

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 20, 2025

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Cottonwood Creek 4-65 27 1H

Work Order #2412475

Enclosed are the results of analyses for samples received by Summit Scientific on 12/20/24 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
 Project Manager: Sam Vogt

**Reported:**  
 02/20/25 10:10

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@7'	2412475-01	Soil	12/20/24 11:15	12/20/24 18:30
WH-N01@6'	2412475-02	Soil	12/20/24 11:20	12/20/24 18:30
WH-S01@6'	2412475-03	Soil	12/20/24 11:25	12/20/24 18:30
WH-E01@6'	2412475-04	Soil	12/20/24 11:30	12/20/24 18:30
WH-W01@6'	2412475-05	Soil	12/20/24 11:35	12/20/24 18:30
FL-B01@3'	2412475-06	Soil	12/20/24 11:40	12/20/24 18:30
SP-CS01	2412475-07	Soil	12/20/24 11:45	12/20/24 18:30
FL-B03@3'	2412475-08	Soil	12/20/24 11:55	12/20/24 18:30
SEP-B01@3"	2412475-09	Soil	12/20/24 12:00	12/20/24 18:30
SEP-B02@3'	2412475-10	Soil	12/20/24 12:05	12/20/24 18:30
SP-CS02	2412475-11	Soil	12/20/24 12:10	12/20/24 18:30
2PSEP-B01@3"	2412475-12	Soil	12/20/24 12:15	12/20/24 18:30
2PSEP-B02@6"	2412475-13	Soil	12/20/24 12:20	12/20/24 18:30
AST1-B01@3"	2412475-14	Soil	12/20/24 12:25	12/20/24 18:30
AST2-B01@3"	2412475-15	Soil	12/20/24 12:30	12/20/24 18:30
AST3-B01@3"	2412475-16	Soil	12/20/24 12:35	12/20/24 18:30
AST4-B01@3"	2412475-17	Soil	12/20/24 12:40	12/20/24 18:30
PJ-B01@1'	2412475-18	Soil	12/20/24 12:45	12/20/24 18:30
SP-CS03	2412475-19	Soil	12/20/24 12:55	12/20/24 18:30

# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 2
2412475.1	

Client: Civitas/Tasman	Project Manager: Sam Vogt / Jacob Evans	Company:
Address: 6855 W. 119th Ave.	E-Mail: svogt@tasman-geo.com / jevans@civiresources.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020	Project Name: Cottonwood Creek 4-65 27 1H	AFE#: 24261
Phone: PM Phone # (610) 405-9078	Project Number:	PO/Billing Codes: 8523.195
Sampler Name: Max Sherwin, Isabel Eikermann		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)	PAH	pH, EC, SAR		Boron	Metals		
1	WH-B01@7'	12/20/2024	1115	2			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  Full Table 915	
2	WH-N01@6'		1120																			
3	WH-S01@6'		1125																			
4	WH-E01@6'		1130																			
5	WH-W01@6'		1135																			
6	FL-B01@3'		1140																			
7	SP-CS01		1145																			
8	FL-B03@3'		1155																			
9	SEP-B01@3"		1200																			
10	SEP-B02@3'		1205																			
11	SP-CS02		1210																			
12	<del>ZP-SEP</del> <sup>MS</sup> 2PSEP-B01@3'		1215																			
13	2PSEP-B02@6"		1220																			
14	AST1-B01@3"		1225																			
15	AST2-B01@3"		1230																			

Relinquished by: <i>Mohr</i>	Date/Time: 12/20/2024 1405	Received by: <i>Tasman Lockbox</i>	Date/Time: 12/20/2024 1405	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 12/20/24 1830	Received by: <i>[Signature]</i>	Date/Time: 12/20/24 1830	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 5.3	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

# SUMMIT SCIENTIFIC

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

Lab ID	Page 2 of 2
2412475.2	

Client: Civitas/Tasman	Send Data To: Project Manager: Sam Vogt / Jacob Evans	Send Invoice To: Company:
Address: 6855 W. 119th Ave.	E-Mail: svogt@tasman-geo.com / jevans@civiresources.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020		AFE#: 24261
Phone: PM Phone # (610) 405-9078	Project Name: Cottonwood Creek 4-65 27 1H	PO/Billing Codes: 8523, 195
Sampler Name: Max Shervin Isabel Ekermann	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)	PAH	pH, EC, SAR	Boron		Metals
1	AST3-B01@3"	12/20/2024	1235	2			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  Foil Table 915
2	AST4-B01@3"	↓	1240	↓																
3	PJ-B01@1'	↓	1245	↓																
4	SP-LS03	↓	1255	↓																
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>MShue</i>	Date/Time: 12/20/2024 1605	Received by: <i>Tasman Lockbox</i>	Date/Time: 12/20/2024 1605	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 12/20/2024 1830	Received by: <i>[Signature]</i>	Date/Time: 12/20/2024 1830	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 5.3	Corrected Temperature: 6	IR gun #:		Standard	X Field Turb.	
					X	HNO3 lot #:

S<sub>2</sub>

2/2

Sample Receipt Checklist

S2 Work Order# 24124975

Client: Curbast Casman Client Project ID: Cottonwood Creek 4-65 271 H

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? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

AS  
Custodian Printed Name

12/20/24  
Date/Time



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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-B01@7'**  
**2412475-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/06/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>1100</b>	50	mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>60</b>	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.9	95.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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02/20/25 10:10

**WH-B01@7'**  
**2412475-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0543</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0500</b>	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0661</b>	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0293	88.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0328	98.3 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0679	02/13/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:15**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-B01@7'**  
**2412475-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.22	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	730	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	11.5	0.400	"	"	"	"	"	"	
Lead	4.53	0.200	"	"	"	"	"	"	
Nickel	4.58	0.400	"	"	"	"	"	"	
Silver	0.0252	0.0200	"	"	"	"	"	"	
Zinc	21.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	63.3	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	6.84	0.0500	"	"	"	"	"	"	
Sodium	33.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.06	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-B01@7'**  
**2412475-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.7			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.570	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.87			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-N01@6'**  
**2412475-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/03/25	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		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.71</b>	<b>0.50</b>		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0408	102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0427	107 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>730</b>	<b>50</b>		mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.2	98.0 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-N01@6'**  
**2412475-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Acenaphthene</b>	<b>0.0506</b>	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0316</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0480</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0322	96.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0344	103 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0679	02/13/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:20**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-N01@6'**  
**2412475-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.50	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	317	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	8.16	0.400	"	"	"	"	"	"	
Lead	3.52	0.200	"	"	"	"	"	"	
Nickel	3.11	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	39.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.4	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	4.11	0.0500	"	"	"	"	"	"	
Sodium	28.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.34	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-N01@6'**  
**2412475-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.2			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.335	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.80			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-S01@6'**  
**2412475-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/03/25	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		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.97</b>	<b>0.50</b>		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0410	103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>1700</b>	50		mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.8	94.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-S01@6'**  
**2412475-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00984</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0219</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0755</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0360	108 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0293	88.0 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0679	02/13/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:25**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-S01@6'**  
**2412475-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.24	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	572	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	9.69	0.400	"	"	"	"	"	"
Lead	5.01	0.200	"	"	"	"	"	"
Nickel	4.15	0.400	"	"	"	"	"	"
Silver	0.0280	0.0200	"	"	"	"	"	"
Zinc	49.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.9	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	6.90	0.0500	"	"	"	"	"	"	
Sodium	39.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.44	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-S01@6'**  
**2412475-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>88.5</b>			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	<b>0.481</b>	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	<b>7.95</b>			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-E01@6'**  
**2412475-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0030	0.0020	mg/kg	1	BIA0043	01/02/25	01/03/25	EPA 8260B	
Toluene	0.011	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.030	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.16	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.30	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.079	0.0050	"	"	"	"	"	"	
Naphthalene	0.11	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.6	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0416	104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	2900	50	mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	17.8	143 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-E01@6'**  
**2412475-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00686</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.140</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.150</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>34.8</b>	0.500	"	100	"	"	01/11/25	"	E

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0332	99.6 %	40-140		"	"	01/09/25	"	
Surrogate: Fluoranthene-d10	-0.0000780	%	40-140		"	"	"	"	S-04

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

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:30**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-E01@6'**  
**2412475-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.37	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	1750	0.400	"	"	"	"	"	"
Cadmium	0.231	0.200	"	"	"	"	"	"
Copper	40.7	0.400	"	"	"	"	"	"
Lead	3.89	0.200	"	"	"	"	"	"
Nickel	7.46	0.400	"	"	"	"	"	"
Silver	0.0473	0.0200	"	"	"	"	"	"
Zinc	38.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1940	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	0.525	0.0500	"	"	"	"	"	"	
Sodium	309	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.93	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Date Sampled: 12/20/24 11:30

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-E01@6'**  
**2412475-04 (Soil)**

**Summit Scientific**

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

% Solids	80.2	%	1	BIA0730	01/16/25	01/17/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	9.86	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	10.9		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-W01@6'**  
**2412475-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/07/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0315	78.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>230</b>	50		mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.67	61.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-W01@6'**  
**2412475-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00526</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0108</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0260	78.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0305	91.5 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:35**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-W01@6'**  
**2412475-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.25	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	278	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.43	0.400	"	"	"	"	"	"	
Lead	3.48	0.200	"	"	"	"	"	"	
Nickel	3.27	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	24.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.3	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	5.02	0.0500	"	"	"	"	"	"	
Sodium	23.6	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.06	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**WH-W01@6'**  
**2412475-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>86.9</b>			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	<b>0.235</b>	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	<b>8.39</b>			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B01@3'**  
**2412475-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/03/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.72	69.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B01@3'**  
**2412475-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0263	78.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0289	86.8 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:40**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B01@3'**  
**2412475-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.02	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	80.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	9.79	0.400	"	"	"	"	"	"
Lead	3.67	0.200	"	"	"	"	"	"
Nickel	3.67	0.400	"	"	"	"	"	"
Silver	0.0207	0.0200	"	"	"	"	"	"
Zinc	21.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.0	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	3.42	0.0500	"	"	"	"	"	"	
Sodium	11.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.587	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B01@3'**  
**2412475-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.0			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.132	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.66			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS01**  
**2412475-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/03/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0460	115 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0425	106 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>C10-C28 (DRO)</b>	<b>230</b>	50		mg/kg	1	BIA0047	01/02/25	01/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.3	82.0 %		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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS01**  
**2412475-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0281	84.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0314	94.2 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:45**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS01**  
**2412475-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.08	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	196	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	8.61	0.400	"	"	"	"	"	"	
Lead	4.30	0.200	"	"	"	"	"	"	
Nickel	3.73	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	28.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.7	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	3.60	0.0500	"	"	"	"	"	"	
Sodium	36.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.81	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS01**  
**2412475-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	98.1			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.338	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.20			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B03@3'**  
**2412475-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/03/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.6	85.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B03@3'**  
**2412475-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0256	76.7 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 11:55**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B03@3'**  
**2412475-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.51	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	103	0.400	"	"	"	"	"	"
Cadmium	0.207	0.200	"	"	"	"	"	"
Copper	12.2	0.400	"	"	"	"	"	"
Lead	5.34	0.200	"	"	"	"	"	"
Nickel	5.66	0.400	"	"	"	"	"	"
Silver	0.0252	0.0200	"	"	"	"	"	"
Zinc	26.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.6	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	4.83	0.0500	"	"	"	"	"	"	
Sodium	3.48	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.165	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Date Sampled: 12/20/24 11:55

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**FL-B03@3'**  
**2412475-08 (Soil)**

**Summit Scientific**

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

% Solids	95.2	%	1	BIA0730	01/16/25	01/17/25	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.119	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.55		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B01@3"**  
**2412475-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.68	61.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B01@3"**  
**2412475-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0273	81.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0303	90.9 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:00**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B01@3"**  
**2412475-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.14	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	170	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	15.1	0.400	"	"	"	"	"	"	
Lead	4.85	0.200	"	"	"	"	"	"	
Nickel	4.71	0.400	"	"	"	"	"	"	
Silver	0.0262	0.0200	"	"	"	"	"	"	
Zinc	31.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.6	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	3.26	0.0500	"	"	"	"	"	"	
Sodium	6.69	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.311	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B01@3"**  
**2412475-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.3			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.123	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.72			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B02@3'**  
**2412475-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.3	82.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B02@3'**  
**2412475-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0272	81.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0308	92.5 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:05**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B02@3'**  
**2412475-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.49	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	104	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	7.63	0.400	"	"	"	"	"	"	
Lead	5.24	0.200	"	"	"	"	"	"	
Nickel	4.87	0.400	"	"	"	"	"	"	
Silver	0.0288	0.0200	"	"	"	"	"	"	
Zinc	22.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.6	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	9.02	0.0500	"	"	"	"	"	"	
Sodium	6.62	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.224	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SEP-B02@3'**  
**2412475-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.7			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.374	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.15			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS02**  
**2412475-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.21	65.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS02**  
**2412475-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0208	62.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0229	68.8 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:10**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS02**  
**2412475-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.27	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	84.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	11.7	0.400	"	"	"	"	"	"
Lead	5.48	0.200	"	"	"	"	"	"
Nickel	7.22	0.400	"	"	"	"	"	"
Silver	0.0262	0.0200	"	"	"	"	"	"
Zinc	19.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.6	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	6.09	0.0500	"	"	"	"	"	"	
Sodium	11.5	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.497	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS02**  
**2412475-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8		%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.251	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B01@3"**  
**2412475-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.08	64.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B01@3"**  
**2412475-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/09/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0259	77.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0285	85.4 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:15**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B01@3"**  
**2412475-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.47	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B
Barium	116	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	9.64	0.400	"	"	"	"	"	"
Lead	5.34	0.200	"	"	"	"	"	"
Nickel	4.68	0.400	"	"	"	"	"	"
Silver	0.0228	0.0200	"	"	"	"	"	"
Zinc	23.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.7	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	5.51	0.0500	"	"	"	"	"	"	
Sodium	11.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.493	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B01@3"**  
**2412475-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>90.5</b>			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	<b>0.179</b>	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	<b>8.61</b>			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B02@6"**  
**2412475-13 (Soil)**

**Summit Scientific**

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.06	64.5 %	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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B02@6"**  
**2412475-13 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0283	85.0 %	40-140		"	"	"	"	

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

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

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

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B02@6"**  
**2412475-13 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.13	0.200	mg/kg dry	1	BIB0761	02/14/25	02/19/25	EPA 6020B	
Barium	99.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	10.4	0.400	"	"	"	"	"	"	
Lead	4.99	0.200	"	"	"	"	"	"	
Nickel	3.90	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	29.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.9	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	9.58	0.0500	"	"	"	"	"	"	
Sodium	10.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.380	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**2PSEP-B02@6"**  
**2412475-13 (Soil)**

**Summit Scientific**

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	<b>98.3</b>			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	<b>0.292</b>	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	<b>8.35</b>			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST1-B01@3"**  
**2412475-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	97.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/09/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.4	99.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST1-B01@3"**  
**2412475-14 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0259	77.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0288	86.3 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:25**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST1-B01@3"**  
**2412475-14 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.879	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B	
Barium	113	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	13.6	0.400	"	"	"	"	"	"	
Lead	4.32	0.200	"	"	"	"	"	"	
Nickel	4.42	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	26.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.9	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	5.45	0.0500	"	"	"	"	"	"	
Sodium	15.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.646	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST1-B01@3"**  
**2412475-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.3		%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.148	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.78		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST2-B01@3"**  
**2412475-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0423	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.54	60.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST2-B01@3"**  
**2412475-15 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0252	75.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0282	84.5 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:30**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST2-B01@3"**  
**2412475-15 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.702	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B
Barium	80.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	10.8	0.400	"	"	"	"	"	"
Lead	3.98	0.200	"	"	"	"	"	"
Nickel	4.62	0.400	"	"	"	"	"	"
Silver	0.0215	0.0200	"	"	"	"	"	"
Zinc	23.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.2	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	4.91	0.0500	"	"	"	"	"	"	
Sodium	7.41	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.371	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST2-B01@3"**  
**2412475-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.2		%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0990	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.94		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST3-B01@3"**  
**2412475-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0402	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	97.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.61	52.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST3-B01@3"**  
**2412475-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0265	79.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0289	86.6 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:35**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST3-B01@3"**  
**2412475-16 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.02	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B	
Barium	157	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	13.4	0.400	"	"	"	"	"	"	
Lead	5.22	0.200	"	"	"	"	"	"	
Nickel	5.82	0.400	"	"	"	"	"	"	
Silver	0.0206	0.0200	"	"	"	"	"	"	
Zinc	29.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	148	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	22.4	0.0500	"	"	"	"	"	"	
Sodium	38.5	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.780	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST3-B01@3"**  
**2412475-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.1			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.212	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.17			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST4-B01@3"**  
**2412475-17 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0377	94.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.55	52.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST4-B01@3"**  
**2412475-17 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0308	92.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0342	103 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:40**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST4-B01@3"**  
**2412475-17 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.09	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B	
Barium	296	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	12.7	0.400	"	"	"	"	"	"	
Lead	4.52	0.200	"	"	"	"	"	"	
Nickel	5.32	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	28.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.5	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	6.03	0.0500	"	"	"	"	"	"	
Sodium	14.9	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.567	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**AST4-B01@3"**  
**2412475-17 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.145	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.83		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**PJ-B01@1'**  
**2412475-18 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0387	96.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.69	53.5 %		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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**PJ-B01@1'**  
**2412475-18 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0281	84.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0301	90.3 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:45**

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 - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**PJ-B01@1'**  
**2412475-18 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.945	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B	
Barium	90.5	0.400	"	"	"	"	"	"	
Cadmium	0.252	0.200	"	"	"	"	"	"	
Copper	19.4	0.400	"	"	"	"	"	"	
Lead	5.24	0.200	"	"	"	"	"	"	
Nickel	4.63	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	37.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.3	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	20.7	0.0500	"	"	"	"	"	"	
Sodium	17.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.501	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**PJ-B01@1'**  
**2412475-18 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.8			%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.146	0.0100		mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	9.49			pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS03**  
**2412475-19 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIA0043	01/02/25	01/04/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0418	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIA0047	01/02/25	01/05/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.14	73.1 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS03**  
**2412475-19 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0009	01/02/25	01/10/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0258	77.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0287	86.2 %	40-140		"	"	"	"	

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

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB0647	02/12/25	02/19/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS03**  
**2412475-19 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.43	0.200	mg/kg dry	1	BIB0761	02/14/25	02/20/25	EPA 6020B	
Barium	73.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	8.55	0.400	"	"	"	"	"	"	
Lead	4.71	0.200	"	"	"	"	"	"	
Nickel	4.14	0.400	"	"	"	"	"	"	
Silver	0.0249	0.0200	"	"	"	"	"	"	
Zinc	19.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/20/24 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIA0793	01/17/25	01/21/25	EPA 7196A	

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

Date Sampled: 12/20/24 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.7	0.0500	mg/L dry	1	BIA0778	01/16/25	01/24/25	EPA 6020B	
Magnesium	5.88	0.0500	"	"	"	"	"	"	
Sodium	5.11	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/20/24 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.189	0.00100	units	1	BIA1194	01/27/25	01/27/25	Calculation	

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

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**SP-CS03**  
**2412475-19 (Soil)**

**Summit Scientific**

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

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>98.0</b>		%	1	BIA0730	01/16/25	01/17/25	Calculation	

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

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.180</b>	0.0100	mmhos/cm	1	BIA0774	01/16/25	01/23/25	EPA 120.1	

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

Date Sampled: **12/20/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.43</b>		pH Units	1	BIA0769	01/16/25	01/23/25	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

### 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 BIA0043 - EPA 5030 Soil MS

##### Blank (BIA0043-BLK1)

Prepared: 01/02/25 Analyzed: 01/03/25

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	0.0390		"	0.0400		97.4	50-150				
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150				
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	50-150				

##### LCS (BIA0043-BS1)

Prepared: 01/02/25 Analyzed: 01/03/25

Benzene	0.120	0.0020	mg/kg	0.100		120	70-130				
Toluene	0.119	0.0050	"	0.100		119	70-130				
Ethylbenzene	0.127	0.0050	"	0.100		127	70-130				
m,p-Xylene	0.237	0.010	"	0.200		118	70-130				
o-Xylene	0.112	0.0050	"	0.100		112	70-130				
1,2,4-Trimethylbenzene	0.114	0.0050	"	0.100		114	70-130				
1,3,5-Trimethylbenzene	0.117	0.0050	"	0.100		117	70-130				
Naphthalene	0.0969	0.0038	"	0.100		96.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	50-150				
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150				
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150				

##### Matrix Spike (BIA0043-MS1)

Source: 2412475-01

Prepared: 01/02/25 Analyzed: 01/03/25

Benzene	0.123	0.0020	mg/kg	0.100	ND	123	70-130				
Toluene	0.116	0.0050	"	0.100	ND	116	70-130				
Ethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130				
m,p-Xylene	0.212	0.010	"	0.200	ND	106	70-130				
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130				
1,2,4-Trimethylbenzene	0.0901	0.0050	"	0.100	ND	90.1	70-130				
1,3,5-Trimethylbenzene	0.0936	0.0050	"	0.100	0.00318	90.4	70-130				
Naphthalene	0.0914	0.0038	"	0.100	ND	91.4	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150				
Surrogate: Toluene-d8	0.0407		"	0.0400		102	50-150				
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.3	50-150				

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**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 BIA0043 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BIA0043-MSD1)</b>	<b>Source: 2412475-01</b>			Prepared: 01/02/25		Analyzed: 01/03/25				
Benzene	0.118	0.0020	mg/kg	0.100	ND	118	70-130	3.56	30	
Toluene	0.109	0.0050	"	0.100	ND	109	70-130	6.58	30	
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	9.16	30	
m,p-Xylene	0.194	0.010	"	0.200	ND	96.8	70-130	8.96	30	
o-Xylene	0.0955	0.0050	"	0.100	ND	95.5	70-130	6.06	30	
1,2,4-Trimethylbenzene	0.0825	0.0050	"	0.100	ND	82.5	70-130	8.79	30	
1,3,5-Trimethylbenzene	0.0856	0.0050	"	0.100	0.00318	82.4	70-130	8.94	30	
Naphthalene	0.0816	0.0038	"	0.100	ND	81.6	70-130	11.4	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0438</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

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Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

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

**Batch BIA0047 - EPA 3550A**

**Blank (BIA0047-BLK1)**

Prepared: 01/02/25 Analyzed: 01/05/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.7	30-150			

**LCS (BIA0047-BS1)**

Prepared: 01/02/25 Analyzed: 01/05/25

C10-C28 (DRO)	637	50	mg/kg	500		127	70-130			
Surrogate: <i>o</i> -Terphenyl	14.3		"	12.5		114	30-150			

**Matrix Spike (BIA0047-MS1)**

Source: 2412475-01

Prepared: 01/02/25 Analyzed: 01/06/25

C10-C28 (DRO)	1910	50	mg/kg	500	1150	152	70-130			QM-05
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5		95.5	30-150			

**Matrix Spike Dup (BIA0047-MSD1)**

Source: 2412475-01

Prepared: 01/02/25 Analyzed: 01/06/25

C10-C28 (DRO)	2280	50	mg/kg	500	1150	226	70-130	17.6	20	QM-05
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5		95.2	30-150			

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Broomfield CO, 80020

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

**Summit Scientific**

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

**Batch BIA0009 - EPA 5030 Soil MS**

**Blank (BIA0009-BLK1)**

Prepared: 01/02/25 Analyzed: 01/09/25

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>0.0325</i>		<i>"</i>	<i>0.0333</i>		<i>97.4</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0378</i>		<i>"</i>	<i>0.0333</i>		<i>114</i>	<i>40-140</i>			

**LCS (BIA0009-BS1)**

Prepared: 01/02/25 Analyzed: 01/09/25

Acenaphthene	0.0295	0.00500	mg/kg	0.0333		88.6	40-140			
Anthracene	0.0306	0.00500	"	0.0333		91.7	40-140			
Benzo (a) anthracene	0.0304	0.00500	"	0.0333		91.2	40-140			
Benzo (a) pyrene	0.0268	0.00500	"	0.0333		80.5	40-140			
Benzo (b) fluoranthene	0.0257	0.00500	"	0.0333		77.1	40-140			
Benzo (k) fluoranthene	0.0272	0.00500	"	0.0333		81.5	40-140			
Chrysene	0.0304	0.00500	"	0.0333		91.1	40-140			
Dibenz (a,h) anthracene	0.0232	0.00500	"	0.0333		69.7	40-140			
Fluoranthene	0.0312	0.00500	"	0.0333		93.6	40-140			
Fluorene	0.0298	0.00500	"	0.0333		89.3	40-140			
Indeno (1,2,3-cd) pyrene	0.0249	0.00500	"	0.0333		74.8	40-140			
Pyrene	0.0314	0.00500	"	0.0333		94.1	40-140			
1-Methylnaphthalene	0.0288	0.00500	"	0.0333		86.5	40-140			
2-Methylnaphthalene	0.0287	0.00500	"	0.0333		86.0	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0290</i>		<i>"</i>	<i>0.0333</i>		<i>87.1</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0320</i>		<i>"</i>	<i>0.0333</i>		<i>96.1</i>	<i>40-140</i>			

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

**Summit Scientific**

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

**Batch BIA0009 - EPA 5030 Soil MS**

<b>Matrix Spike (BIA0009-MS1)</b>	<b>Source: 2412475-01</b>			<b>Prepared: 01/02/25 Analyzed: 01/09/25</b>							
Acenaphthene	0.0286	0.00500	mg/kg	0.0333	ND	85.9	40-140				
Anthracene	0.0361	0.00500	"	0.0333	ND	108	40-140				
Benzo (a) anthracene	0.0352	0.00500	"	0.0333	ND	106	40-140				
Benzo (a) pyrene	0.0259	0.00500	"	0.0333	ND	77.8	40-140				
Benzo (b) fluoranthene	0.0283	0.00500	"	0.0333	ND	84.9	40-140				
Benzo (k) fluoranthene	0.0241	0.00500	"	0.0333	ND	72.3	40-140				
Chrysene	0.0362	0.00500	"	0.0333	ND	109	40-140				
Dibenz (a,h) anthracene	0.0326	0.00500	"	0.0333	ND	97.7	40-140				
Fluoranthene	0.0397	0.00500	"	0.0333	ND	119	40-140				
Fluorene	0.0727	0.00500	"	0.0333	0.0543	55.1	40-140				
Indeno (1,2,3-cd) pyrene	0.0327	0.00500	"	0.0333	ND	98.0	40-140				
Pyrene	0.106	0.00500	"	0.0333	0.0500	169	40-140				QM-05
1-Methylnaphthalene	0.135	0.00500	"	0.0333	0.0661	205	40-140				QM-05
2-Methylnaphthalene	0.0427	0.00500	"	0.0333	ND	128	40-140				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0304</i>		"	<i>0.0333</i>		<i>91.3</i>	<i>40-140</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0331</i>		"	<i>0.0333</i>		<i>99.3</i>	<i>40-140</i>				

<b>Matrix Spike Dup (BIA0009-MSD1)</b>	<b>Source: 2412475-01</b>			<b>Prepared: 01/02/25 Analyzed: 01/09/25</b>							
Acenaphthene	0.0502	0.00500	mg/kg	0.0333	ND	151	40-140	54.8	30		QM-05
Anthracene	0.0364	0.00500	"	0.0333	ND	109	40-140	0.824	30		
Benzo (a) anthracene	0.0385	0.00500	"	0.0333	ND	116	40-140	8.89	30		
Benzo (a) pyrene	0.0294	0.00500	"	0.0333	ND	88.2	40-140	12.5	30		
Benzo (b) fluoranthene	0.0309	0.00500	"	0.0333	ND	92.7	40-140	8.70	30		
Benzo (k) fluoranthene	0.0258	0.00500	"	0.0333	ND	77.3	40-140	6.63	30		
Chrysene	0.0372	0.00500	"	0.0333	ND	112	40-140	2.73	30		
Dibenz (a,h) anthracene	0.0373	0.00500	"	0.0333	ND	112	40-140	13.7	30		
Fluoranthene	0.0431	0.00500	"	0.0333	ND	129	40-140	8.28	30		
Fluorene	0.0933	0.00500	"	0.0333	0.0543	117	40-140	24.8	30		
Indeno (1,2,3-cd) pyrene	0.0366	0.00500	"	0.0333	ND	110	40-140	11.2	30		
Pyrene	0.0976	0.00500	"	0.0333	0.0500	143	40-140	8.68	30		QM-05
1-Methylnaphthalene	0.127	0.00500	"	0.0333	0.0661	182	40-140	6.02	30		QM-05
2-Methylnaphthalene	0.0430	0.00500	"	0.0333	ND	129	40-140	0.796	30		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0346</i>		"	<i>0.0333</i>		<i>104</i>	<i>40-140</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0376</i>		"	<i>0.0333</i>		<i>113</i>	<i>40-140</i>				

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

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

**Batch BIB0647 - EPA 3050B**

**Blank (BIB0647-BLK1)**

Prepared: 02/12/25 Analyzed: 02/19/25

Boron ND 2.00 mg/L

**LCS (BIB0647-BS1)**

Prepared: 02/12/25 Analyzed: 02/19/25

Boron 4.92 2.00 mg/L 5.00 98.4 80-120

**Duplicate (BIB0647-DUP1)**

Source: 2412475-04

Prepared: 02/12/25 Analyzed: 02/19/25

Boron 0.146 2.00 mg/L 0.185 23.6 20 QR-01

**Matrix Spike (BIB0647-MS1)**

Source: 2412475-04

Prepared: 02/12/25 Analyzed: 02/20/25

Boron 3.14 2.00 mg/L 5.00 0.185 59.1 75-125 QM-05

**Matrix Spike Dup (BIB0647-MSD1)**

Source: 2412475-04

Prepared: 02/12/25 Analyzed: 02/20/25

Boron 3.18 2.00 mg/L 5.00 0.185 60.0 75-125 1.37 25 QM-05

**Batch BIB0679 - EPA 3050B**

**Blank (BIB0679-BLK1)**

Prepared: 02/13/25 Analyzed: 02/19/25

Boron ND 2.00 mg/L

**LCS (BIB0679-BS1)**

Prepared: 02/13/25 Analyzed: 02/19/25

Boron 4.51 2.00 mg/L 5.00 90.1 80-120

**Duplicate (BIB0679-DUP1)**

Source: 2412472-14

Prepared: 02/13/25 Analyzed: 02/19/25

Boron ND 2.00 mg/L ND 20

**Matrix Spike (BIB0679-MS1)**

Source: 2412472-14

Prepared: 02/13/25 Analyzed: 02/19/25

Boron 5.57 2.00 mg/L 5.01 ND 111 75-125

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**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 BIB0679 - EPA 3050B**

**Matrix Spike Dup (BIB0679-MSD1)**

**Source: 2412472-14**

Prepared: 02/13/25 Analyzed: 02/19/25

Boron	4.83	2.00	mg/L	5.01	ND	96.6	75-125	14.2	25	
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

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

**Batch BIB0761 - EPA 3050B**

**Blank (BIB0761-BLK1)**

Prepared: 02/14/25 Analyzed: 02/19/25

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

**LCS (BIB0761-BS1)**

Prepared: 02/14/25 Analyzed: 02/19/25

Arsenic	44.3	0.200	mg/kg wet	39.4	112	80-120
Barium	39.7	0.400	"	39.4	101	80-120
Cadmium	2.03	0.200	"	1.97	103	80-120
Copper	46.3	0.400	"	39.4	118	80-120
Lead	20.4	0.200	"	19.7	104	80-120
Nickel	45.3	0.400	"	39.4	115	80-120
Silver	2.04	0.0200	"	1.97	104	80-120
Zinc	45.0	0.400	"	39.4	114	80-120
Selenium	3.43	0.260	"	3.94	87.0	80-120

**Duplicate (BIB0761-DUP1)**

Source: 2412475-01

Prepared: 02/14/25 Analyzed: 02/19/25

Arsenic	1.52	0.200	mg/kg dry	1.22	21.9	20	QR-04
Barium	606	0.400	"	730	18.5	20	
Cadmium	0.165	0.200	"	0.151	8.46	20	
Copper	14.2	0.400	"	11.5	21.0	20	QR-04
Lead	5.38	0.200	"	4.53	17.3	20	
Nickel	5.73	0.400	"	4.58	22.3	20	QR-04
Silver	0.0221	0.0200	"	0.0252	13.0	20	
Zinc	22.4	0.400	"	21.4	4.50	20	
Selenium	ND	0.260	"	ND		20	

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

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

**Batch BIB0761 - EPA 3050B**

<b>Matrix Spike (BIB0761-MS1)</b>	<b>Source: 2412475-01</b>			Prepared: 02/14/25		Analyzed: 02/19/25					
Arsenic	33.9	0.200	mg/kg dry	43.1	1.22	75.8	75-125				
Barium	591	0.400	"	43.1	730	NR	75-125				QM-05
Cadmium	2.36	0.200	"	2.16	0.151	102	75-125				
Copper	45.8	0.400	"	43.1	11.5	79.6	75-125				
Lead	25.7	0.200	"	21.6	4.53	98.3	75-125				
Nickel	39.1	0.400	"	43.1	4.58	80.1	75-125				
Silver	2.14	0.0200	"	2.16	0.0252	97.9	75-125				
Zinc	54.5	0.400	"	43.1	21.4	76.7	75-125				
Selenium	3.32	0.260	"	4.31	ND	76.9	75-125				

<b>Matrix Spike Dup (BIB0761-MSD1)</b>	<b>Source: 2412475-01</b>			Prepared: 02/14/25		Analyzed: 02/19/25					
Arsenic	35.5	0.200	mg/kg dry	44.6	1.22	77.0	75-125	4.66	25		
Barium	717	0.400	"	44.6	730	NR	75-125	19.3	25		QM-05
Cadmium	2.38	0.200	"	2.23	0.151	99.8	75-125	0.605	25		
Copper	49.2	0.400	"	44.6	11.5	84.6	75-125	7.15	25		
Lead	25.8	0.200	"	22.3	4.53	95.6	75-125	0.396	25		
Nickel	40.0	0.400	"	44.6	4.58	79.5	75-125	2.20	25		
Silver	2.21	0.0200	"	2.23	0.0252	98.1	75-125	3.35	25		
Zinc	57.4	0.400	"	44.6	21.4	80.8	75-125	5.16	25		
Selenium	3.46	0.260	"	4.46	ND	77.6	75-125	4.14	25		

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

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

**Batch BIA0793 - 3060A Mod**

**Blank (BIA0793-BLK1)**

Prepared: 01/17/25 Analyzed: 01/21/25

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BIA0793-BS1)**

Prepared: 01/17/25 Analyzed: 01/21/25

Chromium, Hexavalent 24.0 0.30 mg/kg wet 25.0 96.0 80-120

**Duplicate (BIA0793-DUP1)**

**Source: 2412475-01**

Prepared: 01/17/25 Analyzed: 01/21/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BIA0793-MS1)**

**Source: 2412475-01**

Prepared: 01/17/25 Analyzed: 01/21/25

Chromium, Hexavalent 25.6 0.30 mg/kg dry 27.0 ND 95.0 75-125

**Matrix Spike Dup (BIA0793-MSD1)**

**Source: 2412475-01**

Prepared: 01/17/25 Analyzed: 01/21/25

Chromium, Hexavalent 26.1 0.30 mg/kg dry 27.0 ND 96.8 75-125 1.88 20

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

**Summit Scientific**

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

**Batch BIA0778 - General Preparation**

**Blank (BIA0778-BLK1)**

Prepared: 01/16/25 Analyzed: 01/24/25

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

**LCS (BIA0778-BS1)**

Prepared: 01/16/25 Analyzed: 01/24/25

Calcium	5.55	0.0500	mg/L wet	5.00	111	70-130			
Magnesium	4.88	0.0500	"	5.00	97.6	70-130			
Sodium	5.12	0.0500	"	5.00	102	70-130			

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**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 BIA0730 - General Preparation**

Duplicate (BIA0730-DUP1)	Source: 2412475-01			Prepared: 01/16/25 Analyzed: 01/17/25			
% Solids	90.8		%		92.7	2.08	20

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

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

**Summit Scientific**

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

**Batch BIA0774 - General Preparation**

**Blank (BIA0774-BLK1)**

Prepared: 01/16/25 Analyzed: 01/23/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BIA0774-BS1)**

Prepared: 01/16/25 Analyzed: 01/23/25

Specific Conductance (EC) 1.35 0.0100 mmhos/cm 1.41 95.3 95-105

**Duplicate (BIA0774-DUP1)**

**Source: 2412475-01**

Prepared: 01/16/25 Analyzed: 01/23/25

Specific Conductance (EC) 0.568 0.0100 mmhos/cm 0.570 0.342 20

Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

**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 BIA0769 - General Preparation**

**LCS (BIA0769-BS1)**

Prepared: 01/16/25 Analyzed: 01/23/25

pH	9.19	pH Units	9.18	100	95-105
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**Duplicate (BIA0769-DUP1)**

Source: 2412475-01

Prepared: 01/16/25 Analyzed: 01/23/25

pH	7.81	pH Units	7.87	0.725	20
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Summit Scientific

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

Project: Civitas - Cottonwood Creek 4-65 27 1H

Project Number: 24261  
Project Manager: Sam Vogt

**Reported:**  
02/20/25 10:10

### Notes and Definitions

- S-04 A sample matrix effect prevented complete surrogate recovery.
- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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