

Carlson 1

NENE Sec. 2-T2S-R66W

API #: 001-06792

Facility ID: 319790

Remediation Project #: 28730

Form 19 Data Package

May 2023

Prepared by Tasman, Inc.



On behalf of Extraction Oil and Gas, Inc.



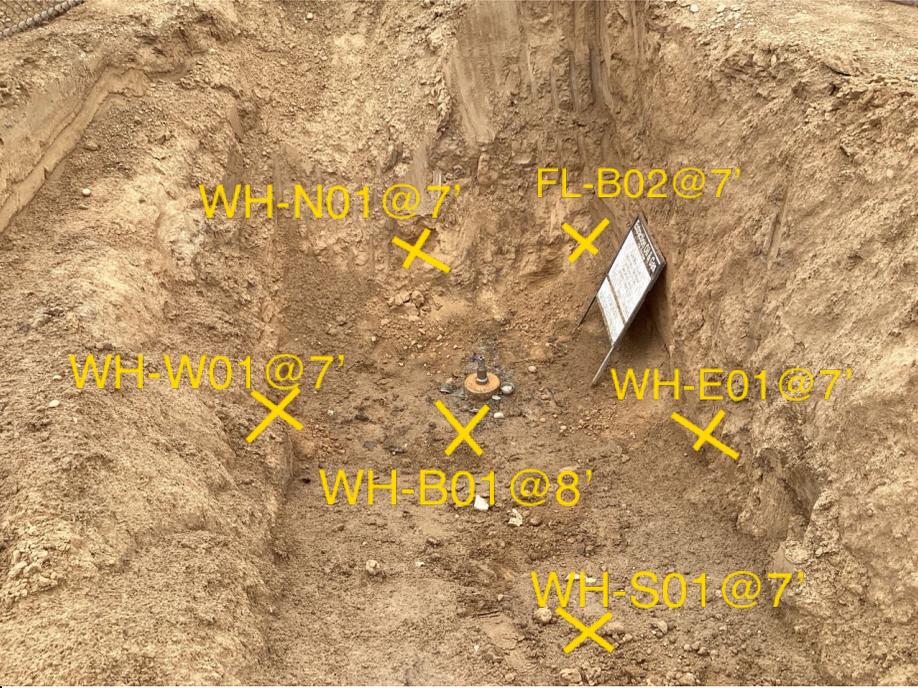
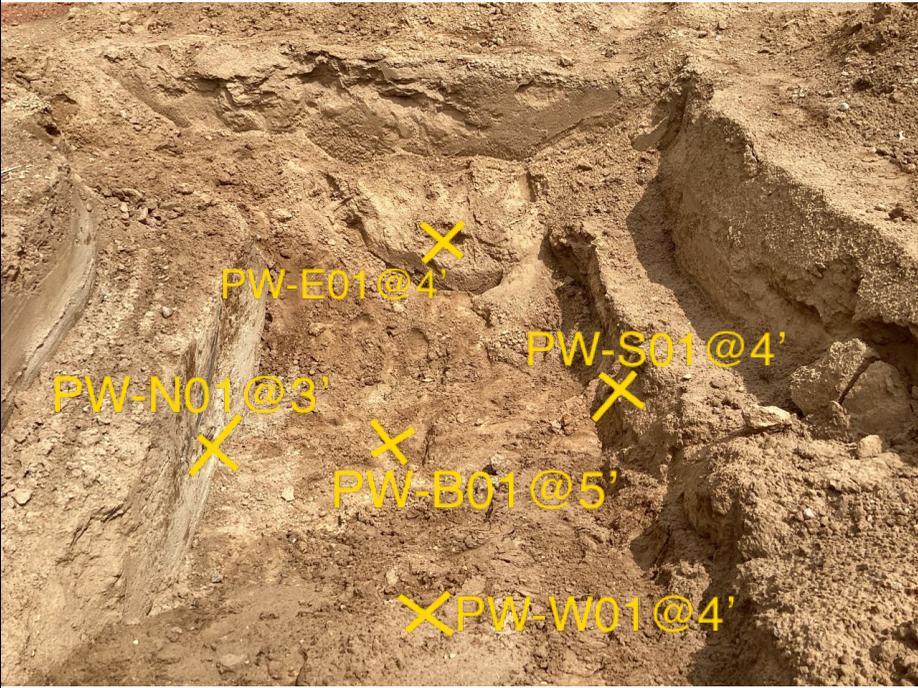
PHOTO LOG



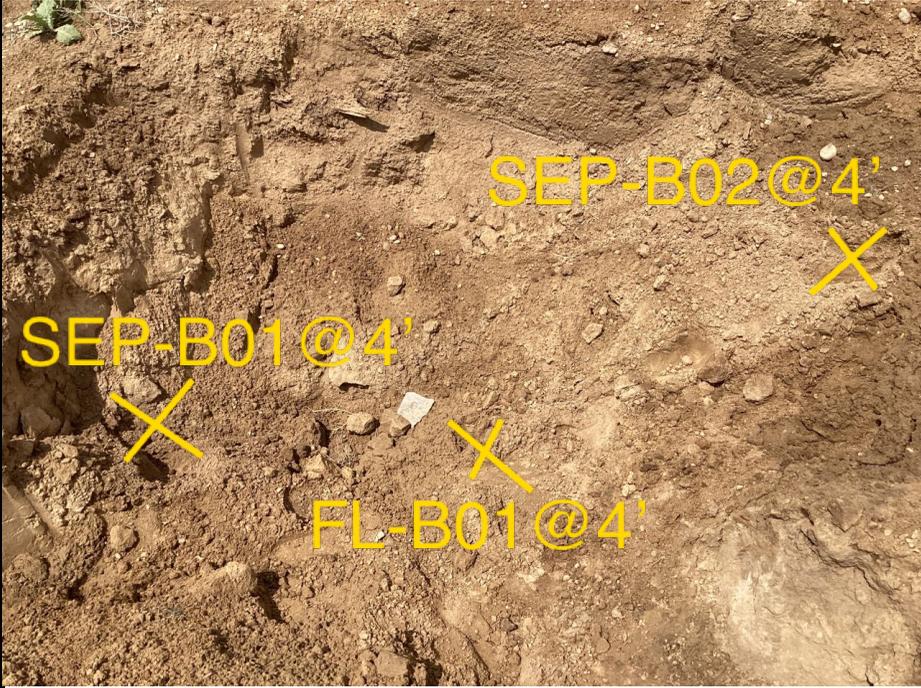
Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:	
Notes/Conditions: Surrounding land use, facing N			

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

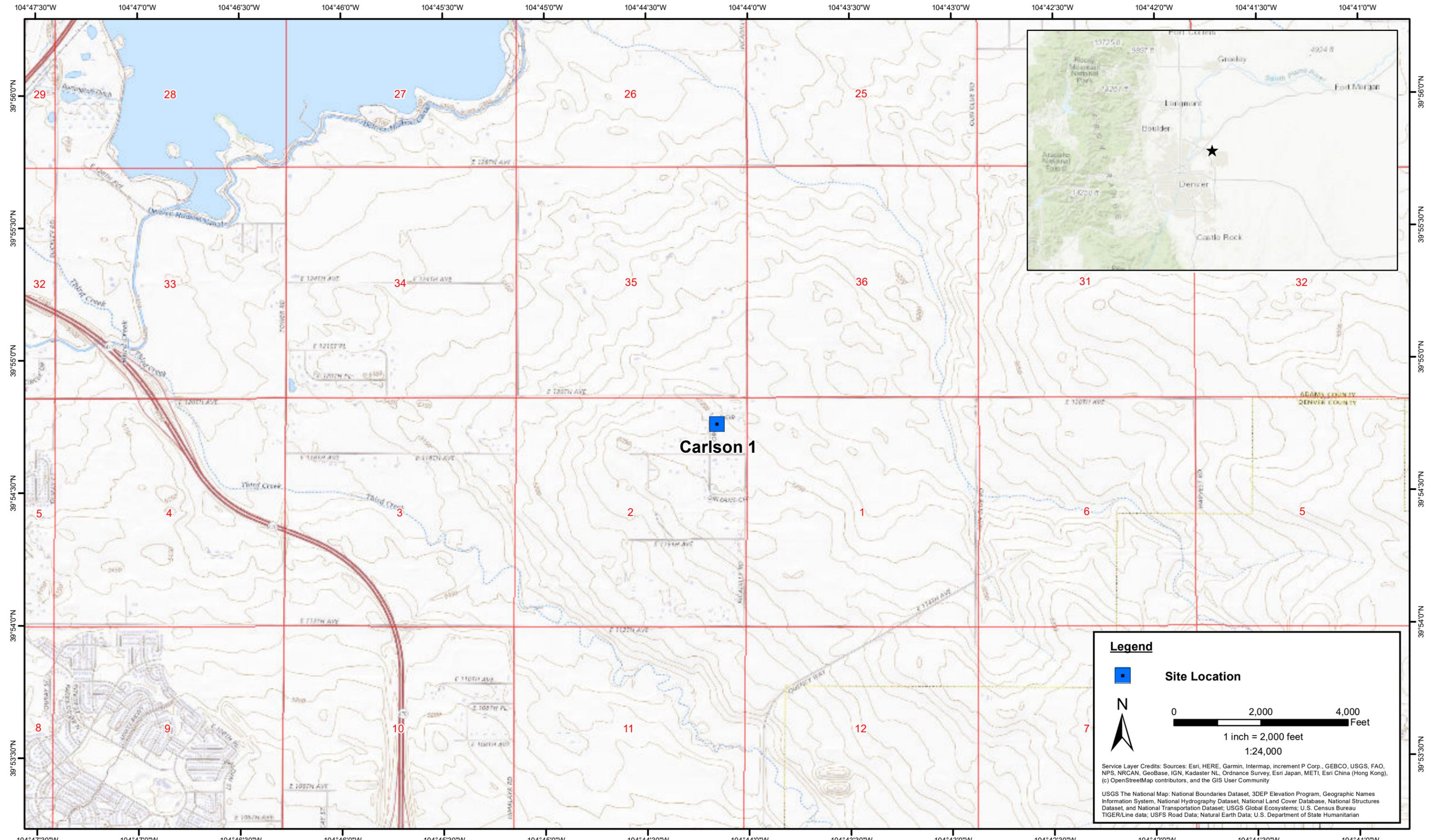
							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Surrounding land use, facing E				Notes/Conditions: Surrounding land use, facing W			

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil screening and sampling locations, facing N			Notes/Conditions: Soil screening and sampling locations, facing E		

					
Material:	Volume:	Contents:	Equipment ID:	Equipment Type:	
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil screening and sampling location, facing E			Notes/Conditions: Soil screening and sampling location, facing E		

							
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:		Volume:		Material:		Volume:	
Contents:				Contents:			
Notes/Conditions: Soil screening and sampling location, facing N				Notes/Conditions:			

FIGURES



DATE:	May 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



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

Extraction Oil & Gas, Inc
Carlson 1
 NENE Sec. 2-T2S-R66W
 Adams County, Colorado

Site Location Map

Figure
1



Legend

-  Soil sample location – field screened (Collected via Trimble GPS)
-  Soil sample location - submitted for laboratory analysis – exceeded COGCC Table 915-1 standards (Collected via Trimble GPS)
-  Excavation Extent (Collected via Trimble GPS)
-  Stockpile Location (Collected via Trimble GPS)

Notes

All locations are approximate unless otherwise noted.
 GPS – Global Positioning System
 COGCC – Colorado Oil & Gas Conservation Commission

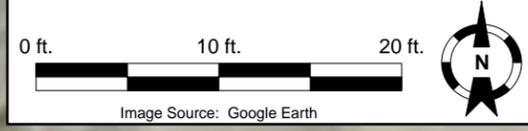


Image Source: Google Earth

DATE:	May 23, 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	S. Vogt



Tasman, Inc.
 6855 W. 119th Avenue
 Broomfield, Colorado 80020

Extraction Oil & Gas, Inc.
Carlson 1
 NENE Sec. 2-T2S-R66W
 Adams County, Colorado

Wellhead Soil Sample
 Location Map

FIGURE
 2A



Legend

 Soil sample location - submitted for laboratory analysis – below COGCC Table 915-1 standards (Collected via Trimble GPS)

 Flowline Location

Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

COGCC – Colorado Oil & Gas Conservation Commission

0 ft. 15 ft. 30 ft.

Image Source: Google Earth



DATE:	May 23, 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	S. Vogt



Tasman, Inc.
6855 W. 119th Avenue
Broomfield, Colorado 80020

Extraction Oil & Gas, Inc.
Carlson 1
NENE Sec. 2-T2S-R66W
Adams County, Colorado

Flowline Soil Sample
Location Map

FIGURE
2B



- Legend**
- Soil sample location – field screened (Collected via Trimble GPS)
 - Soil sample location - submitted for laboratory analysis – below COGCC Table 915-1 standards (Collected via Trimble GPS)
 - Soil sample location - submitted for laboratory analysis – exceeded COGCC Table 915-1 standards (Collected via Trimble GPS)
 - Excavation Extent (Collected via Trimble GPS)
 - Stockpile Location (Collected via Trimble GPS)

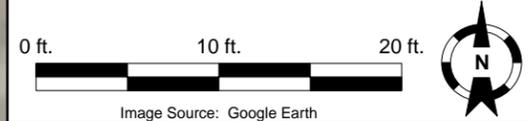
Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

COGCC – Colorado Oil & Gas Conservation Commission

Soil suitability exceedances not illustrated in this figure. See Table 5.



DATE:	May 23, 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	S. Vogt



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Broomfield, Colorado 80020

Extraction Oil & Gas, Inc.
Carlson 1
NENE Sec. 2-T2S-R66W
Adams County, Colorado

Tank Battery Soil Sample
Location Map

FIGURE
2C



Legend

✚ Soil sample location - submitted for laboratory analysis – below COGCC Table 915-1 standards (Collected via Trimble GPS)

Notes

All locations are approximate unless otherwise noted.

GPS – Global Positioning System

COGCC – Colorado Oil & Gas Conservation Commission

0 ft. 10 ft. 20 ft.

Image Source: Google Earth

DATE:	May 23, 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	S. Vogt

Tasman, Inc.
6855 W. 119th Avenue
Broomfield, Colorado 80020

Extraction Oil & Gas, Inc.
Carlson 1
NENE Sec. 2-T2S-R66W
Adams County, Colorado

Separator Soil Sample
Location Map

FIGURE
2D

TABLES

**TABLE 1
CARLSON 1**



**SOIL SAMPLE LOCATIONS
EXTRACTION OIL & GAS, INC.**

Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
AST-B01@3"	3"	05/10/2023	1.4	39.912455	-104.735591	0.8	Y
DL-B01@5'	5'	05/10/2023	14.2	39.912476	-104.735589	0.8	Y
FL-B01@4'	4'	05/10/2023	1.3	39.912835	-104.735786	0.9	Y
FL-B02@7'	7'	05/10/2023	1.0	39.912584	-104.735919	1.2	Y
PW-B01@5'	5'	05/10/2023	1.9	39.912435	-104.735605	0.8	Y
PW-E01@4'	4'	05/10/2023	3.5	39.912431	-104.735586	1.1	N
PW-N01@3'	3'	05/10/2023	374.6	39.912445	-104.735607	1	Y
PW-S01@4'	4'	05/10/2023	6.0	39.912423	-104.735607	1.1	N
PW-W01@4'	4'	05/10/2023	41.6	39.912433	-104.735618	1.1	N
SEP-B01@4'	4'	05/10/2023	1.3	39.912832	-104.735794	0.9	Y
SEP-B02@4'	4'	05/10/2023	1.4	39.912837	-104.735774	0.9	Y
SP-CS01	-	05/10/2023	6.8	-	-	-	Y
SP-CS02	-	05/10/2023	22.1	-	-	-	Y
WH-B01@8'	8'	05/10/2023	24.4	39.912585	-104.735933	0.9	Y
WH-E01@7'	7'	05/10/2023	2.2	39.912570	-104.735922	1.4	N
WH-N01@7'	7'	05/10/2023	1.8	39.912589	-104.735931	1.1	N
WH-S01@7'	7'	05/10/2023	3.5	39.912567	-104.735934	1.4	N
WH-W01@7'	7'	05/10/2023	2.3	39.912564	-104.735953	1	N

Notes:

PID = Photoionization Detector

ppm = parts per million

HC = Hydrocarbon

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

**TABLE 2
CARLSON 1
SOIL ANALYTICAL DATA - 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)
COGCC Organic Compounds in Soils ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
COGCC Organic Compounds in Soils ⁽²⁾			1.2	490	5.8	58	2	500			30	27
AST-B01@3"	3"	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
DL-B01@5'	5'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	2.2	1,300	660	<0.0050	<0.0050
FL-B01@4'	4'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
FL-B02@7'	7'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-B01@5'	5'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
PW-N01@3'	3'	05/10/2023	<0.0020	<0.0050	<0.0050	0.79	0.41	17	1,700	410	1.0	0.92
SEP-B01@4'	4'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SEP-B02@4'	4'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS01	-	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	320	260	<0.0050	<0.0050
SP-CS02	-	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	260	230	<0.0050	<0.0050
WH-B01@8'	8'	05/10/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	280	140	<0.0050	<0.0050

Notes:

VOCs = Volatile Organic Compounds

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = milligram 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 COGCC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

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

**TABLE 3
CARLSON 1
SOIL ANALYTICAL DATA - 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)
COGCC Organic Compounds in Soils ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
COGCC Organic Compounds in Soils ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
AST-B01@3"	3"	05/10/2023	<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
DL-B01@5'	5'	05/10/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00991	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL-B01@4'	4'	05/10/2023	<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
FL-B02@7'	7'	05/10/2023	<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
PW-B01@5'	5'	05/10/2023	<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
PW-N01@3'	3'	05/10/2023	<0.00500	<0.00500	0.0567	<0.00500	0.00723	<0.00500	0.0447	<0.00500	0.0229	<0.00500	<0.00500	1.63	2.52	0.0514
SEP-B01@4'	4'	05/10/2023	<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
SEP-B02@4'	4'	05/10/2023	<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
SP-CS01	-	05/10/2023	<0.00500	<0.00500	0.00800	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0112	<0.00500	0.00731	<0.00500	<0.00500
SP-CS02	-	05/10/2023	<0.00500	<0.00500	0.00547	<0.00500	<0.00500	<0.00500	0.00644	<0.00500	<0.00500	<0.00500	<0.00500	0.0169	0.0242	<0.00500
WH-B01@8'	8'	05/10/2023	<0.00500	<0.00500	0.0155	<0.00500	<0.00500	<0.00500	0.0122	<0.00500	<0.00500	0.0508	<0.00500	0.0315	0.00863	0.0102

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

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

COGCC = Colorado Oil and Gas Conservation Commission

(<) = 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 COGCC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

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

TABLE 5
CARLSON 1



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

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
COGCC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
AST-B01@3"	3"	05/10/2023	7.66	0.131	0.212	0.161
DL-B01@5'	5'	05/10/2023	7.66	0.449	0.913	0.114
FL-B01@4'	4'	05/10/2023	7.71	0.103	0.243	0.106
FL-B02@7'	7'	05/10/2023	7.28	0.904	0.625	0.0867
PW-B01@5'	5'	05/10/2023	8.20	7.96	0.959	0.686
PW-N01@3'	3'	05/10/2023	7.32	3.54	0.536	0.405
SEP-B01@4'	4'	05/10/2023	7.65	0.521	0.310	0.173
SEP-B02@4'	4'	05/10/2023	7.73	0.190	0.203	0.128
SP-CS01	-	05/10/2023	7.11	0.0622	0.443	0.120
SP-CS02	-	05/10/2023	7.73	0.709	0.656	0.147
WH-B01@8'	8'	05/10/2023	7.60	1.27	1.27	0.109

Notes:

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

COGCC = Colorado Oil and Gas Conservation 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 COGCC Table 915-1: Soil Suitability for Reclamation Concentrations

Average background concentration

* Result exceeded the COGCC 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

May 22, 2023

Sam Vogt
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Civitas - Carlson 1
Work Order #2305285

Enclosed are the results of analyses for samples received by Summit Scientific on 05/10/23 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury
President



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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST-B01@3"	2305285-01	Soil	05/10/23 13:10	05/10/23 17:55
SEP-B01@4'	2305285-02	Soil	05/10/23 13:11	05/10/23 17:55
SEP-B02@4'	2305285-03	Soil	05/10/23 13:12	05/10/23 17:55
WH-B01@8'	2305285-04	Soil	05/10/23 13:26	05/10/23 17:55
FL-B01@4'	2305285-05	Soil	05/10/23 13:36	05/10/23 17:55
FL-B02@7'	2305285-06	Soil	05/10/23 13:38	05/10/23 17:55
DL-B01@5'	2305285-07	Soil	05/10/23 13:43	05/10/23 17:55
PW-B01@5'	2305285-08	Soil	05/10/23 13:55	05/10/23 17:55
PW-N01@3'	2305285-09	Soil	05/10/23 13:56	05/10/23 17:55
SP-CS01	2305285-10	Soil	05/10/23 14:00	05/10/23 17:55
SP-CS02	2305285-11	Soil	05/10/23 14:02	05/10/23 17:55

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.

Send Data To:		Send Invoice To:
Client: Civitas/Tasman	Project Manager: Sam Vogt/Jacob Evans	Company:
Address: 6855 W. 119th Ave	E-Mail: svgot@tasman-geo.com; jevans@civiresources.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020		AFE#: <u>P1619 CD</u>
Phone: PM (610) 405-9078	Project Name: <u>Carlson 1</u>	PO/Billing Codes: <u>8306.24</u>
Sampler Name: Carlson ^{CG} <u>Chris Girardi</u>	Project Number:	Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBS	TPH (GRO, DRO, ORO)	PAHs	pH, EC, SAR	Boron		Metals
1	AST-BØØ e 3"	5/10/23	1310	2			X			X			X	X	X	X	X	X		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
2	SEP-BØ1 e 4'		1311																	
3	SEP-BØ2 e 4'		1312																	
4	WH-BØ1 e 8'		1326																	
5	FL-BØ1 e 4'		1336																	
6	FL-BØ2 e 7'		1338																	
7	DL-BØ1 e 5'		1343																	
8	PW-BØ1 e 5'		1355																	
9	PW-NØ1 e 3'		1356																	
10	SP-CSØ1		1400																	
11	SP-CSØ2		1402																	
12																				
13																				
14																				
15																				

Relinquished by: <u>Chris Girardi</u>	Date/Time: <u>5/10/23 1530</u>	Received by: <u>Tasman Lockbox</u>	Date/Time: <u>5/10/23 1530</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: <u>5/10/23 1755</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/10/23 1755</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>11.5</u>	Corrected Temperature: <u>8</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S₂

S2 Work Order# 2305285

Sample Receipt Checklist

Client: Cintestfasman Client Project ID: Carlson 1

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ 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"/>	<i>aw/ae</i>
If custody seals are present, are they intact? ⁽¹⁾	<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 ²⁺), Hexavalent Chromium (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? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<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"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ 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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

5/10/23
Date/Time



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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

AST-B01@3"
2305285-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0547	137 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0465	116 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0477	119 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0366	05/11/23	05/11/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.3	82.7 %		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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

AST-B01@3"
2305285-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0139	41.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.161	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:10**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

AST-B01@3"
2305285-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.2	0.0569	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	7.12	0.0569	"	"	"	"	"	"	
Sodium	3.23	0.0569	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.131	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.9		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.212	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B01@4'
2305285-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0597	149 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0466	117 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0484	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	16.0	128 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B01@4'
2305285-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0264	79.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	70.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.173	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:11**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B01@4'
2305285-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.6	0.0547	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	4.81	0.0547	"	"	"	"	"	"	
Sodium	12.9	0.0547	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.521	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.4		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.310	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.65		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B02@4'
2305285-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0581	145 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0456	114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0488	122 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	16.3	130 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B02@4'
2305285-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0174	52.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0145	43.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.128	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:12**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SEP-B02@4'
2305285-03 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.1	0.0549	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	4.07	0.0549	"	"	"	"	"	"	
Sodium	4.78	0.0549	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.190	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.0		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.203	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

WH-B01@8'
2305285-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0571	143 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0470	117 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0475	119 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	280	50		mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	140	50		"	"	"	"	"	"	

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	15.8	126 %		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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

WH-B01@8'
2305285-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0155	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0122	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0508	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0102	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0315	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00863	0.00500	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	53.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0149	44.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.109	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:26**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

WH-B01@8'
2305285-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	102	0.0582	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	21.7	0.0582	"	"	"	"	"	"	
Sodium	54.2	0.0582	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.27	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.9		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.27	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.60		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B01@4'
2305285-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0601	150 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0456	114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0484	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.5	108 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B01@4'
2305285-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0198	59.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0150	45.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.106	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:36**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B01@4'
2305285-05 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.7	0.0552	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	5.52	0.0552	"	"	"	"	"	"	
Sodium	2.57	0.0552	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.103	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.5		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.243	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.71		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B02@7'
2305285-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0558	140 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0467	117 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0494	124 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.3	114 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B02@7'
2305285-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0153	46.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	42.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0867	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:38**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

FL-B02@7'
2305285-06 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.4	0.0551	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	13.9	0.0551	"	"	"	"	"	"	
Sodium	28.1	0.0551	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.904	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.625	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.28		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

DL-B01@5'
2305285-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0362	05/11/23	05/12/23	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	2.2	0.50		"	"	"	"	"	"	

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0574	144 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0584	146 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0543	136 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	1300	50		mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	660	50		"	"	"	"	"	"	

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.0	128 %		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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

DL-B01@5'
2305285-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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	0.00991	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: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.114	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:43**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

DL-B01@5'
2305285-07 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	132	0.0605	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	25.3	0.0605	"	"	"	"	"	"	
Sodium	21.5	0.0605	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.449	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.6		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.913	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-B01@5'
2305285-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0560	140 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0453	113 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0502	126 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	16.4	132 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-B01@5'
2305285-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	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: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.686	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:55**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-B01@5'
2305285-08 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.8	0.0559	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	6.82	0.0559	"	"	"	"	"	"	
Sodium	153	0.0559	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.96	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.5		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.959	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-N01@3'
2305285-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0362	05/11/23	05/12/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.79	0.010	"	"	"	"	"	"	E
1,2,4-Trimethylbenzene	1.0	0.0050	"	"	"	"	"	"	E
1,3,5-Trimethylbenzene	0.92	0.0050	"	"	"	"	"	"	E
Naphthalene	0.41	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	17	0.50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0554	138 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0593	148 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0537	134 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1600	50	mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	410	50	"	"	"	"	"	"	

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	17.4	139 %	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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-N01@3'
2305285-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0567	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00723	0.00500	"	"	"	"	"	"	
Chrysene	0.0447	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0229	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0514	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	1.63	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	2.52	0.00500	"	"	"	"	"	"	E

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0295	88.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0142	42.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.405	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 13:56**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PW-N01@3'
2305285-09 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.0	0.0540	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	4.16	0.0540	"	"	"	"	"	"	
Sodium	74.7	0.0540	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.54	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.536	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.32		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS01
2305285-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0586	147 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0432	108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0472	118 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	320	50		mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	260	50		"	"	"	"	"	"	

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.6	133 %		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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS01
2305285-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.00800	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	0.0112	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.00731	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0149	44.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.120	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 14:00**

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 - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS01
2305285-10 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2150	0.0551	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	162	0.0551	"	"	"	"	"	"	
Sodium	11.1	0.0551	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0622	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.443	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.11		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS02
2305285-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0362	05/11/23	05/12/23	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: **05/10/23 14:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0576	144 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0470	118 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0482	120 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	260	50		mg/kg	1	BGE0366	05/11/23	05/12/23	EPA 8015M	
C28-C36 (ORO)	230	50		"	"	"	"	"	"	

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.8	134 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS02
2305285-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0412	05/12/23	05/13/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.00547	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.00644	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	0.0169	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0242	0.00500	"	"	"	"	"	"	

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0210	63.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.147	0.0100	mg/L	1	BGE0660	05/18/23	05/21/23	EPA 6020B	

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

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

SP-CS02
2305285-11 (Soil)

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.8	0.0549	mg/L dry	1	BGE0573	05/16/23	05/21/23	EPA 6020B	
Magnesium	13.1	0.0549	"	"	"	"	"	"	
Sodium	25.4	0.0549	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.709	0.00100	units	1	BGE0736	05/22/23	05/22/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.1		%	1	BGE0560	05/16/23	05/16/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.656	0.0100	mmhos/cm	1	BGE0613	05/17/23	05/17/23	EPA 120.1	

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

Date Sampled: **05/10/23 14:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BGE0612	05/17/23	05/17/23	EPA 9045D	

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGE0362 - EPA 5030 Soil MS

Blank (BGE0362-BLK1)

Prepared: 05/11/23 Analyzed: 05/12/23

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	0.0580		"	0.0400		145	50-150			
Surrogate: Toluene-d8	0.0454		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0474		"	0.0400		119	50-150			

LCS (BGE0362-BS1)

Prepared: 05/11/23 Analyzed: 05/12/23

Benzene	0.0792	0.0020	mg/kg	0.100		79.2	70-130			
Toluene	0.0954	0.0050	"	0.100		95.4	70-130			
Ethylbenzene	0.0728	0.0050	"	0.100		72.8	70-130			
m,p-Xylene	0.151	0.010	"	0.200		75.7	70-130			
o-Xylene	0.0706	0.0050	"	0.100		70.6	70-130			
1,2,4-Trimethylbenzene	0.0811	0.0050	"	0.100		81.1	70-130			
1,3,5-Trimethylbenzene	0.0840	0.0050	"	0.100		84.0	70-130			
Naphthalene	0.0710	0.0038	"	0.100		71.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0592		"	0.0400		148	50-150			
Surrogate: Toluene-d8	0.0519		"	0.0400		130	50-150			
Surrogate: 4-Bromofluorobenzene	0.0496		"	0.0400		124	50-150			

Matrix Spike (BGE0362-MS1)

Source: 2305284-01

Prepared: 05/11/23 Analyzed: 05/12/23

Benzene	0.0902	0.0020	mg/kg	0.100	ND	90.2	70-130			
Toluene	0.108	0.0050	"	0.100	ND	108	70-130			
Ethylbenzene	0.0899	0.0050	"	0.100	ND	89.9	70-130			
m,p-Xylene	0.186	0.010	"	0.200	ND	92.9	70-130			
o-Xylene	0.0849	0.0050	"	0.100	ND	84.9	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
Naphthalene	0.0715	0.0038	"	0.100	ND	71.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0598		"	0.0400		149	50-150			
Surrogate: Toluene-d8	0.0509		"	0.0400		127	50-150			
Surrogate: 4-Bromofluorobenzene	0.0476		"	0.0400		119	50-150			

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BGE0362 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0362-MSD1)	Source: 2305284-01			Prepared: 05/11/23 Analyzed: 05/12/23						
Benzene	0.0850	0.0020	mg/kg	0.100	ND	85.0	70-130	5.92	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	3.06	30	
Ethylbenzene	0.0934	0.0050	"	0.100	ND	93.4	70-130	3.80	30	
m,p-Xylene	0.194	0.010	"	0.200	ND	96.9	70-130	4.20	30	
o-Xylene	0.0870	0.0050	"	0.100	ND	87.0	70-130	2.44	30	
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	6.17	30	
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	6.13	30	
Naphthalene	0.0758	0.0038	"	0.100	ND	75.8	70-130	5.83	30	
Surrogate: 1,2-Dichloroethane-d4	0.0597		"	0.0400		149	50-150			
Surrogate: Toluene-d8	0.0510		"	0.0400		128	50-150			
Surrogate: 4-Bromofluorobenzene	0.0460		"	0.0400		115	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGE0366 - EPA 3550A

Blank (BGE0366-BLK1)

Prepared & Analyzed: 05/11/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.2		"	12.5		114		30-150			

LCS (BGE0366-BS1)

Prepared & Analyzed: 05/11/23

C10-C28 (DRO)	441	50	mg/kg	500		88.3		70-130			
Surrogate: <i>o</i> -Terphenyl	18.4		"	12.5		147		30-150			

Matrix Spike (BGE0366-MS1)

Source: 2305284-01

Prepared & Analyzed: 05/11/23

C10-C28 (DRO)	480	50	mg/kg	500	39.7	88.2		70-130			
Surrogate: <i>o</i> -Terphenyl	16.5		"	12.5		132		30-150			

Matrix Spike Dup (BGE0366-MSD1)

Source: 2305284-01

Prepared & Analyzed: 05/11/23

C10-C28 (DRO)	393	50	mg/kg	500	39.7	70.7		70-130	20.0	20	
Surrogate: <i>o</i> -Terphenyl	18.0		"	12.5		144		30-150			

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0412 - EPA 5030 Soil MS

Blank (BGE0412-BLK1)

Prepared & Analyzed: 05/12/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0338</i>		<i>"</i>	<i>0.0333</i>	<i>101</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0309</i>		<i>"</i>	<i>0.0333</i>	<i>92.6</i>	<i>40-150</i>				

LCS (BGE0412-BS1)

Prepared & Analyzed: 05/12/23

Acenaphthene	0.0338	0.00500	mg/kg	0.0333	101	31-137
Anthracene	0.0353	0.00500	"	0.0333	106	30-120
Benzo (a) anthracene	0.0309	0.00500	"	0.0333	92.6	30-120
Benzo (a) pyrene	0.0302	0.00500	"	0.0333	90.5	30-120
Benzo (b) fluoranthene	0.0321	0.00500	"	0.0333	96.2	30-120
Benzo (k) fluoranthene	0.0392	0.00500	"	0.0333	118	30-120
Chrysene	0.0316	0.00500	"	0.0333	94.7	30-120
Dibenz (a,h) anthracene	0.0273	0.00500	"	0.0333	81.9	30-120
Fluoranthene	0.0332	0.00500	"	0.0333	99.5	30-120
Fluorene	0.0364	0.00500	"	0.0333	109	30-120
Indeno (1,2,3-cd) pyrene	0.0272	0.00500	"	0.0333	81.6	30-120
Pyrene	0.0374	0.00500	"	0.0333	112	35-142
1-Methylnaphthalene	0.0349	0.00500	"	0.0333	105	35-142
2-Methylnaphthalene	0.0332	0.00500	"	0.0333	99.7	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0356</i>		<i>"</i>	<i>0.0333</i>	<i>107</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0352</i>		<i>"</i>	<i>0.0333</i>	<i>106</i>	<i>40-150</i>

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGE0412 - EPA 5030 Soil MS

Matrix Spike (BGE0412-MS1)	Source: 2305130-01			Prepared & Analyzed: 05/12/23						
Acenaphthene	0.0163	0.00500	mg/kg	0.0333	ND	48.8	31-137			
Anthracene	0.0192	0.00500	"	0.0333	ND	57.7	30-120			
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120			
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.9	30-120			
Benzo (b) fluoranthene	0.0171	0.00500	"	0.0333	ND	51.2	30-120			
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.6	30-120			
Chrysene	0.0173	0.00500	"	0.0333	ND	51.8	30-120			
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.6	30-120			
Fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	30-120			
Fluorene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0148	0.00500	"	0.0333	ND	44.4	30-120			
Pyrene	0.0206	0.00500	"	0.0333	ND	61.8	35-142			
1-Methylnaphthalene	0.0174	0.00500	"	0.0333	ND	52.1	15-130			
2-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0170</i>		<i>"</i>	<i>0.0333</i>		<i>50.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0196</i>		<i>"</i>	<i>0.0333</i>		<i>58.9</i>	<i>40-150</i>			

Matrix Spike Dup (BGE0412-MSD1)	Source: 2305130-01			Prepared: 05/12/23 Analyzed: 05/13/23						
Acenaphthene	0.0151	0.00500	mg/kg	0.0333	ND	45.3	31-137	7.54	30	
Anthracene	0.0159	0.00500	"	0.0333	ND	47.8	30-120	18.8	30	
Benzo (a) anthracene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	15.5	30	
Benzo (a) pyrene	0.0141	0.00500	"	0.0333	ND	42.2	30-120	16.7	30	
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.4	30-120	18.7	30	
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	19.4	30	
Chrysene	0.0144	0.00500	"	0.0333	ND	43.2	30-120	18.1	30	
Dibenz (a,h) anthracene	0.0139	0.00500	"	0.0333	ND	41.8	30-120	4.26	30	
Fluoranthene	0.0155	0.00500	"	0.0333	ND	46.6	30-120	19.9	30	
Fluorene	0.0150	0.00500	"	0.0333	ND	45.0	30-120	13.7	30	
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	5.31	30	
Pyrene	0.0168	0.00500	"	0.0333	ND	50.5	35-142	20.1	30	
1-Methylnaphthalene	0.0178	0.00500	"	0.0333	ND	53.5	15-130	2.55	50	
2-Methylnaphthalene	0.0151	0.00500	"	0.0333	ND	45.2	15-130	2.93	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0172</i>		<i>"</i>	<i>0.0333</i>		<i>51.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0160</i>		<i>"</i>	<i>0.0333</i>		<i>47.9</i>	<i>40-150</i>			

Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

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

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

Batch BGE0660 - EPA 3050B

Blank (BGE0660-BLK1)

Prepared: 05/18/23 Analyzed: 05/21/23

Boron ND 0.0100 mg/L

LCS (BGE0660-BS1)

Prepared: 05/18/23 Analyzed: 05/21/23

Boron 5.20 0.0100 mg/L 5.00 104 80-120

Duplicate (BGE0660-DUP1)

Source: 2305285-01

Prepared: 05/18/23 Analyzed: 05/21/23

Boron 5.34 0.0100 mg/L 0.161 188 20 QR-03

Matrix Spike (BGE0660-MS1)

Source: 2305285-01

Prepared: 05/18/23 Analyzed: 05/21/23

Boron 0.180 0.0100 mg/L 5.00 0.161 0.390 75-125 QM-05

Matrix Spike Dup (BGE0660-MSD1)

Source: 2305285-01

Prepared: 05/18/23 Analyzed: 05/21/23

Boron 5.27 0.0100 mg/L 5.00 0.161 102 75-125 187 25 QM-05

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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

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

Summit Scientific

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

Batch BGE0573 - General Preparation

Blank (BGE0573-BLK1)

Prepared: 05/16/23 Analyzed: 05/21/23

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

LCS (BGE0573-BS1)

Prepared: 05/16/23 Analyzed: 05/21/23

Calcium	5.29	0.0500	mg/L wet	5.00		106	70-130			
Magnesium	5.26	0.0500	"	5.00		105	70-130			
Sodium	5.37	0.0500	"	5.00		107	70-130			

Summit Scientific

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Tasman Geosciences
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Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

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

Summit Scientific

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

Batch BGE0560 - General Preparation

Duplicate (BGE0560-DUP1)

Source: 2305283-01

Prepared & Analyzed: 05/16/23

% Solids	82.0		%		81.7			0.280	20	
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Summit Scientific

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

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

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

Summit Scientific

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

Batch BGE0613 - General Preparation

Blank (BGE0613-BLK1)

Prepared & Analyzed: 05/17/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGE0613-BS1)

Prepared & Analyzed: 05/17/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BGE0613-DUP1)

Source: 2305283-01

Prepared & Analyzed: 05/17/23

Specific Conductance (EC) 0.692 0.0100 mmhos/cm 0.697 0.749 20

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

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

Summit Scientific

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

Batch BGE0612 - General Preparation

LCS (BGE0612-BS1)

Prepared & Analyzed: 05/17/23

pH	8.95	pH Units	9.18	97.5	95-105
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Duplicate (BGE0612-DUP1)

Source: 2305283-01

Prepared & Analyzed: 05/17/23

pH	7.42	pH Units	7.41	0.135	20
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Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - Carlson 1

Project Number: P1619 CD
Project Manager: Sam Vogt

Reported:
05/22/23 15:39

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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