

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 09, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 7-2-10 & 42-10

Work Order #2411118

Enclosed are the results of analyses for samples received by Summit Scientific on 11/06/24 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-B16@5'	2411118-01	Soil	11/06/24 10:30	11/06/24 17:50
FL-N04@4'	2411118-02	Soil	11/06/24 10:34	11/06/24 17:50
FL-S04@4'	2411118-03	Soil	11/06/24 10:36	11/06/24 17:50
FL-E04@4'	2411118-04	Soil	11/06/24 10:38	11/06/24 17:50
FL-W04@4'	2411118-05	Soil	11/06/24 10:40	11/06/24 17:50
FL-B18@5'	2411118-06	Soil	11/06/24 10:50	11/06/24 17:50
FL-N05@4'	2411118-07	Soil	11/06/24 10:52	11/06/24 17:50
FL-S05@4'	2411118-08	Soil	11/06/24 10:54	11/06/24 17:50
FL-E05@4'	2411118-09	Soil	11/06/24 10:56	11/06/24 17:50
FL-W05@4'	2411118-10	Soil	11/06/24 10:58	11/06/24 17:50
FL-B19@5'	2411118-11	Soil	11/06/24 12:00	11/06/24 17:50
FL-N06@4'	2411118-12	Soil	11/06/24 12:02	11/06/24 17:50
FL-S06@4'	2411118-13	Soil	11/06/24 12:04	11/06/24 17:50
FL-E06@4'	2411118-14	Soil	11/06/24 12:06	11/06/24 17:50
FL-W06@4'	2411118-15	Soil	11/06/24 12:08	11/06/24 17:50
GW08	2411118-16	Water	11/06/24 10:32	11/06/24 17:50
GW09	2411118-17	Water	11/06/24 11:00	11/06/24 17:50
GW10	2411118-18	Water	11/06/24 12:10	11/06/24 17:50

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client: Civitas/Tasman				Send Data To:				Send Invoice To:													
Address: 6855 W. 119th Ave.				Project Manager: Sam Vogt / Jacob Evans				Company: <u>Tasman</u>													
City/State/Zip: Broomfield, CO 80020				E-Mail: <u>svogt@tasman-geo.com / jevans@civiresources.com</u>				Project Name/Location:													
Phone: PM Phone # (610) 405-9078				Project Name: <u>Aristocrat Anyos 7-2-10, 42-10</u>				AFE#: <u>23276</u>													
Sampler Name: <u>Dan Tyson, Max Sherwin</u>				Project Number: <u>23276</u>				PO/Billing Codes: <u>8523.198</u>													
				Contact:																	
				Preservative				Matrix				Analysis Requested				Special Instructions					
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO,DRO,ORO)	PAH	pH, EC, SAR	Boron	Metals		
1	FL-B16@5'	<u>11/6/24</u>	<u>10:30</u>	<u>2</u>			<u>X</u>			<u>X</u>											<p>pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method</p> <p>Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI</p> <p><u>Full Table 915</u></p>
2	FL-N04@4'		<u>10:34</u>																		
3	FL-S04@4'		<u>10:36</u>																		
4	FL-E04@4'		<u>10:38</u>																		
5	FL-W04@4'		<u>10:40</u>																		
6	FL-B18@5'		<u>10:50</u>																		
7	FL-N05@4'		<u>10:52</u>																		
8	FL-S05@4'		<u>10:54</u>																		
9	FL-E05@4'		<u>10:56</u>																		
10	FL-W05@4'		<u>10:58</u>																		
11	FL-B19@5'		<u>12:00</u>																		
12	FL-N06@4'		<u>12:02</u>																		
13	FL-S06@4'		<u>12:04</u>																		
14	FL-E06@4'		<u>12:06</u>																		
15	FL-W06@4'		<u>12:08</u>																		
Relinquished by: <u>Dan Tyson</u> Date/Time: <u>11/6/24 11:40</u>				Received by: <u>[Signature]</u> Date/Time: <u>11/6/24 17:50</u>				TAT Business Days				Field DO				Notes:					
								Same Day				Field EC									
Relinquished by: <u>[Signature]</u> Date/Time: <u>11/6/24 17:50</u>				Received by: <u>[Signature]</u> Date/Time: <u>11/6/24 17:50</u>				1 Day				Field ORP									
								2 Days				Field pH									
Relinquished by:				Received by:				3 Days				Field Temp.									
Date/Time:				Date/Time:				Standard				<u>X</u> Field Turb.									
Temperature Upon Receipt: <u>8.1</u>				Corrected Temperature: <u>8</u>				IR gun #: <u>1</u>				HNO3 lot #:									

Client: Civitas/Tasman				Send Data To:				Send Invoice To:													
Address: 6855 W. 119th Ave.				Project Manager: Sam Vogt / Jacob Evans				Company: Tasman													
City/State/Zip: Broomfield, CO 80020				E-Mail: svogt@tasman-geo.com / jevans@civiresources.com				Project Name/Location:													
Phone: PM Phone # (610) 405-9078				Project Name: Aristocrat 7-2-10; 42-10				AFE#: 23176													
Sampler Name: Dan Tyson, Max Shelwin				Project Number: 23176				PO/Billing Codes: 8523, 198													
Contact:																					
ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative	Matrix				Analysis Requested				Special Instructions							
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO,DRO,ORO)	PAH	pH, EC, SAR	Boron	Metals	TDS, Cl, SO4	
1	GW 8	11/26/24	10:32	4	3		1		X				X	X							X
2	GW 9	↓	11:00	↓	↓		↓		↓				↓	↓							↓
3	GW 10		12:10	↓	↓		↓		↓				↓	↓							↓
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by:	Date/Time:	Received by:	Date/Time:	TAT Business Days	Field DO	Notes:
Mr. Tom	17:40			Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Tasman (locked)	11/26/24 17:50	[Signature]	11/26/24 17:50	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 8.1	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂2/2
Sample Receipt Checklist

S2 Work Order#

241118

Client: Curtis RomanClient Project ID: Aristocrat 7-2-10, 42-10Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #: _____

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.AS
Custodian Printed Name11/6/24
Date/Time



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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B16@5'
2411118-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/11/24	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: **11/06/24 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
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FL-B16@5'
2411118-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0184	55.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0180	53.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/20/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

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12/09/24 07:55

FL-B16@5'
2411118-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.32	0.200	mg/kg dry	1	BHK1312	11/26/24	12/06/24	EPA 6020B
Barium	48.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.06	0.400	"	"	"	"	"	"
Lead	3.62	0.200	"	"	"	"	"	"
Nickel	3.33	0.400	"	"	"	"	"	"
Silver	0.0215	0.0200	"	"	"	"	"	"
Zinc	13.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.3	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	5.75	0.0500	"	"	"	"	"	"	
Sodium	57.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.85	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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2411118-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.9		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.464	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.07		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project Number: 23176
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FL-N04@4'
2411118-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/11/24	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: **11/06/24 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	90.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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12/09/24 07:55

FL-N04@4'
2411118-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0191	57.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:34**

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 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N04@4'
2411118-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.23	0.200	mg/kg dry	1	BHK1312	11/26/24	12/06/24	EPA 6020B
Barium	44.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.09	0.400	"	"	"	"	"	"
Lead	3.58	0.200	"	"	"	"	"	"
Nickel	3.55	0.400	"	"	"	"	"	"
Silver	0.0233	0.0200	"	"	"	"	"	"
Zinc	14.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.8	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	9.59	0.0500	"	"	"	"	"	"	
Sodium	74.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.82	0.00100	units	1	BHK0975	11/19/24	11/19/24	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 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N04@4'
2411118-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.0		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.589	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S04@4'
2411118-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/11/24	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: **11/06/24 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0432	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.1	80.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S04@4'
2411118-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0208	62.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:36**

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S04@4'
2411118-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.20	0.200	mg/kg dry	1	BHK1312	11/26/24	12/06/24	EPA 6020B
Barium	58.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.57	0.400	"	"	"	"	"	"
Lead	3.85	0.200	"	"	"	"	"	"
Nickel	3.93	0.400	"	"	"	"	"	"
Silver	0.0218	0.0200	"	"	"	"	"	"
Zinc	16.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.5	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	10.1	0.0500	"	"	"	"	"	"	
Sodium	92.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.38	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S04@4'
2411118-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.0		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.603	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E04@4'
2411118-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/11/24	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: **11/06/24 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.02	64.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E04@4'
2411118-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0182	54.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	59.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:38**

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E04@4'
2411118-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.84	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	28.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.98	0.400	"	"	"	"	"	"
Lead	4.57	0.200	"	"	"	"	"	"
Nickel	2.50	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	77.1	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	19.7	0.0500	"	"	"	"	"	"	
Sodium	145	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.81	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E04@4'
2411118-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.2		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.28	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W04@4'
2411118-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0409	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.9	87.3 %	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 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W04@4'
2411118-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0192	57.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W04@4'
2411118-05 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.55	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	61.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.85	0.400	"	"	"	"	"	"
Lead	3.99	0.200	"	"	"	"	"	"
Nickel	4.46	0.400	"	"	"	"	"	"
Silver	0.0249	0.0200	"	"	"	"	"	"
Zinc	18.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.4	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	7.19	0.0500	"	"	"	"	"	"	
Sodium	69.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.04	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: 23176
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Reported:
12/09/24 07:55

FL-W04@4'
2411118-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.8		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.535	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B18@5'
2411118-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.0	88.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B18@5'
2411118-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0174	52.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B18@5'
2411118-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.47	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	41.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.67	0.400	"	"	"	"	"	"
Lead	3.79	0.200	"	"	"	"	"	"
Nickel	4.24	0.400	"	"	"	"	"	"
Silver	0.0274	0.0200	"	"	"	"	"	"
Zinc	18.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.4	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	5.97	0.0500	"	"	"	"	"	"	
Sodium	17.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.812	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B18@5'
2411118-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.8		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.328	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.99		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N05@4'
2411118-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0383	95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2411118-07 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0174	52.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N05@4'
2411118-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.04	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	40.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.69	0.400	"	"	"	"	"	"
Lead	3.35	0.200	"	"	"	"	"	"
Nickel	2.76	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	12.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.2	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	4.41	0.0500	"	"	"	"	"	"	
Sodium	12.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.657	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N05@4'
2411118-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.3		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.348	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S05@4'
2411118-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0371	92.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	95.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.37	74.9 %	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 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S05@4'
2411118-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0145	43.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0148	44.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:54**

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 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S05@4'
2411118-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.96	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	33.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.13	0.400	"	"	"	"	"	"
Lead	3.50	0.200	"	"	"	"	"	"
Nickel	2.82	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	12.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.3	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	6.94	0.0500	"	"	"	"	"	"	
Sodium	85.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.96	0.00100	units	1	BHK0975	11/19/24	11/19/24	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 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S05@4'
2411118-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.846	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.32		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E05@4'
2411118-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.20	73.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E05@4'
2411118-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0143	42.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E05@4'
2411118-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.86	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	31.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.48	0.400	"	"	"	"	"	"
Lead	3.09	0.200	"	"	"	"	"	"
Nickel	2.39	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.7	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	6.39	0.0500	"	"	"	"	"	"	
Sodium	29.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.34	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E05@4'
2411118-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.4		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.456	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W05@4'
2411118-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	83.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W05@4'
2411118-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W05@4'
2411118-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.07	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	36.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.92	0.400	"	"	"	"	"	"
Lead	3.37	0.200	"	"	"	"	"	"
Nickel	3.23	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	13.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.8	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	4.84	0.0500	"	"	"	"	"	"	
Sodium	12.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.621	0.00100	units	1	BHK0975	11/19/24	11/19/24	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 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W05@4'
2411118-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.1		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.258	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B19@5'
2411118-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	96.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B19@5'
2411118-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/11/24	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: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B19@5'
2411118-11 (Soil)

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Total Metals by EPA 6020B

Arsenic	1.85	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	36.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.21	0.400	"	"	"	"	"	"
Lead	3.50	0.200	"	"	"	"	"	"
Nickel	2.70	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	13.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.2	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	4.08	0.0500	"	"	"	"	"	"	
Sodium	21.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.16	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-B19@5'
2411118-11 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.6		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.391	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N06@4'
2411118-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0369	92.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.90	71.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N06@4'
2411118-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/13/24	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: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0208	62.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0199	59.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N06@4'
2411118-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.80	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	32.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.95	0.400	"	"	"	"	"	"
Lead	4.52	0.200	"	"	"	"	"	"
Nickel	2.19	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.6	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	8.16	0.0500	"	"	"	"	"	"	
Sodium	187	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.94	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-N06@4'
2411118-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.5		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.52	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S06@4'
2411118-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.10	56.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S06@4'
2411118-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/12/24	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: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0153	45.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 12:04**

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S06@4'
2411118-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.25	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	28.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.21	0.400	"	"	"	"	"	"
Lead	5.10	0.200	"	"	"	"	"	"
Nickel	2.60	0.400	"	"	"	"	"	"
Silver	0.0208	0.0200	"	"	"	"	"	"
Zinc	13.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	83.2	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	23.9	0.0500	"	"	"	"	"	"	
Sodium	244	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.07	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-S06@4'
2411118-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.78	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.01		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E06@4'
2411118-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E06@4'
2411118-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/12/24	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: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0155	46.5 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E06@4'
2411118-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.72	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	34.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.58	0.400	"	"	"	"	"	"
Lead	2.91	0.200	"	"	"	"	"	"
Nickel	2.13	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.2	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	4.46	0.0500	"	"	"	"	"	"	
Sodium	45.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.48	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-E06@4'
2411118-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.4		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.517	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

Summit Scientific

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W06@4'
2411118-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0495	11/11/24	11/12/24	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: **11/06/24 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0389	97.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0497	11/11/24	11/12/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.71	69.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W06@4'
2411118-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0465	11/11/24	11/12/24	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: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	43.0 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0632	11/13/24	11/21/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W06@4'
2411118-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.71	0.200	mg/kg dry	1	BHK1312	11/26/24	12/05/24	EPA 6020B
Barium	31.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.63	0.400	"	"	"	"	"	"
Lead	3.32	0.200	"	"	"	"	"	"
Nickel	2.36	0.400	"	"	"	"	"	"
Silver	0.0203	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0790	11/15/24	11/19/24	EPA 7196A	

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

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.8	0.0500	mg/L dry	1	BHK0870	11/15/24	11/18/24	EPA 6020B	
Magnesium	6.68	0.0500	"	"	"	"	"	"	
Sodium	73.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.27	0.00100	units	1	BHK0975	11/19/24	11/19/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

FL-W06@4'
2411118-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.9		%	1	BHK0580	11/12/24	11/12/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.01	0.0100	mmhos/cm	1	BHK0871	11/15/24	11/19/24	EPA 120.1	

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

Date Sampled: **11/06/24 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.16		pH Units	1	BHK0872	11/15/24	11/19/24	EPA 9045D	

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

GW08
2411118-16 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 10:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHK0531	11/11/24	11/11/24	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: **11/06/24 10:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	12.7	95.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.5	101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	12.9	97.1 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **11/06/24 10:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	514	0.0600	mg/L	50	BHK0493	11/11/24	11/11/24	EPA 300.0	
Sulfate	574	0.300	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **11/06/24 10:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	1860	10.0	mg/L	1	BHK0312	11/07/24	11/11/24	SM2540C	

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

GW09
2411118-17 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHK0531	11/11/24	11/11/24	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: **11/06/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	12.4	92.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.4	100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	12.5	94.1 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **11/06/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	522	0.0600	mg/L	50	BHK0493	11/11/24	11/11/24	EPA 300.0	
Sulfate	606	0.300	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **11/06/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	2000	10.0	mg/L	1	BHK0312	11/07/24	11/11/24	SM2540C	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

GW10
2411118-18 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/06/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHK0531	11/11/24	11/11/24	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: **11/06/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	12.5	93.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.4	100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	12.8	96.1 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **11/06/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	479	0.0600	mg/L	50	BHK0493	11/11/24	11/11/24	EPA 300.0	
Sulfate	566	0.300	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **11/06/24 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	2170	10.0	mg/L	1	BHK0312	11/07/24	11/11/24	SM2540C	

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0495 - EPA 5030 Soil MS

Blank (BHK0495-BLK1)

Prepared & Analyzed: 11/11/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.6	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	50-150			

LCS (BHK0495-BS1)

Prepared & Analyzed: 11/11/24

Benzene	0.0998	0.0020	mg/kg	0.100		99.8	70-130			
Toluene	0.108	0.0050	"	0.100		108	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.207	0.010	"	0.200		104	70-130			
o-Xylene	0.0992	0.0050	"	0.100		99.2	70-130			
1,2,4-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
Naphthalene	0.0958	0.0038	"	0.100		95.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	50-150			

Matrix Spike (BHK0495-MS1)

Source: 2411118-01

Prepared & Analyzed: 11/11/24

Benzene	0.0939	0.0020	mg/kg	0.100	ND	93.9	70-130			
Toluene	0.102	0.0050	"	0.100	ND	102	70-130			
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130			
m,p-Xylene	0.203	0.010	"	0.200	ND	102	70-130			
o-Xylene	0.0977	0.0050	"	0.100	ND	97.7	70-130			
1,2,4-Trimethylbenzene	0.0981	0.0050	"	0.100	ND	98.1	70-130			
1,3,5-Trimethylbenzene	0.0987	0.0050	"	0.100	ND	98.7	70-130			
Naphthalene	0.0921	0.0038	"	0.100	ND	92.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0400		99.8	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	50-150			

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0495 - EPA 5030 Soil MS

Matrix Spike Dup (BHK0495-MSD1)

Source: 2411118-01

Prepared & Analyzed: 11/11/24

Benzene	0.0921	0.0020	mg/kg	0.100	ND	92.1	70-130	2.00	30	
Toluene	0.0999	0.0050	"	0.100	ND	99.9	70-130	2.02	30	
Ethylbenzene	0.0995	0.0050	"	0.100	ND	99.5	70-130	2.30	30	
m,p-Xylene	0.196	0.010	"	0.200	ND	98.1	70-130	3.60	30	
o-Xylene	0.0950	0.0050	"	0.100	ND	95.0	70-130	2.77	30	
1,2,4-Trimethylbenzene	0.0909	0.0050	"	0.100	ND	90.9	70-130	7.65	30	
1,3,5-Trimethylbenzene	0.0916	0.0050	"	0.100	ND	91.6	70-130	7.51	30	
Naphthalene	0.0847	0.0038	"	0.100	ND	84.7	70-130	8.42	30	
Surrogate: 1,2-Dichloroethane-d4	0.0402		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	50-150			

Batch BHK0531 - EPA 5030 Water MS

Blank (BHK0531-BLK1)

Prepared & Analyzed: 11/11/24

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	12.4		"	13.3		93.1	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	12.7		"	13.3		95.3	21-167			

LCS (BHK0531-BS1)

Prepared & Analyzed: 11/11/24

Benzene	32.0	1.0	ug/l	33.3		95.9	51-132			
Toluene	32.4	1.0	"	33.3		97.2	51-138			
Ethylbenzene	32.4	1.0	"	33.3		97.2	58-146			
m,p-Xylene	65.1	2.0	"	66.7		97.6	57-144			
o-Xylene	32.6	1.0	"	33.3		98.0	53-146			
Naphthalene	27.7	1.0	"	33.3		83.0	70-130			
1,2,4-Trimethylbenzene	31.4	1.0	"	33.3		94.1	70-130			
1,3,5-Trimethylbenzene	31.9	1.0	"	33.3		95.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.3		93.5	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.7	21-167			

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Tasman Geosciences
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0531 - EPA 5030 Water MS

LCS Dup (BHK0531-BSD1)

Prepared & Analyzed: 11/11/24

Benzene	32.9	1.0	ug/l	33.3		98.8	51-132	3.02	20	
Toluene	33.4	1.0	"	33.3		100	51-138	3.13	20	
Ethylbenzene	33.3	1.0	"	33.3		99.8	58-146	2.68	20	
m,p-Xylene	67.6	2.0	"	66.7		101	57-144	3.80	20	
o-Xylene	34.4	1.0	"	33.3		103	53-146	5.22	20	
Naphthalene	29.2	1.0	"	33.3		87.7	70-130	5.45	20	
1,2,4-Trimethylbenzene	33.6	1.0	"	33.3		101	70-130	6.74	20	
1,3,5-Trimethylbenzene	34.0	1.0	"	33.3		102	70-130	6.32	20	
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.6	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	21-167			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0497 - EPA 3550A

Blank (BHK0497-BLK1)

Prepared & Analyzed: 11/11/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	15.2		"	12.5	121	30-150				

LCS (BHK0497-BS1)

Prepared & Analyzed: 11/11/24

C10-C28 (DRO)	572	50	mg/kg	500	114	70-130				
Surrogate: o-Terphenyl	14.0		"	12.5	112	30-150				

Matrix Spike (BHK0497-MS1)

Source: 2411118-01

Prepared & Analyzed: 11/11/24

C10-C28 (DRO)	551	50	mg/kg	500	43.4	101	70-130			
Surrogate: o-Terphenyl	13.3		"	12.5	106	30-150				

Matrix Spike Dup (BHK0497-MSD1)

Source: 2411118-01

Prepared & Analyzed: 11/11/24

C10-C28 (DRO)	555	50	mg/kg	500	43.4	102	70-130	0.768	20	
Surrogate: o-Terphenyl	12.9		"	12.5	103	30-150				

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10
Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0465 - EPA 5030 Soil MS

Blank (BHK0465-BLK1)

Prepared & Analyzed: 11/11/24

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	0.0226		"	0.0333		67.8	40-140			
Surrogate: Fluoranthene-d10	0.0209		"	0.0333		62.7	40-140			

LCS (BHK0465-BS1)

Prepared & Analyzed: 11/11/24

Acenaphthene	0.0219	0.00500	mg/kg	0.0333		65.7	40-140			
Anthracene	0.0206	0.00500	"	0.0333		61.8	40-140			
Benzo (a) anthracene	0.0225	0.00500	"	0.0333		67.6	40-140			
Benzo (a) pyrene	0.0205	0.00500	"	0.0333		61.5	40-140			
Benzo (b) fluoranthene	0.0208	0.00500	"	0.0333		62.5	40-140			
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333		64.6	40-140			
Chrysene	0.0220	0.00500	"	0.0333		65.9	40-140			
Dibenz (a,h) anthracene	0.0187	0.00500	"	0.0333		56.2	40-140			
Fluoranthene	0.0210	0.00500	"	0.0333		63.0	40-140			
Fluorene	0.0222	0.00500	"	0.0333		66.6	40-140			
Indeno (1,2,3-cd) pyrene	0.0191	0.00500	"	0.0333		57.3	40-140			
Pyrene	0.0233	0.00500	"	0.0333		69.9	40-140			
1-Methylnaphthalene	0.0211	0.00500	"	0.0333		63.3	40-140			
2-Methylnaphthalene	0.0230	0.00500	"	0.0333		69.1	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0219		"	0.0333		65.7	40-140			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-140			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0465 - EPA 5030 Soil MS

Matrix Spike (BHK0465-MS1)

Source: 2411118-01

Prepared: 11/11/24 Analyzed: 11/13/24

Acenaphthene	0.0218	0.00500	mg/kg	0.0333	ND	65.3	40-140		
Anthracene	0.0213	0.00500	"	0.0333	ND	63.9	40-140		
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.4	40-140		
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.7	40-140		
Benzo (b) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.2	40-140		
Benzo (k) fluoranthene	0.0202	0.00500	"	0.0333	ND	60.7	40-140		
Chrysene	0.0219	0.00500	"	0.0333	ND	65.6	40-140		
Dibenz (a,h) anthracene	0.0206	0.00500	"	0.0333	ND	61.7	40-140		
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	40-140		
Fluorene	0.0214	0.00500	"	0.0333	ND	64.2	40-140		
Indeno (1,2,3-cd) pyrene	0.0169	0.00500	"	0.0333	ND	50.8	40-140		
Pyrene	0.0218	0.00500	"	0.0333	ND	65.4	40-140		
1-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	63.1	40-140		
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	40-140		
Surrogate: 2-Methylnaphthalene-d10	0.0216		"	0.0333		64.7	40-140		
Surrogate: Fluoranthene-d10	0.0222		"	0.0333		66.6	40-140		

Matrix Spike Dup (BHK0465-MSD1)

Source: 2411118-01

Prepared: 11/11/24 Analyzed: 11/13/24

Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	60.8	40-140	7.17	30
Anthracene	0.0201	0.00500	"	0.0333	ND	60.4	40-140	5.66	30
Benzo (a) anthracene	0.0206	0.00500	"	0.0333	ND	61.8	40-140	8.70	30
Benzo (a) pyrene	0.0194	0.00500	"	0.0333	ND	58.1	40-140	7.54	30
Benzo (b) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.9	40-140	8.58	30
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.4	40-140	7.28	30
Chrysene	0.0200	0.00500	"	0.0333	ND	59.9	40-140	9.06	30
Dibenz (a,h) anthracene	0.0194	0.00500	"	0.0333	ND	58.3	40-140	5.68	30
Fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	40-140	14.7	30
Fluorene	0.0198	0.00500	"	0.0333	ND	59.4	40-140	7.64	30
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	49.0	40-140	3.59	30
Pyrene	0.0200	0.00500	"	0.0333	ND	60.1	40-140	8.46	30
1-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.6	40-140	2.38	30
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	40-140	2.86	30
Surrogate: 2-Methylnaphthalene-d10	0.0207		"	0.0333		62.2	40-140		
Surrogate: Fluoranthene-d10	0.0205		"	0.0333		61.4	40-140		

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0632 - EPA 3050B

Blank (BHK0632-BLK1)

Prepared: 11/13/24 Analyzed: 11/20/24

Boron ND 2.00 mg/L

LCS (BHK0632-BS1)

Prepared: 11/13/24 Analyzed: 11/20/24

Boron 5.14 2.00 mg/L 5.00 103 80-120

Duplicate (BHK0632-DUP1)

Source: 2411118-01

Prepared: 11/13/24 Analyzed: 11/20/24

Boron 0.284 2.00 mg/L 0.321 12.3 20

Matrix Spike (BHK0632-MS1)

Source: 2411118-01

Prepared: 11/13/24 Analyzed: 11/20/24

Boron 5.18 2.00 mg/L 5.00 0.321 97.2 75-125

Matrix Spike Dup (BHK0632-MSD1)

Source: 2411118-01

Prepared: 11/13/24 Analyzed: 11/20/24

Boron 5.30 2.00 mg/L 5.00 0.321 99.5 75-125 2.20 25

Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK1312 - EPA 3050B

Blank (BHK1312-BLK1)

Prepared: 11/26/24 Analyzed: 12/06/24

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 (BHK1312-BS1)

Prepared: 11/26/24 Analyzed: 12/06/24

Arsenic	39.8	0.200	mg/kg wet	39.7	100	80-120
Barium	37.8	0.400	"	39.7	95.3	80-120
Cadmium	1.85	0.200	"	1.98	93.3	80-120
Copper	40.5	0.400	"	39.7	102	80-120
Lead	19.7	0.200	"	19.8	99.1	80-120
Nickel	40.2	0.400	"	39.7	101	80-120
Silver	1.69	0.0200	"	1.98	85.3	80-120
Zinc	39.4	0.400	"	39.7	99.3	80-120
Selenium	4.24	0.260	"	3.97	107	80-120

Duplicate (BHK1312-DUP1)

Source: 2411118-01

Prepared: 11/26/24 Analyzed: 12/06/24

Arsenic	2.49	0.200	mg/kg dry	2.32	7.11	20
Barium	55.2	0.400	"	48.5	12.9	20
Cadmium	0.0873	0.200	"	0.104	17.7	20
Copper	3.49	0.400	"	3.06	13.3	20
Lead	3.78	0.200	"	3.62	4.50	20
Nickel	3.74	0.400	"	3.33	11.6	20
Silver	0.0361	0.0200	"	0.0215	50.5	20
Zinc	14.7	0.400	"	13.4	9.19	20
Selenium	ND	0.260	"	ND		20

QR-01

Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK1312 - EPA 3050B

Matrix Spike (BHK1312-MS1)

Source: 2411118-01

Prepared: 11/26/24 Analyzed: 12/06/24

Arsenic	50.1	0.200	mg/kg dry	47.5	2.32	101	75-125			
Barium	108	0.400	"	47.5	48.5	126	75-125			QM-05
Cadmium	2.43	0.200	"	2.37	0.104	98.1	75-125			
Copper	51.7	0.400	"	47.5	3.06	103	75-125			
Lead	25.8	0.200	"	23.7	3.62	93.3	75-125			
Nickel	52.2	0.400	"	47.5	3.33	103	75-125			
Silver	3.99	0.0200	"	2.37	0.0215	167	75-125			QM-05
Zinc	63.4	0.400	"	47.5	13.4	105	75-125			
Selenium	2.40	0.260	"	4.75	ND	50.6	75-125			QM-05

Matrix Spike Dup (BHK1312-MSD1)

Source: 2411118-01

Prepared: 11/26/24 Analyzed: 12/06/24

Arsenic	47.1	0.200	mg/kg dry	45.6	2.32	98.1	75-125	6.21	25	
Barium	99.0	0.400	"	45.6	48.5	111	75-125	8.84	25	
Cadmium	2.30	0.200	"	2.28	0.104	96.1	75-125	5.74	25	
Copper	48.9	0.400	"	45.6	3.06	100	75-125	5.75	25	
Lead	25.3	0.200	"	22.8	3.62	95.0	75-125	1.87	25	
Nickel	48.9	0.400	"	45.6	3.33	99.9	75-125	6.52	25	
Silver	3.84	0.0200	"	2.28	0.0215	167	75-125	3.91	25	QM-05
Zinc	59.7	0.400	"	45.6	13.4	101	75-125	6.06	25	
Selenium	1.86	0.260	"	4.56	ND	40.8	75-125	25.4	25	QM-05

Post Spike (BHK1312-PS1)

Source: 2411118-01

Prepared: 11/26/24 Analyzed: 12/06/24

Arsenic	100		ug/l	100	4.93	95.3	75-125			
Barium	95.3		"	100	103	NR	75-125			QM-01

Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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 BHK0790 - 3060A Mod

Blank (BHK0790-BLK1)

Prepared: 11/15/24 Analyzed: 11/19/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHK0790-BS1)

Prepared: 11/15/24 Analyzed: 11/19/24

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 101 80-120

Duplicate (BHK0790-DUP1)

Source: 2411118-01

Prepared: 11/15/24 Analyzed: 11/19/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHK0790-MS1)

Source: 2411118-01

Prepared: 11/15/24 Analyzed: 11/19/24

Chromium, Hexavalent 30.6 0.30 mg/kg dry 29.4 ND 104 75-125

Matrix Spike Dup (BHK0790-MSD1)

Source: 2411118-01

Prepared: 11/15/24 Analyzed: 11/19/24

Chromium, Hexavalent 31.0 0.30 mg/kg dry 29.4 ND 105 75-125 1.34 20

Summit Scientific

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Tasman Geosciences
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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

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

Batch BHK0870 - General Preparation

Blank (BHK0870-BLK1)

Prepared: 11/15/24 Analyzed: 11/18/24

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

LCS (BHK0870-BS1)

Prepared: 11/15/24 Analyzed: 11/18/24

Calcium	5.06	0.0500	mg/L wet	5.00	101	70-130
Magnesium	4.90	0.0500	"	5.00	98.0	70-130
Sodium	5.09	0.0500	"	5.00	102	70-130

Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BHK0493 - General Preparation

Blank (BHK0493-BLK1)

Prepared & Analyzed: 11/11/24

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BHK0493-BS1)

Prepared & Analyzed: 11/11/24

Chloride	3.10	0.0600	mg/L	3.00	103	90-110
Sulfate	15.3	0.300	"	15.0	102	90-110

Duplicate (BHK0493-DUP1)

Source: 2411118-16

Prepared & Analyzed: 11/11/24

Chloride	499	0.0600	mg/L	514	3.04	20
Sulfate	558	0.300	"	574	2.92	20

Matrix Spike (BHK0493-MS1)

Source: 2411118-16

Prepared & Analyzed: 11/11/24

Chloride	662	0.0600	mg/L	150	514	99.0	80-120
Sulfate	1300	0.300	"	750	574	97.3	80-120

Summit Scientific

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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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

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

Batch BHK0580 - General Preparation

Duplicate (BHK0580-DUP1)		Source: 2411116-01		Prepared & Analyzed: 11/12/24							
% Solids	89.0		%		91.2			2.36		20	



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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BHK0312 - General Preparation

Blank (BHK0312-BLK1)

Prepared: 11/07/24 Analyzed: 11/11/24

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BHK0312-DUP1)

Source: 2411103-01

Prepared: 11/07/24 Analyzed: 11/11/24

Total Dissolved Solids 3700 10.0 mg/L 3710 0.270 20

Summit Scientific

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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

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

Batch BHK0871 - General Preparation

Blank (BHK0871-BLK1)

Prepared: 11/15/24 Analyzed: 11/19/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHK0871-BS1)

Prepared: 11/15/24 Analyzed: 11/19/24

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BHK0871-DUP1)

Source: 2411075-01

Prepared: 11/15/24 Analyzed: 11/19/24

Specific Conductance (EC) 0.565 0.0100 mmhos/cm 0.575 1.65 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

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

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

Batch BHK0872 - General Preparation

LCS (BHK0872-BS1)

Prepared: 11/15/24 Analyzed: 11/19/24

pH	9.27	pH Units	9.18	101	95-105
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Duplicate (BHK0872-DUP1)

Source: 2411075-01

Prepared: 11/15/24 Analyzed: 11/19/24

pH	8.27	pH Units	8.29	0.242	20
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 7-2-10 & 42-10

Project Number: 23176
Project Manager: Sam Vogt

Reported:
12/09/24 07:55

Notes and Definitions

QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
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