

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 20, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

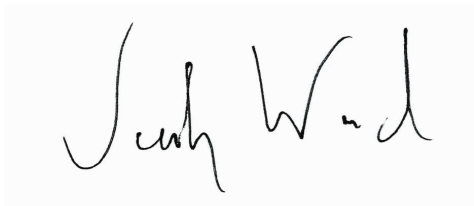
Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 41-10C

Work Order #2311627

Enclosed are the results of analyses for samples received by Summit Scientific on 11/30/23 17:55. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-B02@4'	2311627-01	Soil	11/30/23 09:51	11/30/23 17:55
FL-B03@4'	2311627-02	Soil	11/30/23 09:55	11/30/23 17:55
FL-B04@4'	2311627-03	Soil	11/30/23 09:57	11/30/23 17:55
FL-B05@4'	2311627-04	Soil	11/30/23 09:59	11/30/23 17:55
SP-CS02	2311627-05	Soil	11/30/23 10:13	11/30/23 17:55
SP-CS03	2311627-06	Soil	11/30/23 10:42	11/30/23 17:55
FL-B14@3'	2311627-07	Soil	11/30/23 12:04	11/30/23 17:55
FL-B15@3'	2311627-08	Soil	11/30/23 12:05	11/30/23 17:55
FL-B16@3'	2311627-09	Soil	11/30/23 12:09	11/30/23 17:55
SP-CS04	2311627-10	Soil	11/30/23 12:11	11/30/23 17:55
FL-B17@3'	2311627-11	Soil	11/30/23 13:08	11/30/23 17:55
FL-B18@3'	2311627-12	Soil	11/30/23 13:12	11/30/23 17:55
FL-B19@3'	2311627-13	Soil	11/30/23 13:14	11/30/23 17:55
FL-B20@3'	2311627-14	Soil	11/30/23 13:17	11/30/23 17:55
FL-B21@3'	2311627-15	Soil	11/30/23 13:21	11/30/23 17:55
SP-CS05	2311627-16	Soil	11/30/23 13:28	11/30/23 17:55
FL-GW01	2311627-17	Water	11/30/23 11:24	11/30/23 17:55
FL-GW02	2311627-18	Water	11/30/23 11:35	11/30/23 17:55
FL-GW03	2311627-19	Water	11/30/23 11:50	11/30/23 17:55
FL-GW04	2311627-20	Water	11/30/23 12:17	11/30/23 17:55
FL-GW05	2311627-21	Water	11/30/23 12:34	11/30/23 17:55
FL-GW06	2311627-22	Water	11/30/23 12:54	11/30/23 17:55
FL-GW07	2311627-23	Water	11/30/23 13:03	11/30/23 17:55

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

## Case Narrative

Tracey Smith requested Metals be added to all soil samples on 2/5/2024.  
This report includes those results.

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A handwritten signature in black ink, appearing to read 'Judy Wood', is written over a light gray rectangular background.

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Client: Civitas / Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Sam Vogt / Jacob Evans		Company: Civitas	
City/State/Zip: Broomfield, CO 80020		E-Mail: Svogt@tasman-geo.com		Project Name/Location:	
Phone: PM Phone # - (610)-405-9078		jevans@civitasresources.com		AFE#:	
Sampler Name: Daniel Hense		Project Name: Aristocrat Angus 91-10C		PO/Billing Codes:	
Project Number:		Contact:			

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEXN	1,2,4 + 1,3,5 TMB's	TPH(GRO,DRO,ORO)	PAH	pH,EC,SAR	Boron	Metals		
1	FL-B0204'	11/30/23	9:51	2			X			X			X	X	X	X	X	X	metals on hold		
2	FL-B0304'		9:55																		
3	FL-B0404'		9:57																		
4	FL-B0504'		9:59																		
5	SP-C502		10:13																		
6	SP-C503		10:42																		
7	FL-B1403'		12:04																		
8	FL-B1503'		12:05																		
9	FL-B1603'		12:09																		
10	SP-C504		12:11																		
11	FL-B1703'		13:08																		
12	FL-B1603'		13:12																		
13	FL-B1903'		13:14																		
14	FL-B2003'		13:17																		
15	FL-B2103'		13:21																		

Relinquished by:	Date/Time:	Received by:	Date/Time:	TAT Business Days	Field DO	Notes: metals on hold
11/30/23	16:30	11/30/23	16:30	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Tasman/Civitas	11/30/23		11/30/23	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 11.7		Corrected Temperature: 11.7		IR gun #: 1		HNO3 lot #:

<b>Client:</b> Civitas / Tasman		<b>Send Data To:</b>		<b>Send Invoice To:</b>	
<b>Address:</b> 6855 W. 119th Ave.		<b>Project Manager:</b> Sam Vogt / Jacob Evans		<b>Company:</b> Civitas	
<b>City/State/Zip:</b> Broomfield, CO 80020		<b>E-Mail:</b> Svogt@tasman-geo.com		<b>Project Name/Location:</b>	
<b>Phone:</b> PM Phone # - (610)-405-9078		<b>Jevans@civitasresources.com</b>		<b>AFE#:</b>	
<b>Sampler Name:</b> Daniel Hensel		<b>Project Name:</b> Aristocrat Arroyo 41-10C		<b>PO/Billing Codes:</b>	
		<b>Project Number:</b>		<b>Contact:</b>	

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 TMB's	TPH(GRO,DRO,ORO)	PAH	pH,EC,SAR	Boron	Metals	
1	SP-GW05	11/30/23	13:26	2			X			X			X	X	X	X	X	X	X	metals on Hold
2	FL-GW01		11:24	3	X				X				X	X						
3	FL-GW02		11:35																	
4	FL-GW03		11:40																	
5	FL-GW04		12:17																	
6	FL-GW05		12:34																	
7	FL-GW06		12:54																	
8	FL-GW07		13:03																	
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <u>Phil</u>	Date/Time: <u>11/30/23 16:30</u>	Received by: <u>Phil</u>	Date/Time: <u>16:30</u>	TAT Business Days	Field DO	Notes: metals on Hold
Relinquished by: <u>Tasman</u>	Date/Time: <u>11/30/23 1755</u>	Received by: <u>Phil</u>	Date/Time: <u>11/30/23 1755</u>	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>11.7</u>	Corrected Temperature: <u>8</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S<sub>2</sub>

2/2

## Sample Receipt Checklist

S2 Work Order# 2311627

Client: Carla TushmanClient Project ID: Antarctic Angles 41-10CShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

	-			
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Matrix (Check all that apply)

Air

☐

Sol/Solid

☒

Water

☐

Other

☐

Temp (°C)

11.7

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			
If custody seals are present, are they intact? <sup>(1)</sup>	-			on ICE
Are samples due within 48 hours present?		-		
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		-		
Is a chain-of-custody (COC) form present and filled out completely? <sup>(1)</sup>	-			
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	-			
Were all samples received intact? <sup>(1)</sup>	✓			
Was adequate sample volume provided? <sup>(1)</sup>	✓			
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	✓			
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>		✓		no time stamps on sals
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		✓		
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.	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	
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

11/30/23

Date/Time



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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B02@4'**  
**2311627-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.5	99.9 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B02@4'**  
**2311627-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0183	55.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.2 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B02@4'**  
**2311627-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.17	0.200	mg/kg dry	1	BHB0464	02/14/24	02/15/24	EPA 6020B
Barium	39.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.32	0.400	"	"	"	"	"	"
Lead	5.33	0.200	"	"	"	"	"	"
Nickel	2.34	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.60	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	78.7	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	20.1	0.0500	"	"	"	"	"	"	
Sodium	1.05	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0273	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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Project Manager: Sam Vogt

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03/20/24 14:41

**FL-B02@4'**  
**2311627-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0344	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 09:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B03@4'**  
**2311627-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0422	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.14	57.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B03@4'**  
**2311627-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0161</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0119</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0118</b>	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0139</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0222</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0239</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0296	88.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0248	74.3 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 09:55**

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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B03@4'**  
**2311627-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.34	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	52.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.29	0.400	"	"	"	"	"	"
Lead	4.49	0.200	"	"	"	"	"	"
Nickel	2.25	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.85	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	73.0	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	15.0	0.0500	"	"	"	"	"	"	
Sodium	0.480	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0134	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B03@4'**  
**2311627-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.5			%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0655	0.0100		mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B03@4'**  
**2311627-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>8.36</b>			pH Units	1	BHB0056	12/18/23	02/02/24	EPA 9045D	I-04

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B04@4'**  
**2311627-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0337	84.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0422	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.69	69.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B04@4'**  
**2311627-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0267	80.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0215	64.4 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B04@4'**  
**2311627-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.09	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	37.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.49	0.400	"	"	"	"	"	"
Lead	5.17	0.200	"	"	"	"	"	"
Nickel	2.24	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.65	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.8	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	10.4	0.0500	"	"	"	"	"	"	
Sodium	0.732	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0282	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B04@4'**  
**2311627-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.0		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0391	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.60		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B05@4'**  
**2311627-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0418	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.66	77.3 %	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B05@4'**  
**2311627-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.0174</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.0703</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0634</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.0545</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.0183</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0658</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.0900</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0282</b>	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0979</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0255	76.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	72.0 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B05@4'**  
**2311627-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.21	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	41.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.41	0.400	"	"	"	"	"	"
Lead	3.91	0.200	"	"	"	"	"	"
Nickel	2.38	0.400	"	"	"	"	"	"
Silver	0.0224	0.0200	"	"	"	"	"	"
Zinc	9.50	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.8	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	9.68	0.0500	"	"	"	"	"	"	
Sodium	2.35	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0883	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B05@4'**  
**2311627-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.3		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0623	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 09:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.93		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS02**  
**2311627-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0413	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0426	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.06	64.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS02**  
**2311627-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0354	106 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0275	82.5 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS02**  
**2311627-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.14	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	37.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.77	0.400	"	"	"	"	"	"
Lead	14.9	0.200	"	"	"	"	"	"
Nickel	2.26	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	22.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.6	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	9.11	0.0500	"	"	"	"	"	"	
Sodium	0.697	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0275	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS02**  
**2311627-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0358	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 10:13**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS03**  
**2311627-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0414	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.5 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.6	109 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS03**  
**2311627-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.00505</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.00611</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.00608</b>	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: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0334	100 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0304	91.2 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS03**  
**2311627-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.16	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	30.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.11	0.400	"	"	"	"	"	"
Lead	3.46	0.200	"	"	"	"	"	"
Nickel	2.07	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.54	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.5	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	5.49	0.0500	"	"	"	"	"	"	
Sodium	0.552	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0284	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS03**  
**2311627-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.8		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0414	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.09		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B14@3'**  
**2311627-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
<b>Toluene</b>	<b>0.0078</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.050</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.0057</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.0071</b>	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0400	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.49	59.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B14@3'**  
**2311627-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0243	72.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0212	63.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Arsenic	1.17	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B	
Barium	21.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.37	0.400	"	"	"	"	"	"	
Lead	4.55	0.200	"	"	"	"	"	"	
Nickel	1.83	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B14@3'**  
**2311627-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Zinc	8.86	0.400	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.9	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	18.5	0.0500	"	"	"	"	"	"	
Sodium	353	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	11.4	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.8		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B14@3'**  
**2311627-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>pH</b>	<b>9.02</b>			pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B14@3'**  
**2311627-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Boron</b>	<b>2.87</b>	2.00		mg/L	1	BHB0059	02/02/24	02/07/24	EPA 6020B	

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

Date Sampled: **11/30/23 12:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Specific Conductance (EC)</b>	<b>2.52</b>	0.0100		mmhos/cm	1	BHB0594	02/19/24	02/19/24	EPA 120.1	I-04

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B15@3'**  
**2311627-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>0.73</b>	0.20	mg/kg	100	BGL0152	12/05/23	12/06/23	EPA 8260B	
<b>Toluene</b>	<b>3.1</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.40</b>	0.0050	"	1	"	"	12/06/23	"	
<b>Xylenes (total)</b>	<b>3.4</b>	1.0	"	100	"	"	12/06/23	"	
<b>1,2,4-Trimethylbenzene</b>	<b>74</b>	0.50	"	"	"	"	"	"	E
<b>1,3,5-Trimethylbenzene</b>	<b>0.63</b>	0.0050	"	1	"	"	12/06/23	"	
<b>Naphthalene</b>	<b>0.027</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>100</b>	0.50	"	"	"	"	12/06/23	"	E

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0377	94.2 %	50-150		"	"	12/06/23	"	
<i>Surrogate: Toluene-d8</i>	0.0423	106 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0774	194 %	50-150		"	"	"	"	E

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	5.95	47.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B15@3'**  
**2311627-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0153	46.0 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B15@3'**  
**2311627-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.519	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	15.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.24	0.400	"	"	"	"	"	"
Lead	4.99	0.200	"	"	"	"	"	"
Nickel	1.47	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.08	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.3	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	11.8	0.0500	"	"	"	"	"	"	
Sodium	250	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.24	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B15@3'**  
**2311627-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.0		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.44		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B15@3'**  
**2311627-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	2.22	0.0100		mmhos/cm	1	BHB0594	02/19/24	02/19/24	EPA 120.1	I-04

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B16@3'**  
**2311627-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>0.14</b>	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
<b>Toluene</b>	<b>0.25</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.27</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.021</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.016</b>	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.0</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0400	100 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0415	104 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	7.06	56.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B16@3'**  
**2311627-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.2 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B16@3'**  
**2311627-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.04	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	20.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.10	0.400	"	"	"	"	"	"
Lead	4.25	0.200	"	"	"	"	"	"
Nickel	1.71	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.08	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	96.5	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	27.2	0.0500	"	"	"	"	"	"	
Sodium	288	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.67	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B16@3'**  
**2311627-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.4		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.32		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B16@3'**  
**2311627-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.66	0.0100		mmhos/cm	1	BHB0594	02/19/24	02/19/24	EPA 120.1	I-04

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS04**  
**2311627-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0446	111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0432	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0332	83.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.59	68.8 %	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS04**  
**2311627-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0163	48.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.7 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS04**  
**2311627-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.940	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	29.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.42	0.400	"	"	"	"	"	"
Lead	3.66	0.200	"	"	"	"	"	"
Nickel	2.22	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.44	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/30/23 12:11

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: 11/30/23 12:11

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	69.7	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	18.8	0.0500	"	"	"	"	"	"	
Sodium	299	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/30/23 12:11

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.20	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS04**  
**2311627-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.5		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS04**  
**2311627-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	2.69	0.0100		mmhos/cm	1	BHB0594	02/19/24	02/19/24	EPA 120.1	I-04

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B17@3'**  
**2311627-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0414	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0421	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.42	67.4 %	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B17@3'**  
**2311627-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0188	56.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	57.8 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:08**

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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B17@3'**  
**2311627-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.00	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	23.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.09	0.400	"	"	"	"	"	"
Lead	3.55	0.200	"	"	"	"	"	"
Nickel	1.66	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.56	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.0	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	15.4	0.0500	"	"	"	"	"	"	
Sodium	125	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.94	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B17@3'**  
**2311627-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.8		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.873	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B18@3'**  
**2311627-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0278	69.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0336	84.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.82	62.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B18@3'**  
**2311627-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0229	68.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0205	61.5 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B18@3'**  
**2311627-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.06	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	24.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.06	0.400	"	"	"	"	"	"
Lead	4.04	0.200	"	"	"	"	"	"
Nickel	1.73	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.65	0.400	"	"	"	"	"	"
Selenium	0.400	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	48.2	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	11.1	0.0500	"	"	"	"	"	"	
Sodium	61.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.09	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B18@3'**  
**2311627-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.2		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.505	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B19@3'**  
**2311627-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0458	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0433	108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.95	55.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B19@3'**  
**2311627-13 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0165	49.4 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:14**

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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B19@3'**  
**2311627-13 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.707	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	18.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.04	0.400	"	"	"	"	"	"
Lead	3.60	0.200	"	"	"	"	"	"
Nickel	1.50	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	7.69	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	114	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	24.3	0.0500	"	"	"	"	"	"	
Sodium	173	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.84	0.00100	units	1	BGL0831	12/21/23	12/21/23	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B19@3'**  
**2311627-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.8		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.11	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.53		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B20@3'**  
**2311627-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0400	99.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.46	51.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B20@3'**  
**2311627-14 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.5 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B20@3'**  
**2311627-14 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.18	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	22.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.20	0.400	"	"	"	"	"	"
Lead	4.10	0.200	"	"	"	"	"	"
Nickel	1.65	0.400	"	"	"	"	"	"
Silver	0.0309	0.0200	"	"	"	"	"	"
Zinc	8.31	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	38.8	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	10.0	0.0500	"	"	"	"	"	"	
Sodium	102	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.78	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B20@3'**  
**2311627-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.7		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.628	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 13:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B21@3'**  
**2311627-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.035</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.033</b>	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.9</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0397	99.2 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0418	104 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	10.5	83.8 %	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 - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B21@3'**  
**2311627-15 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0103</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0162	48.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0146	43.8 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B21@3'**  
**2311627-15 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.17	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	31.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.81	0.400	"	"	"	"	"	"
Lead	3.63	0.200	"	"	"	"	"	"
Nickel	2.48	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	74.4	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	21.9	0.0500	"	"	"	"	"	"	
Sodium	1.23	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0322	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-B21@3'**  
**2311627-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.6		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0174	0.0100	mmhos/cm	1	BGL0634	12/18/23	12/19/23	EPA 120.1	

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

Date Sampled: **11/30/23 13:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.18		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS05**  
**2311627-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGL0152	12/05/23	12/06/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0425	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGL0158	12/05/23	12/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.71	61.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS05**  
**2311627-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BGL0252	12/07/23	12/08/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0141	42.4 %	40-150		"	"	"	"	

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BGL0350	12/10/23	12/15/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS05**  
**2311627-16 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.904	0.200	mg/kg dry	1	BHB0464	02/14/24	02/16/24	EPA 6020B
Barium	19.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.14	0.400	"	"	"	"	"	"
Lead	4.15	0.200	"	"	"	"	"	"
Nickel	1.61	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.44	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0166	02/06/24	02/06/24	EPA 7196A	I-04

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	78.0	0.0500	mg/L dry	1	BGL0547	12/14/23	12/21/23	EPA 6020B	
Magnesium	22.1	0.0500	"	"	"	"	"	"	
Sodium	177	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.56	0.00100	units	1	BGL0831	12/21/23	12/21/23	Calculation	

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

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS05**  
**2311627-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.3		%	1	BGL0405	12/12/23	12/12/23	Calculation	

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.25		pH Units	1	BGL0633	12/18/23	12/19/23	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**SP-CS05**  
**2311627-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.67	0.0100		mmhos/cm	1	BHB0594	02/19/24	02/19/24	EPA 120.1	I-04

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW01**  
**2311627-17 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>260</b>	1.0		ug/l	1	BGL0129	12/04/23	12/05/23	EPA 8260B	E
<b>Toluene</b>	<b>1100</b>	100		"	100	"	"	12/04/23	"	
<b>Ethylbenzene</b>	<b>67</b>	1.0		"	1	"	"	12/05/23	"	
<b>Xylenes (total)</b>	<b>1500</b>	200		"	100	"	"	12/04/23	"	
<b>Naphthalene</b>	<b>44</b>	1.0		"	1	"	"	12/05/23	"	
<b>1,2,4-Trimethylbenzene</b>	<b>430</b>	100		"	100	"	"	12/04/23	"	
<b>1,3,5-Trimethylbenzene</b>	<b>320</b>	100		"	"	"	"	"	"	

Date Sampled: **11/30/23 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.5	101 %		23-173		"	"	12/05/23	"	
<i>Surrogate: Toluene-d8</i>	13.3	99.8 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	15.8	118 %		21-167		"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW02**  
**2311627-18 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Benzene</b>	<b>2400</b>	100	ug/l	100	BGL0129	12/04/23	12/04/23	EPA 8260B	
<b>Toluene</b>	<b>6700</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>160</b>	1.0	"	1	"	"	12/05/23	"	
<b>Xylenes (total)</b>	<b>3500</b>	200	"	100	"	"	12/04/23	"	
<b>Naphthalene</b>	<b>18</b>	1.0	"	1	"	"	12/05/23	"	
<b>1,2,4-Trimethylbenzene</b>	<b>150</b>	1.0	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>100</b>	1.0	"	"	"	"	"	"	

Date Sampled: **11/30/23 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	14.8	111 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	15.1	113 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	13.8	103 %	21-167		"	"	"	"	

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW03**  
**2311627-19 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>100</b>	1.0		ug/l	1	BGL0129	12/04/23	12/04/23	EPA 8260B	
<b>Toluene</b>	<b>140</b>	1.0		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>6.9</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>100</b>	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>8.3</b>	1.0		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>5.8</b>	1.0		"	"	"	"	"	"	

Date Sampled: **11/30/23 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	14.2	106 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	12.6	94.1 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	13.2	99.0 %		21-167		"	"	"	"	

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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW04**  
**2311627-20 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>660</b>	10		ug/l	10	BGL0129	12/04/23	12/05/23	EPA 8260B	
<b>Toluene</b>	<b>640</b>	10		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>25</b>	1.0		"	1	"	"	12/04/23	"	
<b>Xylenes (total)</b>	<b>390</b>	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>16</b>	1.0		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>11</b>	1.0		"	"	"	"	"	"	

Date Sampled: **11/30/23 12:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.6	102 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	13.4	100 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	13.5	101 %		21-167		"	"	"	"	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW05**  
**2311627-21 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>4.7</b>	1.0		ug/l	1	BGL0129	12/04/23	12/04/23	EPA 8260B	
<b>Toluene</b>	<b>19</b>	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>12</b>	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/30/23 12:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	15.1	114 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	15.7	118 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.3	99.5 %		21-167		"	"	"	"	

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW06**  
**2311627-22 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>110</b>	1.0		ug/l	1	BGL0129	12/04/23	12/05/23	EPA 8260B	
<b>Toluene</b>	<b>220</b>	1.0		"	"	"	"	"	"	E
<b>Ethylbenzene</b>	<b>12</b>	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>190</b>	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>16</b>	1.0		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>11</b>	1.0		"	"	"	"	"	"	

Date Sampled: **11/30/23 12:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.8	103 %		23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	13.1	98.0 %		20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	13.4	100 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

**FL-GW07**  
**2311627-23 (Water)**

**Summit Scientific**

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

Date Sampled: **11/30/23 13:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGL0129	12/04/23	12/05/23	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **11/30/23 13:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	13.8	103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.3	99.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.5	101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

### Summit Scientific

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

#### Batch BGL0129 - EPA 5030 Water MS

##### Blank (BGL0129-BLK1)

Prepared & Analyzed: 12/04/23

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.0	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.2	21-167			

##### LCS (BGL0129-BS1)

Prepared & Analyzed: 12/04/23

Benzene	32.5	1.0	ug/l	33.3		97.4	51-132			
Toluene	32.9	1.0	"	33.3		98.8	51-138			
Ethylbenzene	33.4	1.0	"	33.3		100	58-146			
m,p-Xylene	66.5	2.0	"	66.7		99.7	57-144			
o-Xylene	33.0	1.0	"	33.3		98.9	53-146			
Naphthalene	23.5	1.0	"	33.3		70.5	70-130			
1,2,4-Trimethylbenzene	33.4	1.0	"	33.3		100	70-130			
1,3,5-Trimethylbenzene	33.4	1.0	"	33.3		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.3		103	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	21-167			

##### Matrix Spike (BGL0129-MS1)

Source: 2311628-21

Prepared & Analyzed: 12/04/23

Benzene	29.4	1.0	ug/l	33.3	ND	88.1	34-141			
Toluene	30.9	1.0	"	33.3	ND	92.8	27-151			
Ethylbenzene	31.3	1.0	"	33.3	ND	94.0	29-160			
m,p-Xylene	58.6	2.0	"	66.7	ND	88.0	20-166			
o-Xylene	30.4	1.0	"	33.3	ND	91.3	33-159			
Naphthalene	32.1	1.0	"	33.3	ND	96.4	70-130			
1,2,4-Trimethylbenzene	21.7	1.0	"	33.3	ND	65.1	70-130			QM-07
1,3,5-Trimethylbenzene	26.2	1.0	"	33.3	ND	78.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.9	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

### Summit Scientific

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

#### Batch BGL0129 - EPA 5030 Water MS

Matrix Spike Dup (BGL0129-MSD1)			Source: 2311628-21		Prepared & Analyzed: 12/04/23						
Benzene	31.4	1.0	ug/l	33.3	ND	94.4	34-141	6.81	30		
Toluene	31.2	1.0	"	33.3	ND	93.7	27-151	0.965	30		
Ethylbenzene	31.4	1.0	"	33.3	ND	94.2	29-160	0.287	30		
m,p-Xylene	59.1	2.0	"	66.7	ND	88.6	20-166	0.764	30		
o-Xylene	31.0	1.0	"	33.3	ND	93.0	33-159	1.82	30		
Naphthalene	33.7	1.0	"	33.3	ND	101	70-130	4.77	30		
1,2,4-Trimethylbenzene	22.1	1.0	"	33.3	ND	66.3	70-130	1.74	30		QM-07
1,3,5-Trimethylbenzene	26.2	1.0	"	33.3	ND	78.5	70-130	0.115	30		
<hr/>											
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.3		104	23-173				
Surrogate: Toluene-d8	13.3		"	13.3		99.6	20-170				
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2	21-167				

#### Batch BGL0152 - EPA 5030 Soil MS

Blank (BGL0152-BLK1)				Prepared: 12/05/23 Analyzed: 12/06/23							
Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<hr/>											
Surrogate: 1,2-Dichloroethane-d4	0.0439		"	0.0400		110	50-150				
Surrogate: Toluene-d8	0.0449		"	0.0400		112	50-150				
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	50-150				

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

### Summit Scientific

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

#### Batch BGL0152 - EPA 5030 Soil MS

##### LCS (BGL0152-BS1)

Prepared: 12/05/23 Analyzed: 12/06/23

Benzene	0.112	0.0020	mg/kg	0.100		112	70-130			
Toluene	0.101	0.0050	"	0.100		101	70-130			
Ethylbenzene	0.0941	0.0050	"	0.100		94.1	70-130			
m,p-Xylene	0.179	0.010	"	0.200		89.4	70-130			
o-Xylene	0.0837	0.0050	"	0.100		83.7	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.0989	0.0050	"	0.100		98.9	70-130			
Naphthalene	0.125	0.0038	"	0.100		125	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	50-150			

##### Matrix Spike (BGL0152-MS1)

Source: 2311627-01

Prepared: 12/05/23 Analyzed: 12/06/23

Benzene	0.0926	0.0020	mg/kg	0.100	ND	92.6	70-130			
Toluene	0.0836	0.0050	"	0.100	ND	83.6	70-130			
Ethylbenzene	0.0824	0.0050	"	0.100	ND	82.4	70-130			
m,p-Xylene	0.153	0.010	"	0.200	ND	76.3	70-130			
o-Xylene	0.0712	0.0050	"	0.100	ND	71.2	70-130			
1,2,4-Trimethylbenzene	0.0766	0.0050	"	0.100	ND	76.6	70-130			
1,3,5-Trimethylbenzene	0.0822	0.0050	"	0.100	ND	82.2	70-130			
Naphthalene	0.0937	0.0038	"	0.100	ND	93.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	50-150			

##### Matrix Spike Dup (BGL0152-MSD1)

Source: 2311627-01

Prepared: 12/05/23 Analyzed: 12/06/23

Benzene	0.0869	0.0020	mg/kg	0.100	ND	86.9	70-130	6.32	30	
Toluene	0.0782	0.0050	"	0.100	ND	78.2	70-130	6.60	30	
Ethylbenzene	0.0733	0.0050	"	0.100	ND	73.3	70-130	11.7	30	
m,p-Xylene	0.167	0.010	"	0.200	ND	83.5	70-130	8.94	30	
o-Xylene	0.0939	0.0050	"	0.100	ND	93.9	70-130	27.4	30	
1,2,4-Trimethylbenzene	0.0936	0.0050	"	0.100	ND	93.6	70-130	20.1	30	
1,3,5-Trimethylbenzene	0.0712	0.0050	"	0.100	ND	71.2	70-130	14.4	30	
Naphthalene	0.0757	0.0038	"	0.100	ND	75.7	70-130	21.3	30	
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	50-150			

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BGL0158 - EPA 3550A**

**Blank (BGL0158-BLK1)**

Prepared: 12/05/23 Analyzed: 12/07/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.6		"	12.5		92.7	30-150			

**LCS (BGL0158-BS1)**

Prepared: 12/05/23 Analyzed: 12/07/23

C10-C28 (DRO)	525	50	mg/kg	500		105	70-130			
Surrogate: o-Terphenyl	7.65		"	12.5		61.2	30-150			

**Matrix Spike (BGL0158-MS1)**

Source: 2311627-01

Prepared: 12/05/23 Analyzed: 12/07/23

C10-C28 (DRO)	422	50	mg/kg	500	13.8	81.7	70-130			
Surrogate: o-Terphenyl	5.88		"	12.5		47.0	30-150			

**Matrix Spike Dup (BGL0158-MSD1)**

Source: 2311627-01

Prepared: 12/05/23 Analyzed: 12/08/23

C10-C28 (DRO)	470	50	mg/kg	500	13.8	91.2	70-130	10.7	20	
Surrogate: o-Terphenyl	6.33		"	12.5		50.6	30-150			

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

### Summit Scientific

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

#### Batch BGL0252 - EPA 5030 Soil MS

##### Blank (BGL0252-BLK1)

Prepared: 12/07/23 Analyzed: 12/08/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0395		"	0.0333		118	40-150			
Surrogate: Fluoranthene-d10	0.0383		"	0.0333		115	40-150			

##### LCS (BGL0252-BS1)

Prepared: 12/07/23 Analyzed: 12/08/23

Acenaphthene	0.0329	0.00500	mg/kg	0.0333	98.6	31-137
Anthracene	0.0259	0.00500	"	0.0333	77.6	30-120
Benzo (a) anthracene	0.0267	0.00500	"	0.0333	80.1	30-120
Benzo (a) pyrene	0.0225	0.00500	"	0.0333	67.4	30-120
Benzo (b) fluoranthene	0.0202	0.00500	"	0.0333	60.7	30-120
Benzo (k) fluoranthene	0.0245	0.00500	"	0.0333	73.4	30-120
Chrysene	0.0275	0.00500	"	0.0333	82.6	30-120
Dibenz (a,h) anthracene	0.0261	0.00500	"	0.0333	78.3	30-120
Fluoranthene	0.0248	0.00500	"	0.0333	74.4	30-120
Fluorene	0.0241	0.00500	"	0.0333	72.2	30-120
Indeno (1,2,3-cd) pyrene	0.0273	0.00500	"	0.0333	82.0	30-120
Pyrene	0.0304	0.00500	"	0.0333	91.2	35-142
1-Methylnaphthalene	0.0257	0.00500	"	0.0333	77.0	35-142
2-Methylnaphthalene	0.0299	0.00500	"	0.0333	89.8	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0335		"	0.0333	101	40-150
Surrogate: Fluoranthene-d10	0.0364		"	0.0333	109	40-150

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

### Summit Scientific

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

#### Batch BGL0252 - EPA 5030 Soil MS

Matrix Spike (BGL0252-MS1)			Source: 2311627-01		Prepared: 12/07/23 Analyzed: 12/08/23					
Acenaphthene	0.0160	0.00500	mg/kg	0.0333	ND	47.9	31-137			
Anthracene	0.0140	0.00500	"	0.0333	ND	42.1	30-120			
Benzo (a) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	30-120			
Benzo (a) pyrene	0.0175	0.00500	"	0.0333	ND	52.5	30-120			
Benzo (b) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.6	30-120			
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	48.8	30-120			
Chrysene	0.0141	0.00500	"	0.0333	ND	42.4	30-120			
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333	ND	70.6	30-120			
Fluoranthene	0.0154	0.00500	"	0.0333	ND	46.1	30-120			
Fluorene	0.0155	0.00500	"	0.0333	ND	46.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0186	0.00500	"	0.0333	ND	55.6	30-120			
Pyrene	0.0145	0.00500	"	0.0333	ND	43.4	35-142			
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.9	15-130			
2-Methylnaphthalene	0.0170	0.00500	"	0.0333	ND	51.1	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0206		"	0.0333		61.8	40-150			
Surrogate: Fluoranthene-d10	0.0202		"	0.0333		60.5	40-150			

Matrix Spike Dup (BGL0252-MSD1)			Source: 2311627-01		Prepared: 12/07/23 Analyzed: 12/08/23					
Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.3	31-137	10.8	30	
Anthracene	0.0156	0.00500	"	0.0333	ND	46.7	30-120	10.3	30	
Benzo (a) anthracene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	14.3	30	
Benzo (a) pyrene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	4.30	30	
Benzo (b) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	22.4	30	
Benzo (k) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.4	30-120	14.1	30	
Chrysene	0.0149	0.00500	"	0.0333	ND	44.6	30-120	4.90	30	
Dibenz (a,h) anthracene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	16.3	30	
Fluoranthene	0.0154	0.00500	"	0.0333	ND	46.3	30-120	0.489	30	
Fluorene	0.0144	0.00500	"	0.0333	ND	43.1	30-120	7.92	30	
Indeno (1,2,3-cd) pyrene	0.0190	0.00500	"	0.0333	ND	57.1	30-120	2.66	30	
Pyrene	0.0180	0.00500	"	0.0333	ND	54.1	35-142	22.1	30	
1-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.7	15-130	15.4	50	
2-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.3	15-130	11.4	50	
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.0	40-150			
Surrogate: Fluoranthene-d10	0.0231		"	0.0333		69.3	40-150			

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BGL0350 - EPA 3050B**

**Blank (BGL0350-BLK1)**

Prepared: 12/10/23 Analyzed: 12/15/23

Boron ND 2.00 mg/L

**LCS (BGL0350-BS1)**

Prepared: 12/10/23 Analyzed: 12/15/23

Boron 5.10 2.00 mg/L 5.00 102 80-120

**Duplicate (BGL0350-DUP1)**

**Source: 2311626-01**

Prepared: 12/10/23 Analyzed: 12/15/23

Boron 0.284 2.00 mg/L 0.300 5.52 20

**Matrix Spike (BGL0350-MS1)**

**Source: 2311626-01**

Prepared: 12/10/23 Analyzed: 12/15/23

Boron 5.33 2.00 mg/L 5.00 0.300 101 75-125

**Matrix Spike Dup (BGL0350-MSD1)**

**Source: 2311626-01**

Prepared: 12/10/23 Analyzed: 12/15/23

Boron 5.37 2.00 mg/L 5.00 0.300 101 75-125 0.768 25

**Batch BHB0059 - EPA 3050B**

**Blank (BHB0059-BLK1)**

Prepared: 02/02/24 Analyzed: 02/07/24

Boron ND 2.00 mg/L

**LCS (BHB0059-BS1)**

Prepared: 02/02/24 Analyzed: 02/07/24

Boron 5.55 2.00 mg/L 5.00 111 80-120

**Duplicate (BHB0059-DUP1)**

**Source: 2311627-07RE1**

Prepared: 02/02/24 Analyzed: 02/07/24

Boron 2.82 2.00 mg/L 2.87 1.87 20

**Matrix Spike (BHB0059-MS1)**

**Source: 2311627-07RE1**

Prepared: 02/02/24 Analyzed: 02/07/24

Boron 8.18 2.00 mg/L 5.00 2.87 106 75-125

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BHB0059 - EPA 3050B**

Matrix Spike Dup (BHB0059-MSD1)				Source: 2311627-07RE1		Prepared: 02/02/24 Analyzed: 02/07/24				
Boron	8.18	2.00	mg/L	5.00	2.87	106	75-125	0.0348	25	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BHB0464 - EPA 3050B

##### Blank (BHB0464-BLK1)

Prepared: 02/14/24 Analyzed: 02/15/24

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

##### LCS (BHB0464-BS1)

Prepared: 02/14/24 Analyzed: 02/15/24

Arsenic	32.9	0.200	mg/kg wet	40.0	82.3	80-120
Barium	33.6	0.400	"	40.0	83.9	80-120
Cadmium	1.72	0.200	"	2.00	86.2	80-120
Copper	37.2	0.400	"	40.0	92.9	80-120
Lead	17.1	0.200	"	20.0	85.5	80-120
Nickel	36.3	0.400	"	40.0	90.7	80-120
Silver	1.76	0.0200	"	2.00	87.9	80-120
Zinc	36.4	0.400	"	40.0	90.9	80-120
Selenium	3.93	0.260	"	4.00	98.2	80-120

##### Duplicate (BHB0464-DUP1)

Source: 2311627-01

Prepared: 02/14/24 Analyzed: 02/15/24

Arsenic	1.12	0.200	mg/kg dry	1.17	4.53	20
Barium	40.2	0.400	"	39.5	1.76	20
Cadmium	0.0894	0.200	"	0.102	12.7	20
Copper	2.35	0.400	"	2.32	1.37	20
Lead	6.07	0.200	"	5.33	13.0	20
Nickel	2.38	0.400	"	2.34	2.01	20
Silver	0.0186	0.0200	"	0.0151	20.5	20
Zinc	10.5	0.400	"	9.60	8.59	20
Selenium	ND	0.260	"	ND		20

QR-01

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BHB0464 - EPA 3050B**

Matrix Spike (BHB0464-MS1)		Source: 2311627-01			Prepared: 02/14/24 Analyzed: 02/15/24					
Arsenic	35.5	0.200	mg/kg dry	43.2	1.17	79.3	75-125			
Barium	73.0	0.400	"	43.2	39.5	77.6	75-125			
Cadmium	1.91	0.200	"	2.16	0.102	83.7	75-125			
Copper	31.2	0.400	"	43.2	2.32	66.8	75-125			QM-07
Lead	23.3	0.200	"	21.6	5.33	83.4	75-125			
Nickel	30.9	0.400	"	43.2	2.34	66.0	75-125			QM-07
Silver	1.87	0.0200	"	2.16	0.0151	85.6	75-125			
Zinc	40.7	0.400	"	43.2	9.60	71.9	75-125			QM-07
Selenium	3.86	0.260	"	4.32	ND	89.4	75-125			

Matrix Spike Dup (BHB0464-MSD1)		Source: 2311627-01			Prepared: 02/14/24 Analyzed: 02/15/24					
Arsenic	37.6	0.200	mg/kg dry	43.2	1.17	84.3	75-125	5.90	25	
Barium	77.0	0.400	"	43.2	39.5	86.9	75-125	5.34	25	
Cadmium	2.02	0.200	"	2.16	0.102	88.8	75-125	5.65	25	
Copper	33.1	0.400	"	43.2	2.32	71.3	75-125	6.03	25	QM-07
Lead	24.6	0.200	"	21.6	5.33	89.4	75-125	5.40	25	
Nickel	32.7	0.400	"	43.2	2.34	70.3	75-125	5.75	25	QM-07
Silver	1.99	0.0200	"	2.16	0.0151	91.2	75-125	6.31	25	
Zinc	43.3	0.400	"	43.2	9.60	78.0	75-125	6.27	25	
Selenium	4.16	0.260	"	4.32	ND	96.4	75-125	7.45	25	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BHB0166 - 3060A Mod**

**Blank (BHB0166-BLK1)**

Prepared & Analyzed: 02/06/24

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHB0166-BS1)**

Prepared & Analyzed: 02/06/24

Chromium, Hexavalent 23.0 0.30 mg/kg wet 25.0 92.0 80-120

**Duplicate (BHB0166-DUP1)**

**Source: 2311627-01**

Prepared & Analyzed: 02/06/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHB0166-MS1)**

**Source: 2311627-01**

Prepared & Analyzed: 02/06/24

Chromium, Hexavalent 24.8 0.30 mg/kg dry 27.0 ND 91.8 75-125

**Matrix Spike Dup (BHB0166-MSD1)**

**Source: 2311627-01**

Prepared & Analyzed: 02/06/24

Chromium, Hexavalent 24.6 0.30 mg/kg dry 27.0 ND 91.2 75-125 0.656 20

Summit Scientific

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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BGL0547 - General Preparation**

**Blank (BGL0547-BLK1)**

Prepared: 12/14/23 Analyzed: 12/21/23

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

**LCS (BGL0547-BS1)**

Prepared: 12/14/23 Analyzed: 12/21/23

Calcium	5.91	0.0500	mg/L wet	5.00	118	70-130
Magnesium	5.19	0.0500	"	5.00	104	70-130
Sodium	5.04	0.0500	"	5.00	101	70-130

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BGL0405 - General Preparation**

Duplicate (BGL0405-DUP1)			Source: 2311627-01			Prepared & Analyzed: 12/12/23				
% Solids	92.4		%		92.6		0.167		20	

Summit Scientific

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6855 W. 119th Ave.  
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Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

**Summit Scientific**

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

**Batch BGL0634 - General Preparation**

**Blank (BGL0634-BLK1)**

Prepared: 12/18/23 Analyzed: 12/19/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL0634-BS1)**

Prepared: 12/18/23 Analyzed: 12/19/23

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

**Duplicate (BGL0634-DUP1)**

**Source: 2311626-01**

Prepared: 12/18/23 Analyzed: 12/19/23

Specific Conductance (EC) 0.287 0.0100 mmhos/cm 0.285 0.629 20

**Batch BHB0594 - General Preparation**

**Blank (BHB0594-BLK1)**

Prepared & Analyzed: 02/19/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHB0594-BS1)**

Prepared & Analyzed: 02/19/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BHB0594-DUP1)**

**Source: 2311627-07RE1**

Prepared & Analyzed: 02/19/24

Specific Conductance (EC) 2.57 0.0100 mmhos/cm 2.52 1.77 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

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

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

**Batch BGL0633 - General Preparation**

**LCS (BGL0633-BS1)**

Prepared: 12/18/23 Analyzed: 12/19/23

pH	9.12		pH Units	9.18		99.3	95-105		
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**Duplicate (BGL0633-DUP1)**

**Source: 2311626-01**

Prepared: 12/18/23 Analyzed: 12/19/23

pH	6.32		pH Units		6.39			1.10	20
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**Batch BHB0056 - General Preparation**

**LCS (BHB0056-BS1)**

Prepared & Analyzed: 02/02/24

pH	9.12		pH Units	9.18		99.3	95-105		
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**Duplicate (BHB0056-DUP1)**

**Source: 2311564-01RE1**

Prepared & Analyzed: 02/02/24

pH	8.18		pH Units		8.90			8.43	20
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 41-10C

Project Number: [none]  
Project Manager: Sam Vogt

**Reported:**  
03/20/24 14:41

### Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
I-04	Sample was analyzed out of recommended holding time per clients request.
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