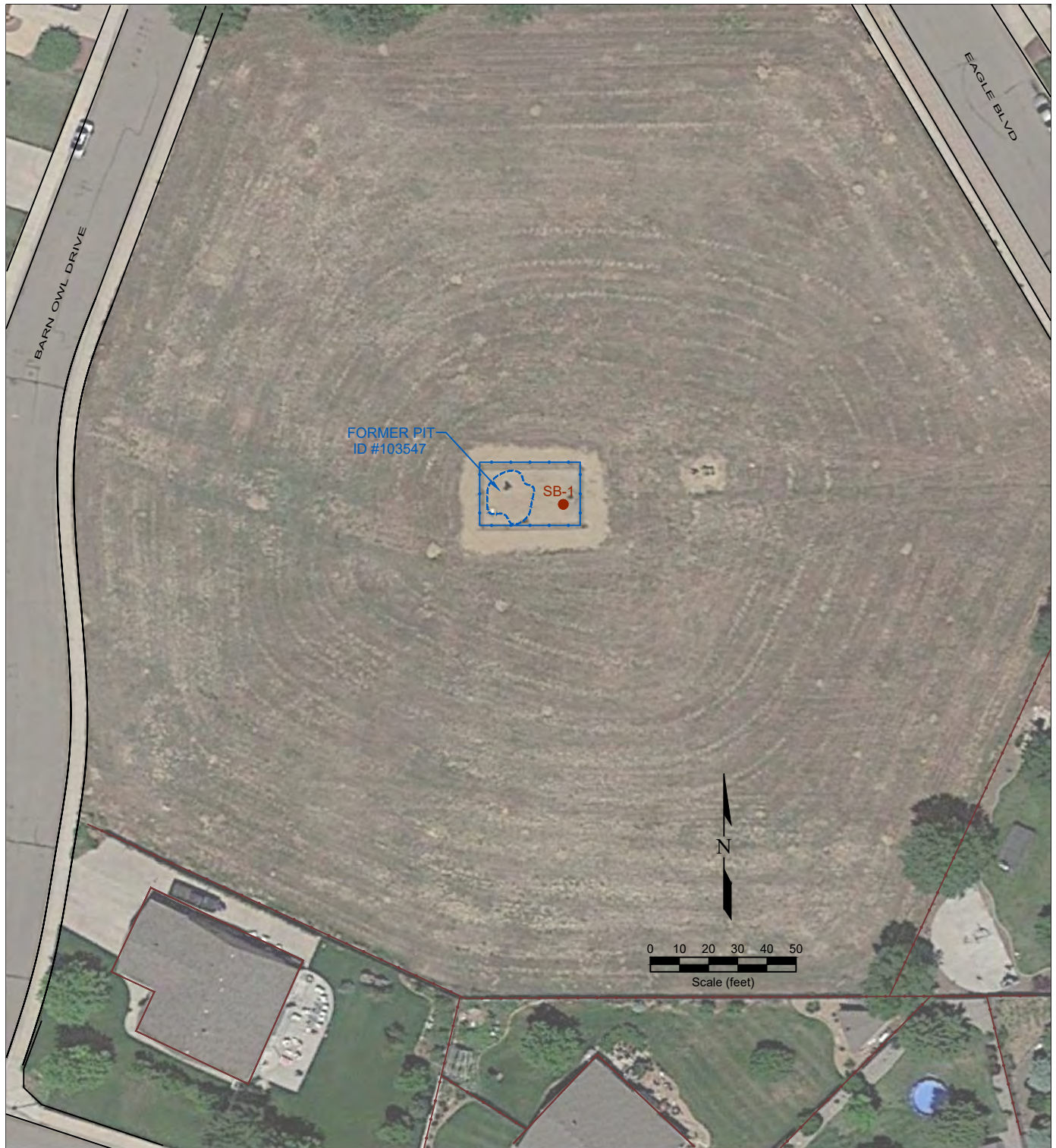
Figure 1  
**SITE LOCATION MAP**

**CIVITAS RESOURCES ~ GRANT BROTHERS 43-23**  
NESE Sec. 23, T2N, R68W, 6th PM  
Weld County, Colorado  
40.122317°, -104.963465°

Project # <b>C023-050</b>	API # <b>05-123-07814</b>	Facility # <b>103547</b>
Date <b>4/8/23</b>	Remediation # <b>27677</b>	Filename <b>23050T</b>







#### LEGEND

● SOIL BORING LOCATION   
 FORMER FORMER FACILITY   
 BUILDING BUILDING   
 — FENCE LINE

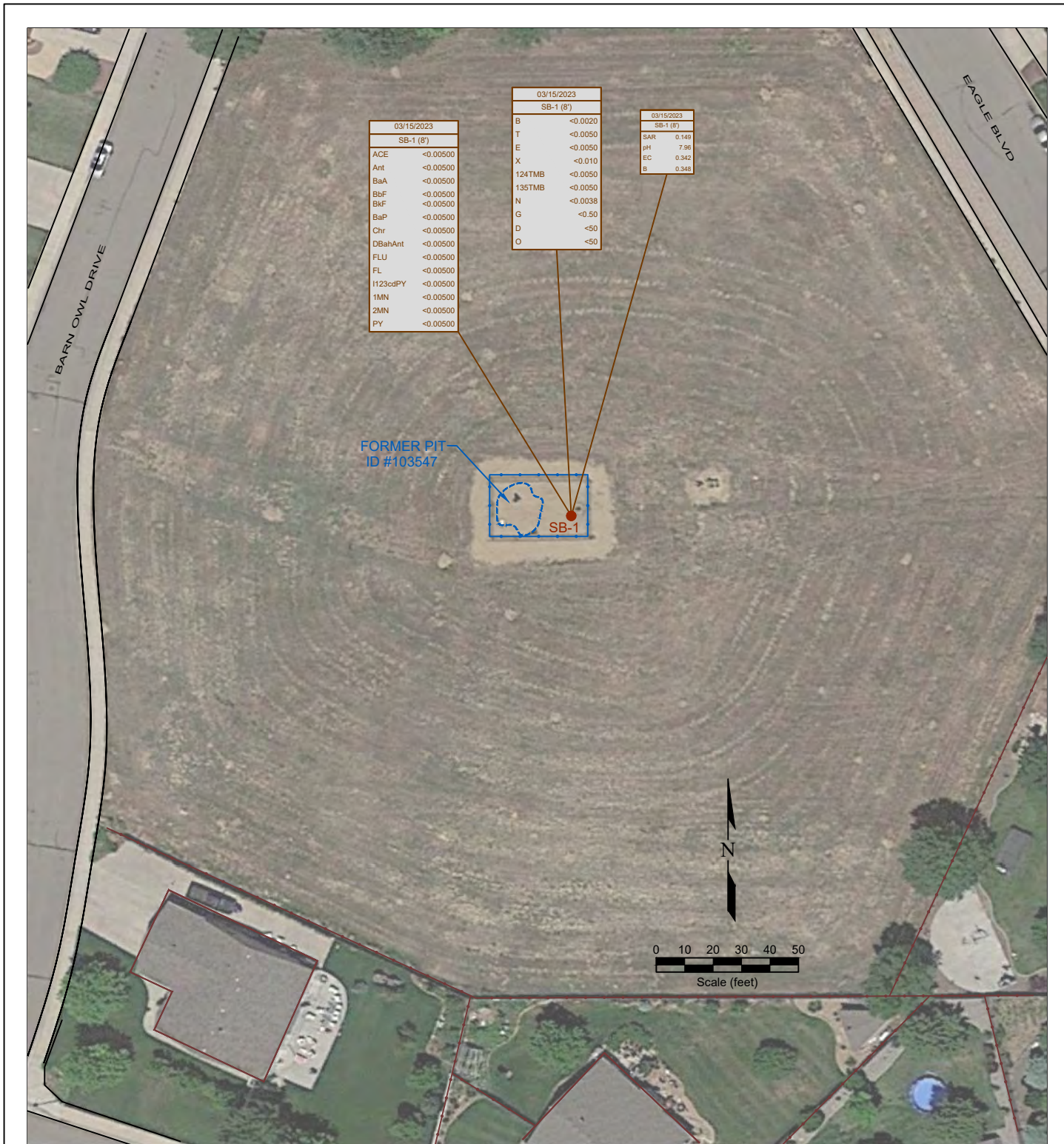
Figure 2  
SITE MAP

**CIVITAS RESOURCES ~ GRANT BROTHERS 43-23**  
 NESE Sec. 23, T2N, R68W, 6th PM  
 Weld County, Colorado  
 40.122317°, -104.963465°

Project No. <b>C023-050</b>	API # <b>05-123-07814</b>	Facility # <b>103547</b>
Date <b>4/8/23</b>	Remediation # <b>27677</b>	Filename <b>23050Q</b>







#### LEGEND

● SOIL BORING LOCATION    FORMER FACILITY    BUILDING     FENCE LINE

03/15/2023	DATE SAMPLED	03/15/2023	DATE SAMPLED	03/15/2023	DATE SAMPLED
SB-1 (ft)	SAMPLE ID and DEPTH (ft)	SB-1 (ft)	SAMPLE ID and DEPTH (ft)	SB-1 (ft)	SAMPLE ID and DEPTH (ft)
ACE	ACENAPHTHENE (mg/kg)	D	BENZENE (mg/kg)	SAR	SAR (units)
Ant	ANTHRACENE (mg/kg)	T	TOLUENE (mg/kg)	pH	pH (pH units)
BaA	BENZO (A) ANTHRACENE (mg/kg)	E	ETHYLBENZENE (mg/kg)	EC	EC (mmhos/cm)
BbF	BENZO (B) FLUORANTHENE (mg/kg)	K	TOTAL XYLENES (mg/kg)	B	BORON (mg/L)
BkF	BENZO (K) FLUORANTHENE (mg/kg)	124TMB	1,2,4-TRIMETHYLBENZENE (mg/kg)		
Ch	CHRYSENE (mg/kg)	135TMB	1,3,5-TRIMETHYLBENZENE (mg/kg)		
DBahAnt	DIBENZ (AH) ANTHRACENE (mg/kg)	N	NAPHTHALENE (mg/kg)		
FLU	FLUORANTHENE (mg/kg)	D	TPH-GRO (mg/kg)		
FL	FLUORENE (mg/kg)	G	TPH-ORO (mg/kg)		
H123cdPY	INDENO (1,2,3-CD) PYRENE (mg/kg)	D	TPH-ORO (mg/kg)		
1MN	1-METHYLNAPHTHALENE (mg/kg)				
2MN	2-METHYLNAPHTHALENE (mg/kg)				
PY	PYRENE (mg/kg)				

Figure 3  
SOIL CHEMISTRY MAP

**CIVITAS RESOURCES ~ GRANT BROTHERS 43-23**  
NESE Sec. 23, T2N, R68W, 6th PM  
Weld County, Colorado  
40.122317°, -104.963465°

Project No. <b>C023-050</b>	API # <b>05-123-07814</b>	Facility # <b>103547</b>
Date <b>4/8/23</b>	Remediation # <b>27677</b>	Filename <b>23050Q</b>

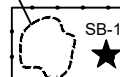




# BORING/WELL CONSTRUCTION LOG

Boring/Well Location Sketch Map

FORMER PIT  
ID #103547



Page 1 of 1

Boring/Well No. <b>SB-1</b>		Total Depth <b>17'</b>		Location <b>Civitas Resources Grant Brothers 43-23 NESE Section 23, T2N, R68W Weld County, Colorado</b>			
Project No./Name <b>Grant Brothers 43-23</b>				Approved By			
Drilling Contractor/Driller <b>DrillPro</b>							
Geologist/Office <b>Paul Henehan / Fremont Environmental, Inc.</b>							
Drilling Equipment/Method <b>Geoprobe</b>				Size/Type of Bit <b>2.5" direct push</b>		Sampling Method <b>direct push</b>	
				Start/Finish Date <b>3/15/23</b>			
Well Installed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Casing Mtrl./Dia. <b>PVC/2"</b>		Screen: Type <b>Slotted</b> Mtrl. <b>PVC</b>		Length <b>10'</b> Dia. <b>2"</b>	
				Slot Size <b>0.010"</b>			
Elevation of: (ft. above datum)		Ground Surface	Top of Well Casing	Top of Screen	Bottom of Screen	Ground Water Surface/Date Measured <b>16.27 3/15/23</b>	

DEPTH (feet)	WELL CONSTRUCTION		LITHOLOGY		Penetration Rate (blows/6")	Recovery (%)	Sample Interval (feet)	PID Values (ppm)
			GRAPHIC LOG	VISUAL DESCRIPTION				
				Topsoil ~ 3" Silty fine to medium sand, brown, moist, no stain, no odor				
	Bentonite	1" Blank	ML					
5				Silty sand to 5', then firm sandy silt, brown, no stain, no odor				0
			SM					
	#10-20 Silica Sand	1" Screen		Sandy silt, firm, dry, brown to 11', then silty sand with rust streaks, no stain, no odor				0
10								0
			ML					0
			SM	Sandy silt, firm, brown to 14', then silty fine to medium sand, dry, no stain, no odor, firm				
15								0
			ML					0
			ML	Refusal at 17' Sandy silt to 15.5', then silty fine to medium sand, packing into rods caused refusal, set a well				
				TD 17' Refusal at 17';				0
20								

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 23, 2023

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Civitas - Grant Bros 43-23

Work Order #2303404

Enclosed are the results of analyses for samples received by Summit Scientific on 03/15/23 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely".

Scott Sheely For Paul Shrewsbury  
President





Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 8FT	2303404-01	Soil	03/15/23 00:00	03/15/23 17:00

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.*

2303404

# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Fremont Environmental Inc.

Project Manager: Paul Henehan

Address:

E-Mail:

City/State/Zip:

CIVITAS - JACOB EVANS

Phone:

Project Name: GRANT BROS 43-23

Sampler Name: HENEHAN

Project Number: C023-050

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions				
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	GBTEXN+TMBs	DRO,RRO	PAHs	pH, EC, SAR	Boron	9/15-1 metals	Arsenic	BTEXN + TMBs	TDS, Cl, Su				
1	SB-1 8 FT	3/15/23		2			✓			✓				✓	✓	✓	✓	✓							
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
GRANT/FE 3/15/23 1700		[Signature]	3/15/23 1700	Same Day _____ 72 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours _____ Standard <input checked="" type="checkbox"/>	
				48 hours _____	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: 8.8	
				Samples Intact: Yes No	

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order#

2303408

Client: Fremont Client Project ID: Grant Bros 43-23Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil ☒ Solid ☐ Water ☐ Other ☐Temp (°C) 8.8Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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>on ice</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 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 (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 type="checkbox"/>	<input checked="" 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? <b>If yes, contact client and note in narrative.</b>	<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, 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.

Custodian Printed Name

Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**SB-1 8FT**  
**2303404-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGC0570	03/18/23	03/20/23	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: **03/15/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0510	128 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0440	110 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGC0573	03/18/23	03/22/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	93.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**SB-1 8FT**  
**2303404-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGC0670	03/21/23	03/22/23	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: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0282	84.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0276	82.8 %	40-150		"	"	"	"	

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.348</b>	0.0100	mg/L	1	BGC0645	03/20/23	03/21/23	EPA 6020B	

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23  
Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**SB-1 8FT**  
**2303404-01 (Soil)**

**Summit Scientific**

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

Calcium	27.5	0.0583	mg/L dry	1	BGC0700	03/21/23	03/22/23	EPA 6020B
Magnesium	20.2	0.0583	"	"	"	"	"	"
Sodium	4.20	0.0583	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.149	0.00100	units	1	BGC0784	03/23/23	03/23/23	Calculation	

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.8		%	1	BGC0684	03/21/23	03/21/23	Calculation	

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.342	0.0100	mmhos/cm	1	BGC0729	03/22/23	03/22/23	EPA 120.1	

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

Date Sampled: **03/15/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.96		pH Units	1	BGC0728	03/22/23	03/22/23	EPA 9045D	

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Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

## 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 BGC0570 - EPA 5030 Soil MS

##### Blank (BGC0570-BLK1)

Prepared: 03/18/23 Analyzed: 03/20/23

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	0.0482		"	0.0400		121	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150			

##### LCS (BGC0570-BS1)

Prepared: 03/18/23 Analyzed: 03/20/23

Benzene	0.0812	0.0020	mg/kg	0.100		81.2	70-130			
Toluene	0.0742	0.0050	"	0.100		74.2	70-130			
Ethylbenzene	0.0869	0.0050	"	0.100		86.9	70-130			
m,p-Xylene	0.177	0.010	"	0.200		88.4	70-130			
o-Xylene	0.0852	0.0050	"	0.100		85.2	70-130			
1,2,4-Trimethylbenzene	0.0814	0.0050	"	0.100		81.4	70-130			
1,3,5-Trimethylbenzene	0.0834	0.0050	"	0.100		83.4	70-130			
Naphthalene	0.0759	0.0038	"	0.100		75.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		104	50-150			

##### Matrix Spike (BGC0570-MS1)

Source: 2303404-01

Prepared: 03/18/23 Analyzed: 03/20/23

Benzene	0.0825	0.0020	mg/kg	0.100	ND	82.5	70-130			
Toluene	0.0760	0.0050	"	0.100	ND	76.0	70-130			
Ethylbenzene	0.0916	0.0050	"	0.100	ND	91.6	70-130			
m,p-Xylene	0.184	0.010	"	0.200	ND	92.2	70-130			
o-Xylene	0.0868	0.0050	"	0.100	ND	86.8	70-130			
1,2,4-Trimethylbenzene	0.0837	0.0050	"	0.100	ND	83.7	70-130			
1,3,5-Trimethylbenzene	0.0870	0.0050	"	0.100	ND	87.0	70-130			
Naphthalene	0.0820	0.0038	"	0.100	ND	82.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

## 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 BGC0570 - EPA 5030 Soil MS

Matrix Spike Dup (BGC0570-MSD1)	Source: 2303404-01			Prepared: 03/18/23 Analyzed: 03/20/23						
Benzene	0.0842	0.0020	mg/kg	0.100	ND	84.2	70-130	2.05	30	
Toluene	0.0762	0.0050	"	0.100	ND	76.2	70-130	0.315	30	
Ethylbenzene	0.0880	0.0050	"	0.100	ND	88.0	70-130	4.01	30	
m,p-Xylene	0.179	0.010	"	0.200	ND	89.5	70-130	2.89	30	
o-Xylene	0.0859	0.0050	"	0.100	ND	85.9	70-130	1.11	30	
1,2,4-Trimethylbenzene	0.0837	0.0050	"	0.100	ND	83.7	70-130	0.0358	30	
1,3,5-Trimethylbenzene	0.0858	0.0050	"	0.100	ND	85.8	70-130	1.39	30	
Naphthalene	0.0835	0.0038	"	0.100	ND	83.5	70-130	1.78	30	
Surrogate: 1,2-Dichloroethane-d4	0.0447		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	50-150			

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Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0573 - EPA 3550A**

**Blank (BGC0573-BLK1)**

Prepared: 03/18/23 Analyzed: 03/22/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.5		"	12.5		100	30-150			

**LCS (BGC0573-BS1)**

Prepared: 03/18/23 Analyzed: 03/22/23

C10-C28 (DRO)	359	50	mg/kg	500		71.8	70-130			
Surrogate: o-Terphenyl	12.5		"	12.5		99.7	30-150			

**Matrix Spike (BGC0573-MS1)**

Source: 2303404-01

Prepared: 03/18/23 Analyzed: 03/22/23

C10-C28 (DRO)	387	50	mg/kg	500	31.8	71.0	70-130			
Surrogate: o-Terphenyl	11.2		"	12.5		89.8	30-150			

**Matrix Spike Dup (BGC0573-MSD1)**

Source: 2303404-01

Prepared: 03/18/23 Analyzed: 03/22/23

C10-C28 (DRO)	388	50	mg/kg	500	31.8	71.2	70-130	0.306	20	
Surrogate: o-Terphenyl	11.6		"	12.5		93.0	30-150			

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Project: Civitas - Grant Bros 43-23  
Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

## 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

#### Batch BGC0670 - EPA 5030 Soil MS

##### Blank (BGC0670-BLK1)

Prepared: 03/21/23 Analyzed: 03/22/23

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	0.0285		"	0.0333		85.4		40-150			
Surrogate: Fluoranthene-d10	0.0326		"	0.0333		97.8		40-150			

##### LCS (BGC0670-BS1)

Prepared: 03/21/23 Analyzed: 03/22/23

Acenaphthene	0.0296	0.00500	mg/kg	0.0333		88.7		31-137			
Anthracene	0.0298	0.00500	"	0.0333		89.3		30-120			
Benzo (a) anthracene	0.0285	0.00500	"	0.0333		85.4		30-120			
Benzo (a) pyrene	0.0306	0.00500	"	0.0333		91.7		30-120			
Benzo (b) fluoranthene	0.0283	0.00500	"	0.0333		84.8		30-120			
Benzo (k) fluoranthene	0.0279	0.00500	"	0.0333		83.6		30-120			
Chrysene	0.0248	0.00500	"	0.0333		74.5		30-120			
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333		84.9		30-120			
Fluoranthene	0.0284	0.00500	"	0.0333		85.2		30-120			
Fluorene	0.0302	0.00500	"	0.0333		90.5		30-120			
Indeno (1,2,3-cd) pyrene	0.0264	0.00500	"	0.0333		79.1		30-120			
Pyrene	0.0295	0.00500	"	0.0333		88.6		35-142			
1-Methylnaphthalene	0.0273	0.00500	"	0.0333		81.8		35-142			
2-Methylnaphthalene	0.0275	0.00500	"	0.0333		82.5		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0273		"	0.0333		81.9		40-150			
Surrogate: Fluoranthene-d10	0.0306		"	0.0333		91.8		40-150			

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Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

## 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 BGC0670 - EPA 5030 Soil MS

##### Matrix Spike (BGC0670-MS1)

Source: 2303361-01

Prepared: 03/21/23 Analyzed: 03/22/23

Acenaphthene	0.0228	0.00500	mg/kg	0.0333	ND	68.3	31-137		
Anthracene	0.0224	0.00500	"	0.0333	ND	67.2	30-120		
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120		
Benzo (a) pyrene	0.0226	0.00500	"	0.0333	ND	67.8	30-120		
Benzo (b) fluoranthene	0.0210	0.00500	"	0.0333	ND	63.1	30-120		
Benzo (k) fluoranthene	0.0213	0.00500	"	0.0333	ND	63.9	30-120		
Chrysene	0.0196	0.00500	"	0.0333	ND	58.8	30-120		
Dibenz (a,h) anthracene	0.0203	0.00500	"	0.0333	ND	61.0	30-120		
Fluoranthene	0.0207	0.00500	"	0.0333	ND	62.2	30-120		
Fluorene	0.0229	0.00500	"	0.0333	ND	68.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0209	0.00500	"	0.0333	ND	62.6	30-120		
Pyrene	0.0240	0.00500	"	0.0333	ND	72.1	35-142		
1-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	63.1	15-130		
2-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0228		"	0.0333		68.3	40-150		
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		68.9	40-150		

##### Matrix Spike Dup (BGC0670-MSD1)

Source: 2303361-01

Prepared: 03/21/23 Analyzed: 03/22/23

Acenaphthene	0.0238	0.00500	mg/kg	0.0333	ND	71.4	31-137	4.46	30
Anthracene	0.0227	0.00500	"	0.0333	ND	68.1	30-120	1.34	30
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	69.1	30-120	2.34	30
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	2.92	30
Benzo (b) fluoranthene	0.0218	0.00500	"	0.0333	ND	65.3	30-120	3.54	30
Benzo (k) fluoranthene	0.0226	0.00500	"	0.0333	ND	67.8	30-120	6.02	30
Chrysene	0.0201	0.00500	"	0.0333	ND	60.2	30-120	2.35	30
Dibenz (a,h) anthracene	0.0224	0.00500	"	0.0333	ND	67.1	30-120	9.53	30
Fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120	12.8	30
Fluorene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	6.70	30
Indeno (1,2,3-cd) pyrene	0.0216	0.00500	"	0.0333	ND	64.9	30-120	3.63	30
Pyrene	0.0234	0.00500	"	0.0333	ND	70.3	35-142	2.53	30
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.4	15-130	13.8	50
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	15-130	9.65	50
Surrogate: 2-Methylnaphthalene-d10	0.0240		"	0.0333		72.0	40-150		
Surrogate: Fluoranthene-d10	0.0266		"	0.0333		79.9	40-150		

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0645 - EPA 3050B**

**Blank (BGC0645-BLK1)**

Prepared: 03/20/23 Analyzed: 03/21/23

Boron ND 0.0100 mg/L

**LCS (BGC0645-BS1)**

Prepared: 03/20/23 Analyzed: 03/21/23

Boron 5.14 0.0100 mg/L 5.00 103 80-120

**Duplicate (BGC0645-DUP1)**

**Source: 2303374-01**

Prepared: 03/20/23 Analyzed: 03/21/23

Boron 0.0594 0.0100 mg/L 0.0652 9.26 20

**Matrix Spike (BGC0645-MS1)**

**Source: 2303374-01**

Prepared: 03/20/23 Analyzed: 03/21/23

Boron 4.79 0.0100 mg/L 5.00 0.0652 94.5 75-125

**Matrix Spike Dup (BGC0645-MSD1)**

**Source: 2303374-01**

Prepared: 03/20/23 Analyzed: 03/21/23

Boron 5.04 0.0100 mg/L 5.00 0.0652 99.6 75-125 5.19 25

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Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0700 - General Preparation**

**Blank (BGC0700-BLK1)**

Prepared: 03/21/23 Analyzed: 03/22/23

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

**LCS (BGC0700-BS1)**

Prepared: 03/21/23 Analyzed: 03/22/23

Calcium	5.21	0.0500	mg/L wet	5.00	104	70-130
Magnesium	4.95	0.0500	"	5.00	99.0	70-130
Sodium	4.72	0.0500	"	5.00	94.3	70-130

Summit Scientific

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PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0684 - General Preparation**

**Duplicate (BGC0684-DUP1)**

**Source: 2303401-01**

**Prepared & Analyzed: 03/21/23**

% Solids	95.3	%	95.3	0.0166	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0729 - General Preparation**

**Blank (BGC0729-BLK1)**

Prepared & Analyzed: 03/22/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGC0729-BS1)**

Prepared & Analyzed: 03/22/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BGC0729-DUP1)**

**Source: 2303398-01**

Prepared & Analyzed: 03/22/23

Specific Conductance (EC) 5.12 0.0100 mmhos/cm 5.28 3.11 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

**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 BGC0728 - General Preparation**

**LCS (BGC0728-BS1)**

Prepared & Analyzed: 03/22/23

pH	9.18	pH Units	9.18	100	95-105
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**Duplicate (BGC0728-DUP1)**

Source: 2303398-01

Prepared & Analyzed: 03/22/23

pH	7.34	pH Units	7.37	0.408	20
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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Civitas - Grant Bros 43-23

Project Number: CO23-050  
Project Manager: Paul Henchan

**Reported:**  
03/23/23 15:58

### Notes and Definitions

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