

ATTACHMENT B
LABORATORY ANALYTICAL DATA

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

July 26, 2023

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

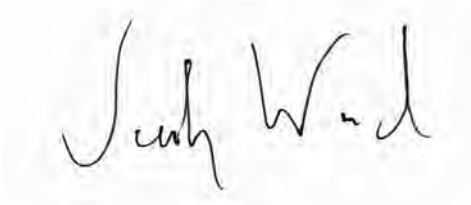
Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4 WH

Work Order # 2307015

Enclosed are the results of analyses for samples received by Summit Scientific on 07/03/23 17:43. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial 'J' and 'W'.

Jacob Wood For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@7'	2307015-01	Soil	07/03/23 12:29	07/03/23 17:43
WH-E01@6'	2307015-02	Soil	07/03/23 12:52	07/03/23 17:43
FL-B01@5'	2307015-03	Soil	07/03/23 13:17	07/03/23 17:43
SP-CS01	2307015-04	Soil	07/03/23 13:28	07/03/23 17:43

Case Narrative

Brandon LeVasseur requested Metals be added to FL-B01@5' on 7/17/2023. This report includes those results.

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.

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

Lab ID	Page 1 of 1
2307015	

Client: <i>Civitas/Tasman</i>		Project Manager: <i>Sam Vogt/Jacob Edms</i>		Company: <i>Civitas</i>	
Address: <i>6855 W. 119th Ave</i>		E-Mail: <i>S.vogt@tasman-yco.com</i>		Project Name/Location:	
City/State/Zip: <i>Broomfield, CO 80020</i>		E-Mail: <i>J.Edms@CivitasResources.com</i>		AFE#: <i>23260</i>	
Phone: <i>Pin Phone #: 610-405-9078</i>		Project Name: <i>Aristocent Angus 8-24 WH</i>		PO/Billing Codes: <i>8523-198</i>	
Sampler Name: <i>Daniel Hensel</i>		Project Number:		Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	1,2,4 + 1,3,5 Tri	PAH (Geo, Diox, PCB)	PAH	PH, EC, SAR		Boron	metals
1	<i>WH-B01 @ 7'</i>	<i>7/3/23</i>	<i>12:29</i>	<i>2</i>			<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	<i>WH-E01 @ 6'</i>		<i>12:52</i>																	
3	<i>EL-B01 @ 5'</i>		<i>13:17</i>																	
4	<i>SP-CS 91</i>		<i>13:28</i>																	
5																				
6																				
7																				
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10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>[Signature]</i>	Date/Time: <i>7/3/23 16:01</i>	Received by: <i>[Signature]</i>	Date/Time: <i>7/3/23 16:01</i>	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: <i>7:23 1743</i>	Received by: <i>[Signature]</i>	Date/Time: <i>7:23 1743</i>	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	<input checked="" type="checkbox"/> Field Turb.	
Temperature Upon Receipt: <i>10.3</i>	Corrected Temperature: <i>0</i>	IR gun #: <i>1</i>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2307015

Client: Coutas Frusman Client Project ID: Aristocrat Angus 8-2-4 WH

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

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 type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS
Custodian Printed Name

1/3/23
Date/Time



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-B01@7'
2307015-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0136	07/06/23	07/07/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		141 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		73.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0137	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		125 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-B01@7'
2307015-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0117	07/06/23	07/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		62.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.6 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.0646	0.0100		mg/L	1	BGG0242	07/10/23	07/11/23	EPA 6020B	

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

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-B01@7'
2307015-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	172	0.0557		mg/L dry	1	BGG0272	07/11/23	07/14/23	EPA 6020B	
Magnesium	33.0	0.0557		"	"	"	"	"	"	
Sodium	30.5	0.0557		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.558	0.00100		units	1	BGG0421	07/14/23	07/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.8			%	1	BGG0193	07/07/23	07/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.250	0.0100		mmhos/cm	1	BGG0326	07/12/23	07/12/23	EPA 120.1	

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

Date Sampled: **07/03/23 12:29**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03			pH Units	1	BGG0325	07/12/23	07/12/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-E01@6'
2307015-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0136	07/06/23	07/07/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		142 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		75.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0137	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		132 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-E01@6'
2307015-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0117	07/06/23	07/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		74.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		89.2 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0450	0.0100		mg/L	1	BGG0242	07/10/23	07/11/23	EPA 6020B	

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

Date Sampled: **07/03/23 12:52**

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

WH-E01@6'
2307015-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	105	0.0532		mg/L dry	1	BGG0272	07/11/23	07/14/23	EPA 6020B	
Magnesium	25.8	0.0532		"	"	"	"	"	"	
Sodium	34.1	0.0532		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.773	0.00100		units	1	BGG0421	07/14/23	07/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9			%	1	BGG0193	07/07/23	07/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.147	0.0100		mmhos/cm	1	BGG0326	07/12/23	07/12/23	EPA 120.1	

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

Date Sampled: **07/03/23 12:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.29			pH Units	1	BGG0325	07/12/23	07/12/23	EPA 9045D	

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Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

FL-B01@5'
2307015-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0136	07/06/23	07/07/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		143 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		74.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		78.5 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0137	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		127 %		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 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

FL-B01@5'
2307015-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0117	07/06/23	07/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.0190	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0146	0.00500		"	"	"	"	"	"	

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		109 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.148	0.0100		mg/L	1	BGG0242	07/10/23	07/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/03/23 13:17**

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

FL-B01@5'
2307015-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.65	0.230		mg/kg dry	1	BGG0511	07/18/23	07/20/23	EPA 6020B	
Barium	388	0.460		"	"	"	"	"	"	
Cadmium	0.488	0.230		"	"	"	"	"	"	
Copper	8.93	0.460		"	"	"	"	"	"	
Lead	4.87	0.230		"	"	"	"	"	"	
Nickel	4.10	0.460		"	"	"	"	"	"	
Selenium	ND	0.299	0.201	"	"	"	"	"	"	
Silver	0.0248	0.0230		"	"	"	"	"	"	
Zinc	17.4	0.460		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0513	07/18/23	07/18/23	EPA 7196A	

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

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.1	0.0574		mg/L dry	1	BGG0272	07/11/23	07/14/23	EPA 6020B	
Magnesium	7.22	0.0574		"	"	"	"	"	"	
Sodium	40.5	0.0574		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.46	0.00100		units	1	BGG0421	07/14/23	07/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

FL-B01@5'
2307015-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.0			%	1	BGG0193	07/07/23	07/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/03/23 13:17**

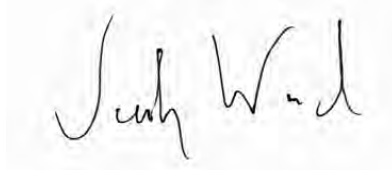
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.429	0.0100		mmhos/cm	1	BGG0326	07/12/23	07/12/23	EPA 120.1	

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

Date Sampled: **07/03/23 13:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.33			pH Units	1	BGG0325	07/12/23	07/12/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

SP-CS01
2307015-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0136	07/06/23	07/07/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		139 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		74.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0137	07/06/23	07/06/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		129 %		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 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

SP-CS01
2307015-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0117	07/06/23	07/06/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Chrysene	ND	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
Fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Fluorene	ND	0.00500		"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	"
Pyrene	ND	0.00500		"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		81.7 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		95.6 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.112	0.0100		mg/L	1	BGG0242	07/10/23	07/11/23	EPA 6020B	

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

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

SP-CS01
2307015-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	132	0.0551		mg/L dry	1	BGG0272	07/11/23	07/14/23	EPA 6020B	
Magnesium	23.7	0.0551		"	"	"	"	"	"	
Sodium	63.3	0.0551		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.33	0.00100		units	1	BGG0421	07/14/23	07/14/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7			%	1	BGG0193	07/07/23	07/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.388	0.0100		mmhos/cm	1	BGG0326	07/12/23	07/12/23	EPA 120.1	

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

Date Sampled: **07/03/23 13:28**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.33			pH Units	1	BGG0325	07/12/23	07/12/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGG0136 - EPA 5030 Soil MS

Blank (BGG0136-BLK1)

Prepared & Analyzed: 07/06/23

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0579		"	0.0400		145	50-150				
<i>Surrogate: Toluene-d8</i>	0.0297		"	0.0400		74.2	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0333		"	0.0400		83.3	50-150				

LCS (BGG0136-BS1)

Prepared & Analyzed: 07/06/23

Benzene	0.114	0.0020	mg/kg	0.125		91.2	70-130				
Toluene	0.0961	0.0050	"	0.125		76.9	70-130				
Ethylbenzene	0.154	0.0050	"	0.125		123	70-130				
m,p-Xylene	0.310	0.010	"	0.250		124	70-130				
o-Xylene	0.152	0.0050	"	0.125		121	70-130				
1,2,4-Trimethylbenzene	0.148	0.0050	"	0.125		118	70-130				
1,3,5-Trimethylbenzene	0.147	0.0050	"	0.125		118	70-130				
Naphthalene	0.146	0.0038	"	0.125		117	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0560		"	0.0400		140	50-150				
<i>Surrogate: Toluene-d8</i>	0.0309		"	0.0400		77.3	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0328		"	0.0400		82.1	50-150				

Matrix Spike (BGG0136-MS1)

Source: 2306669-01

Prepared & Analyzed: 07/06/23

Benzene	0.113	0.0020	mg/kg	0.125	ND	90.8	70-130				
Toluene	0.0965	0.0050	"	0.125	ND	77.2	70-130				
Ethylbenzene	0.158	0.0050	"	0.125	ND	126	70-130				
m,p-Xylene	0.317	0.010	"	0.250	ND	127	70-130				
o-Xylene	0.155	0.0050	"	0.125	ND	124	70-130				
1,2,4-Trimethylbenzene	0.152	0.0050	"	0.125	ND	122	70-130				
1,3,5-Trimethylbenzene	0.152	0.0050	"	0.125	ND	122	70-130				
Naphthalene	0.133	0.0038	"	0.125	ND	107	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0565		"	0.0400		141	50-150				
<i>Surrogate: Toluene-d8</i>	0.0305		"	0.0400		76.3	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0331		"	0.0400		82.8	50-150				

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BGG0136 - EPA 5030 Soil MS

Matrix Spike Dup (BGG0136-MSD1)	Source: 2306669-01			Prepared & Analyzed: 07/06/23						
Benzene	0.114	0.0020	mg/kg	0.125	ND	91.0	70-130	0.211	30	
Toluene	0.127	0.0050	"	0.125	ND	102	70-130	27.5	30	
Ethylbenzene	0.162	0.0050	"	0.125	ND	129	70-130	2.25	30	
m,p-Xylene	0.300	0.010	"	0.250	ND	120	70-130	5.57	30	
o-Xylene	0.162	0.0050	"	0.125	ND	130	70-130	4.79	30	
1,2,4-Trimethylbenzene	0.158	0.0050	"	0.125	ND	126	70-130	3.61	30	
1,3,5-Trimethylbenzene	0.157	0.0050	"	0.125	ND	125	70-130	2.95	30	
Naphthalene	0.156	0.0038	"	0.125	ND	125	70-130	15.5	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0577</i>		<i>"</i>	<i>0.0400</i>		<i>144</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0306</i>		<i>"</i>	<i>0.0400</i>		<i>76.5</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0320</i>		<i>"</i>	<i>0.0400</i>		<i>79.9</i>	<i>50-150</i>			

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGG0137 - EPA 3550A

Blank (BGG0137-BLK1)

Prepared & Analyzed: 07/06/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	15.1		"	12.5		120		30-150			

LCS (BGG0137-BS1)

Prepared & Analyzed: 07/06/23

C10-C28 (DRO)	597	50	mg/kg	500		119		70-130			
Surrogate: <i>o</i> -Terphenyl	15.9		"	12.5		127		30-150			

Matrix Spike (BGG0137-MS1)

Source: 2306669-01

Prepared & Analyzed: 07/06/23

C10-C28 (DRO)	584	50	mg/kg	500	185	79.9		70-130			
Surrogate: <i>o</i> -Terphenyl	16.3		"	12.5		130		30-150			

Matrix Spike Dup (BGG0137-MSD1)

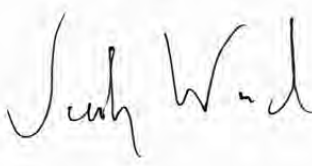
Source: 2306669-01

Prepared & Analyzed: 07/06/23

C10-C28 (DRO)	713	50	mg/kg	500	185	106		70-130	19.8	20	
Surrogate: <i>o</i> -Terphenyl	15.7		"	12.5		126		30-150			

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

PAH by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch BGG0117 - EPA 5030 Soil MS

Blank (BGG0117-BLK1)

Prepared & Analyzed: 07/06/23

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0394</i>		"	<i>0.0333</i>	<i>118</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0360</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>					

LCS (BGG0117-BS1)

Prepared & Analyzed: 07/06/23

Acenaphthene	0.0378	0.00500	mg/kg	0.0333	113	31-137					
Anthracene	0.0393	0.00500	"	0.0333	118	30-120					
Benzo (a) anthracene	0.0300	0.00500	"	0.0333	90.1	30-120					
Benzo (a) pyrene	0.0343	0.00500	"	0.0333	103	30-120					
Benzo (b) fluoranthene	0.0324	0.00500	"	0.0333	97.3	30-120					
Benzo (k) fluoranthene	0.0362	0.00500	"	0.0333	109	30-120					
Chrysene	0.0394	0.00500	"	0.0333	118	30-120					
Dibenz (a,h) anthracene	0.0326	0.00500	"	0.0333	97.8	30-120					
Fluoranthene	0.0387	0.00500	"	0.0333	116	30-120					
Fluorene	0.0363	0.00500	"	0.0333	109	30-120					
Indeno (1,2,3-cd) pyrene	0.0290	0.00500	"	0.0333	87.0	30-120					
Pyrene	0.0368	0.00500	"	0.0333	110	35-142					
1-Methylnaphthalene	0.0294	0.00500	"	0.0333	88.3	35-142					
2-Methylnaphthalene	0.0317	0.00500	"	0.0333	95.0	35-142					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0328</i>		"	<i>0.0333</i>	<i>98.5</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0373</i>		"	<i>0.0333</i>	<i>112</i>	<i>40-150</i>					

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGG0117 - EPA 5030 Soil MS

Matrix Spike (BGG0117-MS1)	Source: 2307015-01			Prepared & Analyzed: 07/06/23						
Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.2	31-137			
Anthracene	0.0197	0.00500	"	0.0333	ND	59.1	30-120			
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.7	30-120			
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.0	30-120			
Benzo (b) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.4	30-120			
Benzo (k) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.3	30-120			
Chrysene	0.0202	0.00500	"	0.0333	ND	60.5	30-120			
Dibenz (a,h) anthracene	0.0140	0.00500	"	0.0333	ND	42.1	30-120			
Fluoranthene	0.0198	0.00500	"	0.0333	ND	59.4	30-120			
Fluorene	0.0191	0.00500	"	0.0333	ND	57.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	ND	48.6	30-120			
Pyrene	0.0205	0.00500	"	0.0333	ND	61.5	35-142			
1-Methylnaphthalene	0.0141	0.00500	"	0.0333	ND	42.3	15-130			
2-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	57.9	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0216		"	0.0333		64.9	40-150			
Surrogate: Fluoranthene-d10	0.0241		"	0.0333		72.3	40-150			

Matrix Spike Dup (BGG0117-MSD1)	Source: 2307015-01			Prepared & Analyzed: 07/06/23						
Acenaphthene	0.0171	0.00500	mg/kg	0.0333	ND	51.4	31-137	14.0	30	
Anthracene	0.0180	0.00500	"	0.0333	ND	54.1	30-120	8.86	30	
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.4	30-120	0.563	30	
Benzo (a) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	3.20	30	
Benzo (b) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.7	30-120	6.03	30	
Benzo (k) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	7.14	30	
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	7.81	30	
Dibenz (a,h) anthracene	0.0147	0.00500	"	0.0333	ND	44.1	30-120	4.57	30	
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	11.5	30	
Fluorene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	7.96	30	
Indeno (1,2,3-cd) pyrene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	7.49	30	
Pyrene	0.0188	0.00500	"	0.0333	ND	56.5	35-142	8.59	30	
1-Methylnaphthalene	0.0162	0.00500	"	0.0333	ND	48.5	15-130	13.8	50	
2-Methylnaphthalene	0.0170	0.00500	"	0.0333	ND	50.9	15-130	12.9	50	
Surrogate: 2-Methylnaphthalene-d10	0.0183		"	0.0333		54.9	40-150			
Surrogate: Fluoranthene-d10	0.0213		"	0.0333		63.8	40-150			

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

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

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

Batch BGG0242 - EPA 3050B

Blank (BGG0242-BLK1)

Prepared: 07/10/23 Analyzed: 07/11/23

Boron ND 0.0100 mg/L

LCS (BGG0242-BS1)

Prepared: 07/10/23 Analyzed: 07/11/23

Boron 4.45 0.0100 mg/L 5.00 88.9 80-120

Duplicate (BGG0242-DUP1)

Source: 2306664-01

Prepared: 07/10/23 Analyzed: 07/11/23

Boron 4.00 0.0100 mg/L 3.56 11.6 20

Matrix Spike (BGG0242-MS1)

Source: 2306664-01

Prepared: 07/10/23 Analyzed: 07/11/23

Boron 8.48 0.0100 mg/L 5.00 3.56 98.4 75-125

Matrix Spike Dup (BGG0242-MSD1)

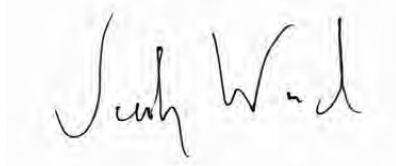
Source: 2306664-01

Prepared: 07/10/23 Analyzed: 07/11/23

Boron 8.35 0.0100 mg/L 5.00 3.56 95.9 75-125 1.52 25

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGG0511 - EPA 3050B

Blank (BGG0511-BLK1)

Prepared: 07/18/23 Analyzed: 07/20/23

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	"							
Selenium	ND	0.260	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							

LCS (BGG0511-BS1)

Prepared: 07/18/23 Analyzed: 07/20/23

Arsenic	34.9	0.200	mg/kg wet	40.0	87.2	80-120
Barium	35.5	0.400	"	40.0	88.7	80-120
Cadmium	1.80	0.200	"	2.00	90.0	80-120
Copper	38.2	0.400	"	40.0	95.4	80-120
Lead	18.0	0.200	"	20.0	89.9	80-120
Nickel	37.2	0.400	"	40.0	93.1	80-120
Selenium	3.95	0.260	"	4.00	98.7	80-120
Silver	1.79	0.0200	"	2.00	89.7	80-120
Zinc	37.4	0.400	"	40.0	93.6	80-120

Duplicate (BGG0511-DUP1)

Source: 2306637-01

Prepared: 07/18/23 Analyzed: 07/20/23

Arsenic	1.97	0.237	mg/kg dry	1.93	1.92	20
Barium	76.5	0.475	"	76.4	0.145	20
Cadmium	0.214	0.237	"	0.233	8.07	20
Copper	4.62	0.475	"	4.93	6.46	20
Lead	5.13	0.237	"	6.52	23.8	20
Nickel	3.95	0.475	"	3.92	0.832	20
Selenium	ND	0.308	"	ND		20
Silver	0.0223	0.0237	"	0.0228	2.11	20
Zinc	19.0	0.475	"	20.4	7.25	20

QR-04

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGG0511 - EPA 3050B

Matrix Spike (BGG0511-MS1)

Source: 2306637-01

Prepared: 07/18/23 Analyzed: 07/20/23

Arsenic	44.4	0.237	mg/kg dry	47.5	1.93	89.6	75-125				
Barium	152	0.475	"	47.5	76.4	158	75-125				QM-05
Cadmium	2.56	0.237	"	2.37	0.233	98.0	75-125				
Copper	41.9	0.475	"	47.5	4.93	77.8	75-125				
Lead	27.9	0.237	"	23.7	6.52	89.9	75-125				
Nickel	41.0	0.475	"	47.5	3.92	78.2	75-125				
Selenium	4.98	0.308	"	4.75	ND	105	75-125				
Silver	2.28	0.0237	"	2.37	0.0228	94.9	75-125				
Zinc	59.3	0.475	"	47.5	20.4	81.9	75-125				

Matrix Spike Dup (BGG0511-MSD1)

Source: 2306637-01

Prepared: 07/18/23 Analyzed: 07/20/23

Arsenic	43.5	0.237	mg/kg dry	47.5	1.93	87.5	75-125	2.19	25		
Barium	150	0.475	"	47.5	76.4	154	75-125	1.32	25		QM-05
Cadmium	2.53	0.237	"	2.37	0.233	96.8	75-125	1.19	25		
Copper	41.2	0.475	"	47.5	4.93	76.5	75-125	1.54	25		
Lead	27.4	0.237	"	23.7	6.52	87.9	75-125	1.74	25		
Nickel	40.4	0.475	"	47.5	3.92	76.8	75-125	1.62	25		
Selenium	4.53	0.308	"	4.75	ND	95.5	75-125	9.34	25		
Silver	2.25	0.0237	"	2.37	0.0228	93.8	75-125	1.22	25		
Zinc	58.8	0.475	"	47.5	20.4	80.8	75-125	0.955	25		

Post Spike (BGG0511-PS1)

Source: 2306637-01

Prepared: 07/18/23 Analyzed: 07/20/23

Arsenic	97.5		ug/l	100	4.07	93.5	75-125				
Barium	266		"	100	161	105	75-125				
Cadmium	5.52		"	5.00	0.490	101	75-125				
Copper	93.0		"	100	10.4	82.6	75-125				
Lead	63.1		"	50.0	13.7	98.7	75-125				
Nickel	90.3		"	100	8.26	82.1	75-125				
Selenium	10.6		"	10.0	0.190	104	75-125				
Silver	4.98		"	5.00	0.0480	98.7	75-125				
Zinc	127		"	100	43.1	84.0	75-125				

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGG0513 - 3060A Mod

Blank (BGG0513-BLK1)

Prepared & Analyzed: 07/18/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGG0513-BS1)

Prepared & Analyzed: 07/18/23

Chromium, Hexavalent 22.7 0.30 mg/kg wet 25.0 90.8 80-120

Duplicate (BGG0513-DUP1)

Source: 2307015-03

Prepared & Analyzed: 07/18/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGG0513-MS1)

Source: 2307015-03

Prepared & Analyzed: 07/18/23

Chromium, Hexavalent 26.4 0.30 mg/kg dry 28.7 ND 92.0 75-125

Matrix Spike Dup (BGG0513-MSD1)

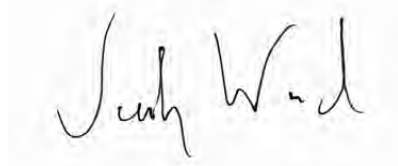
Source: 2307015-03

Prepared & Analyzed: 07/18/23

Chromium, Hexavalent 26.9 0.30 mg/kg dry 28.7 ND 93.6 75-125 1.72 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

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

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

Batch BGG0272 - General Preparation

Blank (BGG0272-BLK1)

Prepared: 07/11/23 Analyzed: 07/14/23

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

LCS (BGG0272-BS1)

Prepared: 07/11/23 Analyzed: 07/14/23

Calcium	5.65	0.0500	mg/L wet	5.00		113	70-130			
Magnesium	5.34	0.0500	"	5.00		107	70-130			
Sodium	5.44	0.0500	"	5.00		109	70-130			

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
 Project Manager: Sam Vogt

Reported:
 07/26/23 12:05

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

Summit Scientific

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

Batch BGG0193 - General Preparation

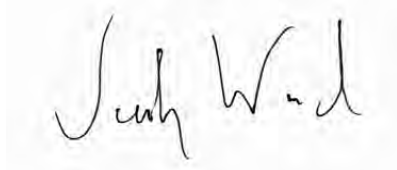
Duplicate (BGG0193-DUP1)

Source: 2307015-01

Prepared & Analyzed: 07/07/23

% Solids	90.3		%		89.8			0.635	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

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

Summit Scientific

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

Batch BGG0326 - General Preparation

Blank (BGG0326-BLK1)

Prepared & Analyzed: 07/12/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGG0326-BS1)

Prepared & Analyzed: 07/12/23

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

Duplicate (BGG0326-DUP1)

Source: 2306662-01

Prepared & Analyzed: 07/12/23

Specific Conductance (EC) 7.24 0.0100 mmhos/cm 7.31 1.00 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

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

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

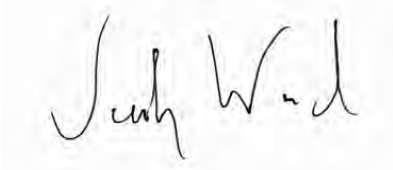
Batch BGG0325 - General Preparation

LCS (BGG0325-BS1)										
					Prepared & Analyzed: 07/12/23					
pH	8.99		pH Units	9.18	97.9	95-105				
Duplicate (BGG0325-DUP1)										
					Source: 2306662-01 Prepared & Analyzed: 07/12/23					
pH	7.85		pH Units	7.84	0.127	20				

Batch BGG0809 - General Preparation

LCS (BGG0809-BS1)										
					Prepared & Analyzed: 07/25/23					
pH	9.13		pH Units	9.18	99.5	95-105				
Duplicate (BGG0809-DUP1)										
					Source: 2307040-01RE1 Prepared & Analyzed: 07/25/23					
pH	8.46		pH Units	8.48	0.236	20				

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: [none]
Project Manager: Sam Vogt

Reported:
07/26/23 12:05

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 05, 2023

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4

Work Order #2308555

Enclosed are the results of analyses for samples received by Summit Scientific on 08/23/23 17:37. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-B06@5'	2308555-01	Soil	08/23/23 14:53	08/23/23 17:37
FL-B07@5'	2308555-02	Soil	08/23/23 15:11	08/23/23 17:37
SP-CS02	2308555-03	Soil	08/23/23 15:25	08/23/23 17:37

Summit Scientific

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

		Send Data To:	Send Invoice To:
Client: Civitas/Tasman	Project Manager: Sam Vogt/Jacob Evans		Company:
Address: 6855 W. 119th Ave	E-Mail: svgot@tasman-geo.com; jevans@civiresources.com		Project Name/Location:
City/State/Zip: Broomfield, CO 80020			AFE#: 23268
Phone: PM (610) 405-9078	Project Name: Aristocrat Angus 8-2-4		PO/Billing Codes: 8523.198
Sampler Name: Chris Girardi	Project Number:		Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	PAHs	pH, EC, SAR	Boron		Metals
1	FL-B66 e 5'	8/23/23	1453	2			X			X			X	X	X	X	X		pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI	
2	FL-B67 e 5'	↓	1511	↓									↓	↓	↓	↓	↓			
3	SP- CS62	↓	1525	↓									↓	↓	↓	↓	↓			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Chris Girardi</i>	Date/Time: 8/23/23 1715	Received by: Tasman Lockbox	Date/Time: 8/23/23 1715	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 8/23/23 1737	Received by: <i>[Signature]</i>	Date/Time: 8/23/23 1737	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 11.3	Corrected Temperature: <i>8</i>	IR gun #:		Standard	X	Field Turb.
						HNO3 lot #:

S₂

Sample Receipt Checklist

S2 Work Order# 2308555

Client: Antistoccat Client Project ID: Antistoccat Angus 8-2-4

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

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

Temp (°C) 11.3 Thermometer # 1

	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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on 7/0E</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

8/23/23
Date/Time

300



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B06@5'
2308555-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGH1111	08/28/23	08/28/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0329	82.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0429	107 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0368	92.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGH1115	08/28/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.0	112 %		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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B06@5'
2308555-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1083	08/28/23	08/28/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0137	41.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0182	0.0100	mg/L	1	BGH0973	08/24/23	08/28/23	EPA 6020B	

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

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B06@5'
2308555-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	122	0.0581	mg/L dry	1	BGH1078	08/25/23	08/29/23	EPA 6020B	
Magnesium	40.8	0.0581	"	"	"	"	"	"	
Sodium	8.17	0.0581	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.164	0.00100	units	1	BGH1183	08/29/23	08/29/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.0		%	1	BGH1084	08/28/23	08/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.119	0.0100	mmhos/cm	1	BGH1120	08/28/23	08/28/23	EPA 120.1	

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

Date Sampled: **08/23/23 14:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.97		pH Units	1	BGH1121	08/28/23	08/28/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B07@5'
2308555-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH1111	08/28/23	08/28/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0238	59.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0427	107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0361	90.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1115	08/28/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.2	121 %	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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B07@5'
2308555-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1083	08/28/23	08/28/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0203	61.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BGH0973	08/24/23	08/28/23	EPA 6020B	

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

Date Sampled: **08/23/23 15:11**

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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

FL-B07@5'
2308555-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	59.9	0.0580	mg/L dry	1	BGH1078	08/25/23	08/29/23	EPA 6020B	
Magnesium	12.5	0.0580	"	"	"	"	"	"	
Sodium	5.40	0.0580	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.166	0.00100	units	1	BGH1183	08/29/23	08/29/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.2		%	1	BGH1084	08/28/23	08/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.179	0.0100	mmhos/cm	1	BGH1120	08/28/23	08/28/23	EPA 120.1	

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

Date Sampled: **08/23/23 15:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BGH1121	08/28/23	08/28/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

SP-CS02
2308555-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGH1111	08/28/23	08/28/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0278	69.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0351	87.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGH1115	08/28/23	08/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.3	90.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

SP-CS02
2308555-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH1083	08/28/23	08/28/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	43.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	42.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BGH0973	08/24/23	08/28/23	EPA 6020B	

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

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

SP-CS02
2308555-03 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.3	0.0528	mg/L dry	1	BGH1078	08/25/23	08/29/23	EPA 6020B	
Magnesium	11.9	0.0528	"	"	"	"	"	"	
Sodium	16.1	0.0528	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.609	0.00100	units	1	BGH1183	08/29/23	08/29/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.7		%	1	BGH1084	08/28/23	08/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.472	0.0100	mmhos/cm	1	BGH1120	08/28/23	08/28/23	EPA 120.1	

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

Date Sampled: **08/23/23 15:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.30		pH Units	1	BGH1121	08/28/23	08/28/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGH1111 - EPA 5030 Soil MS

Blank (BGH1111-BLK1)

Prepared & Analyzed: 08/28/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0286		"	0.0400		71.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0404		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0349		"	0.0400		87.2	50-150			

LCS (BGH1111-BS1)

Prepared & Analyzed: 08/28/23

Benzene	0.0978	0.0020	mg/kg	0.100		97.8	70-130			
Toluene	0.0983	0.0050	"	0.100		98.3	70-130			
Ethylbenzene	0.113	0.0050	"	0.100		113	70-130			
m,p-Xylene	0.223	0.010	"	0.200		112	70-130			
o-Xylene	0.103	0.0050	"	0.100		103	70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
1,3,5-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130			
Naphthalene	0.0903	0.0038	"	0.100		90.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0328		"	0.0400		81.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		99.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0377		"	0.0400		94.2	50-150			

Matrix Spike (BGH1111-MS1)

Source: 2308549-01

Prepared & Analyzed: 08/28/23

Benzene	0.100	0.0020	mg/kg	0.100	ND	100	70-130			
Toluene	0.0992	0.0050	"	0.100	ND	99.2	70-130			
Ethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130			
m,p-Xylene	0.222	0.010	"	0.200	ND	111	70-130			
o-Xylene	0.104	0.0050	"	0.100	ND	104	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130			
Naphthalene	0.0718	0.0038	"	0.100	ND	71.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0345		"	0.0400		86.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0410		"	0.0400		103	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0408		"	0.0400		102	50-150			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BGH1111 - EPA 5030 Soil MS

Matrix Spike Dup (BGH1111-MSD1)	Source: 2308549-01			Prepared & Analyzed: 08/28/23						
Benzene	0.107	0.0020	mg/kg	0.100	ND	107	70-130	6.32	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	5.33	30	
Ethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130	1.75	30	
m,p-Xylene	0.227	0.010	"	0.200	ND	114	70-130	2.17	30	
o-Xylene	0.100	0.0050	"	0.100	ND	100	70-130	3.15	30	
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	2.00	30	
1,3,5-Trimethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	2.10	30	
Naphthalene	0.0753	0.0038	"	0.100	ND	75.3	70-130	4.69	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0353</i>		<i>"</i>	<i>0.0400</i>		<i>88.4</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0415</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGH1115 - EPA 3550A

Blank (BGH1115-BLK1)

Prepared & Analyzed: 08/28/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	11.1		"	12.5		88.8	30-150				

LCS (BGH1115-BS1)

Prepared & Analyzed: 08/28/23

C10-C28 (DRO)	411	50	mg/kg	500		82.2	70-130				
Surrogate: <i>o</i> -Terphenyl	11.4		"	12.5		91.1	30-150				

Matrix Spike (BGH1115-MS1)

Source: 2308549-01

Prepared & Analyzed: 08/28/23

C10-C28 (DRO)	613	50	mg/kg	500	174	87.8	70-130				
Surrogate: <i>o</i> -Terphenyl	14.6		"	12.5		117	30-150				

Matrix Spike Dup (BGH1115-MSD1)

Source: 2308549-01

Prepared & Analyzed: 08/28/23

C10-C28 (DRO)	486	50	mg/kg	500	174	62.4	70-130	23.1	20		QM-07
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5		100	30-150				

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGH1083 - EPA 5030 Soil MS

Blank (BGH1083-BLK1)

Prepared & Analyzed: 08/28/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0316</i>		"	<i>0.0333</i>		<i>94.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0293</i>		"	<i>0.0333</i>		<i>88.0</i>	<i>40-150</i>			

LCS (BGH1083-BS1)

Prepared & Analyzed: 08/28/23

Acenaphthene	0.0259	0.00500	mg/kg	0.0333		77.8	31-137			
Anthracene	0.0302	0.00500	"	0.0333		90.6	30-120			
Benzo (a) anthracene	0.0286	0.00500	"	0.0333		85.8	30-120			
Benzo (a) pyrene	0.0266	0.00500	"	0.0333		79.8	30-120			
Benzo (b) fluoranthene	0.0285	0.00500	"	0.0333		85.4	30-120			
Benzo (k) fluoranthene	0.0298	0.00500	"	0.0333		89.5	30-120			
Chrysene	0.0310	0.00500	"	0.0333		93.0	30-120			
Dibenz (a,h) anthracene	0.0220	0.00500	"	0.0333		66.0	30-120			
Fluoranthene	0.0293	0.00500	"	0.0333		88.0	30-120			
Fluorene	0.0270	0.00500	"	0.0333		80.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0194	0.00500	"	0.0333		58.1	30-120			
Pyrene	0.0341	0.00500	"	0.0333		102	35-142			
1-Methylnaphthalene	0.0331	0.00500	"	0.0333		99.3	35-142			
2-Methylnaphthalene	0.0350	0.00500	"	0.0333		105	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0331</i>		"	<i>0.0333</i>		<i>99.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0296</i>		"	<i>0.0333</i>		<i>88.8</i>	<i>40-150</i>			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGH1083 - EPA 5030 Soil MS

Matrix Spike (BGH1083-MS1)	Source: 2308555-01			Prepared & Analyzed: 08/28/23						
Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.6	31-137			
Anthracene	0.0229	0.00500	"	0.0333	ND	68.6	30-120			
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	68.9	30-120			
Benzo (a) pyrene	0.0195	0.00500	"	0.0333	ND	58.5	30-120			
Benzo (b) fluoranthene	0.0205	0.00500	"	0.0333	ND	61.5	30-120			
Benzo (k) fluoranthene	0.0210	0.00500	"	0.0333	ND	63.0	30-120			
Chrysene	0.0229	0.00500	"	0.0333	ND	68.8	30-120			
Dibenz (a,h) anthracene	0.0181	0.00500	"	0.0333	ND	54.4	30-120			
Fluoranthene	0.0224	0.00500	"	0.0333	ND	67.3	30-120			
Fluorene	0.0200	0.00500	"	0.0333	ND	60.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.4	30-120			
Pyrene	0.0255	0.00500	"	0.0333	ND	76.4	35-142			
1-Methylnaphthalene	0.0224	0.00500	"	0.0333	ND	67.3	15-130			
2-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	72.1	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0222</i>		<i>"</i>	<i>0.0333</i>		<i>66.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.4</i>	<i>40-150</i>			

Matrix Spike Dup (BGH1083-MSD1)	Source: 2308555-01			Prepared & Analyzed: 08/28/23						
Acenaphthene	0.0159	0.00500	mg/kg	0.0333	ND	47.7	31-137	22.2	30	
Anthracene	0.0202	0.00500	"	0.0333	ND	60.5	30-120	12.6	30	
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.4	30-120	29.1	30	
Benzo (a) pyrene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	28.7	30	
Benzo (b) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.4	30-120	10.5	30	
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.4	30-120	11.0	30	
Chrysene	0.0174	0.00500	"	0.0333	ND	52.2	30-120	27.5	30	
Dibenz (a,h) anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	8.05	30	
Fluoranthene	0.0169	0.00500	"	0.0333	ND	50.6	30-120	28.3	30	
Fluorene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	13.5	30	
Indeno (1,2,3-cd) pyrene	0.0113	0.00500	"	0.0333	ND	33.9	30-120	29.1	30	
Pyrene	0.0191	0.00500	"	0.0333	ND	57.4	35-142	28.4	30	
1-Methylnaphthalene	0.0174	0.00500	"	0.0333	ND	52.3	15-130	25.1	50	
2-Methylnaphthalene	0.0170	0.00500	"	0.0333	ND	51.0	15-130	34.3	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0169</i>		<i>"</i>	<i>0.0333</i>		<i>50.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0170</i>		<i>"</i>	<i>0.0333</i>		<i>51.1</i>	<i>40-150</i>			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

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

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

Batch BGH0973 - EPA 3050B

Blank (BGH0973-BLK1)

Prepared: 08/24/23 Analyzed: 08/28/23

Boron ND 0.0100 mg/L

LCS (BGH0973-BS1)

Prepared: 08/24/23 Analyzed: 08/28/23

Boron 5.46 0.0100 mg/L 5.00 109 80-120

Duplicate (BGH0973-DUP1)

Source: 2308539-25

Prepared: 08/24/23 Analyzed: 08/28/23

Boron 0.0635 0.0100 mg/L 0.106 50.5 20 QR-04

Matrix Spike (BGH0973-MS1)

Source: 2308539-25

Prepared: 08/24/23 Analyzed: 08/28/23

Boron 6.39 0.0100 mg/L 5.00 0.106 126 75-125 QM-07

Matrix Spike Dup (BGH0973-MSD1)

Source: 2308539-25

Prepared: 08/24/23 Analyzed: 08/28/23

Boron 6.54 0.0100 mg/L 5.00 0.106 129 75-125 2.42 25 QM-07

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

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

Summit Scientific

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

Batch BGH1078 - General Preparation

Blank (BGH1078-BLK1)

Prepared: 08/25/23 Analyzed: 08/29/23

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

LCS (BGH1078-BS1)

Prepared: 08/25/23 Analyzed: 08/29/23

Calcium	4.99	0.0500	mg/L wet	5.00		99.8	70-130			
Magnesium	4.95	0.0500	"	5.00		99.1	70-130			
Sodium	5.03	0.0500	"	5.00		101	70-130			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

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

Summit Scientific

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

Batch BGH1084 - General Preparation

Duplicate (BGH1084-DUP1)

Source: 2308555-01

Prepared & Analyzed: 08/28/23

% Solids	86.0		%		86.0			0.0368		20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

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

Summit Scientific

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

Batch BGH1120 - General Preparation

Blank (BGH1120-BLK1)

Prepared & Analyzed: 08/28/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH1120-BS1)

Prepared & Analyzed: 08/28/23

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BGH1120-DUP1)

Source: 2308554-02

Prepared & Analyzed: 08/28/23

Specific Conductance (EC) 0.476 0.0100 mmhos/cm 0.476 0.00 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

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

Summit Scientific

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

Batch BGH1121 - General Preparation

LCS (BGH1121-BS1)

Prepared & Analyzed: 08/28/23

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BGH1121-DUP1)

Source: 2308554-02

Prepared & Analyzed: 08/28/23

pH	8.02	pH Units	8.02	0.00	20
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
09/05/23 10:50

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 02, 2023

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4

Work Order #2309248

Enclosed are the results of analyses for samples received by Summit Scientific on 09/14/23 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B02@8'	2309248-01	Soil	09/14/23 14:36	09/14/23 18:00
WH-N02@7'	2309248-02	Soil	09/14/23 14:44	09/14/23 18:00
WH-S02@7'	2309248-03	Soil	09/14/23 14:52	09/14/23 18:00
WH-E02@7'	2309248-04	Soil	09/14/23 14:55	09/14/23 18:00
WH-E03@7'	2309248-05	Soil	09/14/23 15:01	09/14/23 18:00
WH-W02@7'	2309248-06	Soil	09/14/23 15:04	09/14/23 18:00
WH-W03@7'	2309248-07	Soil	09/14/23 15:08	09/14/23 18:00

Summit Scientific

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

Send Data To:		Send Invoice To:
Client: Civitas / Tasman	Project Manager: Sam Vogt / Jacob Evans	Company: Civitas
Address: 6855 W. 119th Ave.	E-Mail: Svogt@tasman-geo.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020	Jevans@civitasresources.com	AFE#: 23260
Phone: PM Phone # - (610)-405-9078	Project Name: Aristodot Angus 8-2-4	PO/Billing Codes: 8523.198
Sampler Name: Daniel Kusek	Project Number:	Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMB's	TPH(GRO,DRO,ORO)	PAH	pH,EC,SAR	Boron	
1	WH-B0200'	9/14/23	14:36	2			X			X			X	X	X	X	X	X	
2	WH-N0207'		14:44																
3	WH-S0207'		14:52																
4	WH-E0207'		14:55																
5	WH-E0307'		15:01																
6	WH-W0207'		15:04																
7	WH-W0307'		16:08																
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: [Signature]	Date/Time: 9/14/23 16:48	Received by: [Signature]	Date/Time: 9/14/23 16:48	TAT Business Days	Field DO	Notes:	
				Same Day	X		Field EC
Relinquished by: Tasmancocksbox	Date/Time: 9/14/23 1800	Received by: [Signature]	Date/Time: 9/14/23 1800	1 Day			Field ORP
				2 Days			Field pH
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days			Field Temp.
				Standard		Field Turb.	
Temperature Upon Receipt: 6.7	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:				

S₂

Sample Receipt Checklist

S2 Work Order# 2369248

Client Cintasfasman Client Project ID: Aristocrat Angus 8-2-4

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

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

Temp (°C) Thermometer #

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

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

AS
Custodian Printed Name

9/14/23
Date/Time

11/23



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-B02@8'
2309248-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGI0426	09/14/23	09/14/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.1 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0360	90.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0340	85.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.72	77.7 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-B02@8'
2309248-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/15/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0224	67.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0215	64.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.225	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-B02@8'
2309248-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.561	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	53.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.45	0.400	"	"	"	"	"	"	
Lead	2.72	0.200	"	"	"	"	"	"	
Nickel	1.34	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.18	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.7	0.0619	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	9.43	0.0619	"	"	"	"	"	"	
Sodium	25.2	0.0619	"	"	"	"	"	"	

Calculated Analysis

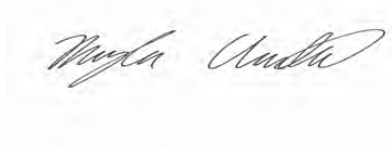
Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.925	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-B02@8'
2309248-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.8			%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.460	0.0100		mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	


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

Date Sampled: **09/14/23 14:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.01			pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-N02@7'
2309248-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/14/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0372	93.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0357	89.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0339	84.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-N02@7'
2309248-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/15/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0152	45.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.184	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-N02@7'
2309248-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.392	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	28.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.956	0.400	"	"	"	"	"	"	
Lead	1.84	0.200	"	"	"	"	"	"	
Nickel	0.987	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.98	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.2	0.0614	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	5.77	0.0614	"	"	"	"	"	"	
Sodium	39.7	0.0614	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.86	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-N02@7'
2309248-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.4		%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.384	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	


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

Date Sampled: **09/14/23 14:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-S02@7'
2309248-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/15/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0080	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.096	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.018	0.0050	"	"	"	"	"	"	
Naphthalene	0.0038	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.9	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0388	97.0 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0362	90.5 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0358	89.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	12.0	96.1 %	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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-S02@7'
2309248-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.0232	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0465	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0218	65.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.196	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 14:52**

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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-S02@7'
2309248-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.500	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	39.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.27	0.400	"	"	"	"	"	"	
Lead	3.97	0.200	"	"	"	"	"	"	
Nickel	1.26	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.89	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.0	0.0568	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	10.4	0.0568	"	"	"	"	"	"	
Sodium	11.3	0.0568	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.415	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-S02@7'
2309248-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.1		%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.401	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	

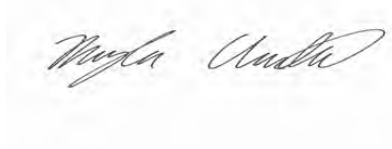
Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **09/14/23 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.62		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E02@7'
2309248-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/15/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0363	90.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0341	85.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.1	96.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E02@7'
2309248-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0202	60.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0206	61.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.148	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 14:55**

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E02@7'
2309248-04 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.347	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	29.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.876	0.400	"	"	"	"	"	"	
Lead	1.80	0.200	"	"	"	"	"	"	
Nickel	1.01	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.46	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 09/14/23 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: 09/14/23 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.5	0.0534	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	11.0	0.0534	"	"	"	"	"	"	
Sodium	6.03	0.0534	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 09/14/23 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.213	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E02@7'
2309248-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.184	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	

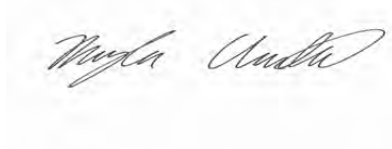
Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **09/14/23 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.89		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

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6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E03@7'
2309248-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/15/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0360	90.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0337	84.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.9	87.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E03@7'
2309248-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0224	67.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0447	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 15:01**

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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E03@7'
2309248-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.356	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	30.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.16	0.400	"	"	"	"	"	"	
Lead	2.20	0.200	"	"	"	"	"	"	
Nickel	0.889	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.63	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	71.4	0.0530	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	22.7	0.0530	"	"	"	"	"	"	
Sodium	11.2	0.0530	"	"	"	"	"	"	

Calculated Analysis

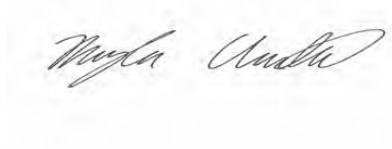
Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.296	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-E03@7'
2309248-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.4			%	1	BGI0441	09/15/23	09/15/23	Calculation	


Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.140	0.0100		mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	

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Tasman Geosciences
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 Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
 Project Manager: Sam Vogt

Reported:
 10/02/23 13:55

WH-E03@7'
2309248-05 (Soil)

Summit Scientific

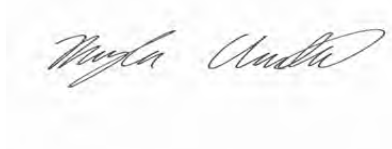
Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **09/14/23 15:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	6.87		pH Units	1	BGI0919	09/15/23	09/28/23	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W02@7'
2309248-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/15/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0391	97.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0363	90.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0344	86.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.9	111 %	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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W02@7'
2309248-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0369	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 15:04**

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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W02@7'
2309248-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.357	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	25.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.794	0.400	"	"	"	"	"	"	
Lead	2.00	0.200	"	"	"	"	"	"	
Nickel	0.925	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.10	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.9	0.0546	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	17.0	0.0546	"	"	"	"	"	"	
Sodium	12.9	0.0546	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.392	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W02@7'
2309248-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5		%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.106	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	


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

Date Sampled: **09/14/23 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.10		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W03@7'
2309248-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGI0426	09/14/23	09/15/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0364	91.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0344	86.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGI0429	09/14/23	09/15/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

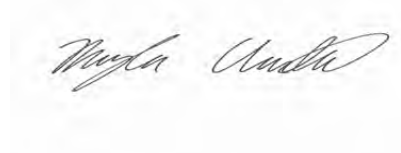
Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.0	95.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W03@7'
2309248-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGI0439	09/15/23	09/16/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	53.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0568	0.0100	mg/L	1	BGI0442	09/15/23	09/15/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/14/23 15:08**

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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W03@7'
2309248-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.345	0.200	mg/kg dry	1	BGI0448	09/15/23	09/16/23	EPA 6020B	
Barium	25.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.783	0.400	"	"	"	"	"	"	
Lead	1.72	0.200	"	"	"	"	"	"	
Nickel	0.843	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	2.94	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGI0451	09/15/23	09/18/23	EPA 7196A	

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

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	15.4	0.0521	mg/L dry	1	BGI0432	09/14/23	09/16/23	EPA 6020B	
Magnesium	5.28	0.0521	"	"	"	"	"	"	
Sodium	3.83	0.0521	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.215	0.00100	units	1	BGI0519	09/18/23	09/18/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

WH-W03@7'
2309248-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BGI0441	09/15/23	09/15/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.184	0.0100	mmhos/cm	1	BGI0436	09/15/23	09/15/23	EPA 120.1	


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

Date Sampled: **09/14/23 15:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.66		pH Units	1	BGI0438	09/15/23	09/15/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGI0426 - EPA 5030 Soil MS

Blank (BGI0426-BLK1)

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.0</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0467</i>		<i>"</i>	<i>0.0400</i>		<i>117</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0456</i>		<i>"</i>	<i>0.0400</i>		<i>114</i>	<i>50-150</i>				

LCS (BGI0426-BS1)

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	0.0989	0.0020	mg/kg	0.100		98.9	70-130				
Toluene	0.119	0.0050	"	0.100		119	70-130				
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130				
m,p-Xylene	0.224	0.010	"	0.200		112	70-130				
o-Xylene	0.100	0.0050	"	0.100		100	70-130				
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130				
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100		113	70-130				
Naphthalene	0.0939	0.0038	"	0.100		93.9	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0463</i>		<i>"</i>	<i>0.0400</i>		<i>116</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.0</i>	<i>50-150</i>				

Matrix Spike (BGI0426-MS1)

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

Benzene	0.0949	0.0020	mg/kg	0.100	ND	94.9	70-130				
Toluene	0.114	0.0050	"	0.100	ND	114	70-130				
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130				
m,p-Xylene	0.217	0.010	"	0.200	ND	109	70-130				
o-Xylene	0.0960	0.0050	"	0.100	ND	96.0	70-130				
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130				
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130				
Naphthalene	0.0828	0.0038	"	0.100	ND	82.8	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0460</i>		<i>"</i>	<i>0.0400</i>		<i>115</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>				

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific


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

Batch BGI0426 - EPA 5030 Soil MS

Matrix Spike Dup (BGI0426-MSD1)	Source: 2309243-01			Prepared: 09/14/23 Analyzed: 09/15/23						
Benzene	0.0889	0.0020	mg/kg	0.100	ND	88.9	70-130	6.53	30	
Toluene	0.105	0.0050	"	0.100	ND	105	70-130	8.27	30	
Ethylbenzene	0.0998	0.0050	"	0.100	ND	99.8	70-130	7.30	30	
m,p-Xylene	0.203	0.010	"	0.200	ND	101	70-130	6.80	30	
o-Xylene	0.0900	0.0050	"	0.100	ND	90.0	70-130	6.48	30	
1,2,4-Trimethylbenzene	0.0921	0.0050	"	0.100	ND	92.1	70-130	9.91	30	
1,3,5-Trimethylbenzene	0.0960	0.0050	"	0.100	ND	96.0	70-130	9.92	30	
Naphthalene	0.0772	0.0038	"	0.100	ND	77.2	70-130	6.90	30	
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0444		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	50-150			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGI0429 - EPA 3550A

Blank (BGI0429-BLK1)

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5		98.0	30-150				

LCS (BGI0429-BS1)

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	442	50	mg/kg	500		88.3	70-130				
Surrogate: <i>o</i> -Terphenyl	10.9		"	12.5		87.5	30-150				

Matrix Spike (BGI0429-MS1)

Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	450	50	mg/kg	500	17.5	86.6	70-130				
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.7	30-150				

Matrix Spike Dup (BGI0429-MSD1)


Source: 2309243-01

Prepared: 09/14/23 Analyzed: 09/15/23

C10-C28 (DRO)	417	50	mg/kg	500	17.5	79.9	70-130	7.72	20		
Surrogate: <i>o</i> -Terphenyl	9.82		"	12.5		78.6	30-150				

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGI0439 - EPA 5030 Soil MS

Blank (BGI0439-BLK1)

Prepared & Analyzed: 09/15/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0290</i>		"	<i>0.0333</i>		<i>87.0</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0322</i>		"	<i>0.0333</i>		<i>96.7</i>		<i>40-150</i>		

LCS (BGI0439-BS1)

Prepared & Analyzed: 09/15/23

Acenaphthene	0.0382	0.00500	mg/kg	0.0333		115		31-137		
Anthracene	0.0336	0.00500	"	0.0333		101		30-120		
Benzo (a) anthracene	0.0314	0.00500	"	0.0333		94.1		30-120		
Benzo (a) pyrene	0.0319	0.00500	"	0.0333		95.8		30-120		
Benzo (b) fluoranthene	0.0304	0.00500	"	0.0333		91.2		30-120		
Benzo (k) fluoranthene	0.0311	0.00500	"	0.0333		93.4		30-120		
Chrysene	0.0326	0.00500	"	0.0333		97.9		30-120		
Dibenz (a,h) anthracene	0.0354	0.00500	"	0.0333		106		30-120		
Fluoranthene	0.0329	0.00500	"	0.0333		98.8		30-120		
Fluorene	0.0386	0.00500	"	0.0333		116		30-120		
Indeno (1,2,3-cd) pyrene	0.0353	0.00500	"	0.0333		106		30-120		
Pyrene	0.0378	0.00500	"	0.0333		113		35-142		
1-Methylnaphthalene	0.0329	0.00500	"	0.0333		98.7		35-142		
2-Methylnaphthalene	0.0344	0.00500	"	0.0333		103		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0330</i>		"	<i>0.0333</i>		<i>98.9</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0334</i>		"	<i>0.0333</i>		<i>100</i>		<i>40-150</i>		

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6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGI0439 - EPA 5030 Soil MS

Matrix Spike (BGI0439-MS1)	Source: 2309168-01			Prepared & Analyzed: 09/15/23						
Acenaphthene	0.0163	0.00500	mg/kg	0.0333	ND	48.8	31-137			
Anthracene	0.0134	0.00500	"	0.0333	ND	40.2	30-120			
Benzo (a) anthracene	0.0164	0.00500	"	0.0333	ND	49.2	30-120			
Benzo (a) pyrene	0.0155	0.00500	"	0.0333	ND	46.4	30-120			
Benzo (b) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.1	30-120			
Benzo (k) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.8	30-120			
Chrysene	0.0140	0.00500	"	0.0333	ND	42.1	30-120			
Dibenz (a,h) anthracene	0.0154	0.00500	"	0.0333	ND	46.3	30-120			
Fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	30-120			
Fluorene	0.0251	0.00500	"	0.0333	0.0145	32.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0151	0.00500	"	0.0333	ND	45.4	30-120			
Pyrene	0.0146	0.00500	"	0.0333	ND	43.8	35-142			
1-Methylnaphthalene	0.0483	0.00500	"	0.0333	0.0389	28.1	15-130			
2-Methylnaphthalene	0.0714	0.00500	"	0.0333	0.0573	42.2	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0136</i>		<i>"</i>	<i>0.0333</i>		<i>40.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0140</i>		<i>"</i>	<i>0.0333</i>		<i>42.2</i>	<i>40-150</i>			

Matrix Spike Dup (BGI0439-MSD1)	Source: 2309168-01			Prepared & Analyzed: 09/15/23						
Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.1	31-137	19.2	30	
Anthracene	0.0162	0.00500	"	0.0333	ND	48.6	30-120	19.0	30	
Benzo (a) anthracene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	0.0529	30	
Benzo (a) pyrene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	2.38	30	
Benzo (b) fluoranthene	0.0147	0.00500	"	0.0333	ND	44.1	30-120	14.7	30	
Benzo (k) fluoranthene	0.0144	0.00500	"	0.0333	ND	43.3	30-120	3.35	30	
Chrysene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	26.1	30	
Dibenz (a,h) anthracene	0.0147	0.00500	"	0.0333	ND	44.2	30-120	4.65	30	
Fluoranthene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	12.3	30	
Fluorene	0.0270	0.00500	"	0.0333	0.0145	37.5	30-120	7.12	30	
Indeno (1,2,3-cd) pyrene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	25.1	30	
Pyrene	0.0178	0.00500	"	0.0333	ND	53.4	35-142	19.8	30	
1-Methylnaphthalene	0.0512	0.00500	"	0.0333	0.0389	36.8	15-130	5.82	50	
2-Methylnaphthalene	0.0653	0.00500	"	0.0333	0.0573	23.8	15-130	8.95	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0161</i>		<i>"</i>	<i>0.0333</i>		<i>48.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0156</i>		<i>"</i>	<i>0.0333</i>		<i>46.7</i>	<i>40-150</i>			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

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

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

Batch BGI0442 - EPA 3050B

Blank (BGI0442-BLK1)

Prepared & Analyzed: 09/15/23

Boron ND 0.0100 mg/L

LCS (BGI0442-BS1)

Prepared & Analyzed: 09/15/23

Boron 5.23 0.0100 mg/L 5.00 105 80-120

Duplicate (BGI0442-DUP1)

Source: 2309227-01

Prepared & Analyzed: 09/15/23

Boron 0.469 0.0100 mg/L 0.452 3.63 20

Matrix Spike (BGI0442-MS1)

Source: 2309227-01

Prepared & Analyzed: 09/15/23

Boron 5.88 0.0100 mg/L 5.00 0.452 108 75-125

Matrix Spike Dup (BGI0442-MSD1)


Source: 2309227-01

Prepared & Analyzed: 09/15/23

Boron 5.88 0.0100 mg/L 5.00 0.452 109 75-125 0.108 25

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGI0448 - EPA 3050B

Blank (BGI0448-BLK1)

Prepared: 09/15/23 Analyzed: 09/16/23

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 (BGI0448-BS1)

Prepared: 09/15/23 Analyzed: 09/16/23

Arsenic	40.8	0.200	mg/kg wet	40.0		102	80-120			
Barium	40.9	0.400	"	40.0		102	80-120			
Cadmium	2.06	0.200	"	2.00		103	80-120			
Copper	41.1	0.400	"	40.0		103	80-120			
Lead	20.8	0.200	"	20.0		104	80-120			
Nickel	40.5	0.400	"	40.0		101	80-120			
Silver	2.05	0.0200	"	2.00		103	80-120			
Zinc	41.0	0.400	"	40.0		103	80-120			

Duplicate (BGI0448-DUP1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/16/23

Arsenic	1.38	0.200	mg/kg dry		1.55			12.0	20	
Barium	156	0.400	"		188			18.2	20	
Cadmium	0.175	0.200	"		0.216			20.8	20	QR-01
Copper	3.34	0.400	"		3.76			11.8	20	
Lead	7.45	0.200	"		8.74			15.9	20	
Nickel	3.83	0.400	"		4.17			8.50	20	
Silver	0.0357	0.0200	"		0.0432			19.1	20	
Zinc	14.4	0.400	"		17.1			17.6	20	
Selenium	ND	0.260	"		ND				200	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGI0448 - EPA 3050B

Matrix Spike (BGI0448-MS1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/16/23

Arsenic	14.9	0.200	mg/kg dry	50.3	1.55	26.5	75-125				QM-01
Barium	200	0.400	"	50.3	188	24.6	75-125				QM-01
Cadmium	2.06	0.200	"	2.51	0.216	73.4	75-125				QM-01
Copper	17.5	0.400	"	50.3	3.76	27.4	75-125				QM-01
Lead	25.7	0.200	"	25.1	8.74	67.6	75-125				QM-01
Nickel	18.5	0.400	"	50.3	4.17	28.5	75-125				QM-01
Silver	1.85	0.0200	"	2.51	0.0432	71.9	75-125				QM-01
Zinc	28.9	0.400	"	50.3	17.1	23.5	75-125				QM-01

Matrix Spike Dup (BGI0448-MSD1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/16/23

Arsenic	14.7	0.200	mg/kg dry	50.3	1.55	26.2	75-125	1.28	25		QM-01
Barium	200	0.400	"	50.3	188	24.9	75-125	0.0759	25		QM-01
Cadmium	2.04	0.200	"	2.51	0.216	72.6	75-125	1.01	25		QM-01
Copper	17.3	0.400	"	50.3	3.76	27.0	75-125	1.21	25		QM-01
Lead	25.6	0.200	"	25.1	8.74	67.1	75-125	0.519	25		QM-01
Nickel	18.1	0.400	"	50.3	4.17	27.7	75-125	2.09	25		QM-01
Silver	1.85	0.0200	"	2.51	0.0432	72.1	75-125	0.217	25		QM-01
Zinc	28.8	0.400	"	50.3	17.1	23.2	75-125	0.486	25		QM-01

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGI0451 - 3060A Mod

Blank (BGI0451-BLK1)

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGI0451-BS1)

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

Duplicate (BGI0451-DUP1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGI0451-MS1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 30.8 0.30 mg/kg dry 31.4 ND 98.0 75-125

Matrix Spike Dup (BGI0451-MSD1)

Source: 2309235-01

Prepared: 09/15/23 Analyzed: 09/18/23

Chromium, Hexavalent 30.7 0.30 mg/kg dry 31.4 ND 97.6 75-125 0.409 20

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

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

Summit Scientific

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

Batch BGI0432 - General Preparation

Blank (BGI0432-BLK1)

Prepared: 09/14/23 Analyzed: 09/16/23

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

LCS (BGI0432-BS1)

Prepared: 09/14/23 Analyzed: 09/16/23

Calcium	4.98	0.0500	mg/L wet	5.00		99.6	70-130			
Magnesium	5.05	0.0500	"	5.00		101	70-130			
Sodium	5.04	0.0500	"	5.00		101	70-130			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

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

Summit Scientific

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

Batch BGI0441 - General Preparation

Duplicate (BGI0441-DUP1)

Source: 2309235-01

Prepared & Analyzed: 09/15/23

% Solids	81.0		%		79.6			1.81	20	
----------	------	--	---	--	------	--	--	------	----	--

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

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

Summit Scientific

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

Batch BGI0436 - General Preparation

Blank (BGI0436-BLK1)

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGI0436-BS1)

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BGI0436-DUP1)

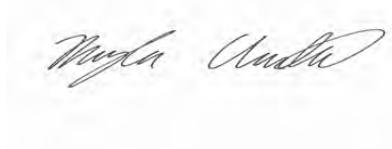
Source: 2309235-01

Prepared & Analyzed: 09/15/23

Specific Conductance (EC) 0.299 0.0100 mmhos/cm 0.298 0.0670 20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

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

Summit Scientific

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

Batch BGI0438 - General Preparation

LCS (BGI0438-BS1)		Prepared & Analyzed: 09/15/23									
pH	9.16		pH Units	9.18		99.8		95-105			
LCS (BGI0438-BS2)		Prepared & Analyzed: 09/15/23									
pH	9.15		pH Units	9.18		99.7		95-105			
LCS (BGI0438-BS3)		Prepared & Analyzed: 09/15/23									
pH	9.14		pH Units	9.18		99.6		95-105			
LCS (BGI0438-BS4)		Prepared & Analyzed: 09/15/23									
pH	9.14		pH Units	9.18		99.6		95-105			
Duplicate (BGI0438-DUP1)		Source: 2309235-01		Prepared & Analyzed: 09/15/23							
pH	7.61		pH Units			7.61			0.00		20

Batch BGI0919 - General Preparation

LCS (BGI0919-BS1)		Prepared & Analyzed: 09/28/23									
pH	9.15		pH Units	9.18		99.7		95-105			
Duplicate (BGI0919-DUP1)		Source: 2308631-01		Prepared & Analyzed: 09/28/23							
pH	8.83		pH Units			8.84			0.113		20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/02/23 13:55

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 19, 2023

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

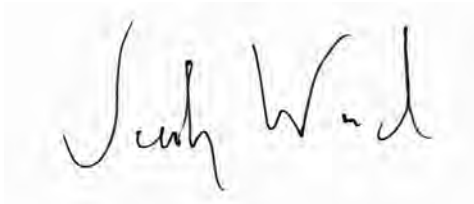
Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4

Work Order #2310159

Enclosed are the results of analyses for samples received by Summit Scientific on 10/09/23 17:49. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a long horizontal stroke at the end.

Jacob Wood For Paul Shrewsbury
President



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-S03@7'	2310159-01	Soil	10/09/23 10:00	10/09/23 17:49
WH-S04@7'	2310159-02	Soil	10/09/23 10:05	10/09/23 17:49
WH-N03@7'	2310159-03	Soil	10/09/23 10:10	10/09/23 17:49
WH-B03@10'	2310159-04	Soil	10/09/23 10:15	10/09/23 17:49
WH-B04@10'	2310159-05	Soil	10/09/23 10:20	10/09/23 17:49
BG01@7'	2310159-06	Soil	10/09/23 10:50	10/09/23 17:49
BG01@10'	2310159-07	Soil	10/09/23 11:00	10/09/23 17:49
BG02@7'	2310159-08	Soil	10/09/23 11:10	10/09/23 17:49
BG02@10'	2310159-09	Soil	10/09/23 11:15	10/09/23 17:49
BG03@7'	2310159-10	Soil	10/09/23 12:00	10/09/23 17:49
BG03@10'	2310159-11	Soil	10/09/23 12:10	10/09/23 17:49
BG04@7'	2310159-12	Soil	10/09/23 12:20	10/09/23 17:49
BG04@10'	2310159-13	Soil	10/09/23 12:30	10/09/23 17:49
BG05@7'	2310159-14	Soil	10/09/23 12:40	10/09/23 17:49
BG05@10'	2310159-15	Soil	10/09/23 12:50	10/09/23 17:49

Summit Scientific

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S₂

Sample Receipt Checklist

S2 Work Order# 2310159

Client Cintas/Asman

Client Project ID: Arrested Angus 8-2-4

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

Airbill #:

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

Thermometer #

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

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

AS

Custodian Printed Name

10/9/23
Date/Time

3333



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S03@7'
2310159-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0357	10/09/23	10/09/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0445	111 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0402	100 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0358	10/09/23	10/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.88	79.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S03@7'
2310159-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0379	10/10/23	10/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0235	70.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0225	67.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S03@7'
2310159-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.719	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	54.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.13	0.400	"	"	"	"	"	"	
Lead	4.95	0.200	"	"	"	"	"	"	
Nickel	1.21	0.400	"	"	"	"	"	"	
Silver	0.0333	0.0200	"	"	"	"	"	"	
Zinc	5.89	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	433	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	59.5	0.0500	"	"	"	"	"	"	
Sodium	28.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.342	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
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Reported:
10/19/23 14:22

WH-S03@7'
2310159-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.1		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.332	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S04@7'
2310159-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0357	10/09/23	10/09/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0408	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0358	10/09/23	10/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.4	83.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S04@7'
2310159-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0379	10/10/23	10/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0219	65.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0214	64.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S04@7'
2310159-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.464	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	48.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.982	0.400	"	"	"	"	"	"	
Lead	3.53	0.200	"	"	"	"	"	"	
Nickel	1.06	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.55	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	17.6	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	4.52	0.0500	"	"	"	"	"	"	
Sodium	5.31	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.292	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-S04@7'
2310159-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:05**

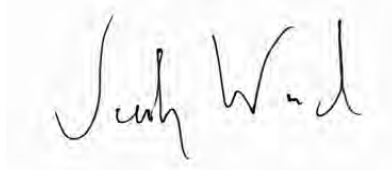
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.148	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-N03@7'
2310159-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGJ0357	10/09/23	10/09/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0386	96.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGJ0358	10/09/23	10/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.35	74.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-N03@7'
2310159-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0379	10/10/23	10/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0158	47.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0145	43.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:10**

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-N03@7'
2310159-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.404	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	37.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.903	0.400	"	"	"	"	"	"	
Lead	2.34	0.200	"	"	"	"	"	"	
Nickel	0.951	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.81	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	110	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	27.1	0.0500	"	"	"	"	"	"	
Sodium	2.72	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0602	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-N03@7'
2310159-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.0			%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:10**

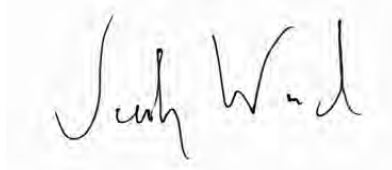
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0709	0.0100		mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.38			pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B03@10'
2310159-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0357	10/09/23	10/09/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0418	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	94.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0358	10/09/23	10/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.50	76.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B03@10'
2310159-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0379	10/10/23	10/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0229	68.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0226	67.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:15**

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B03@10'
2310159-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.503	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	59.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.29	0.400	"	"	"	"	"	"	
Lead	3.67	0.200	"	"	"	"	"	"	
Nickel	1.22	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.75	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	24.2	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	5.23	0.0500	"	"	"	"	"	"	
Sodium	16.7	0.0500	"	"	"	"	"	"	

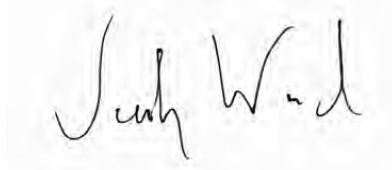
Calculated Analysis

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.803	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B03@10'
2310159-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.8			%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:15**

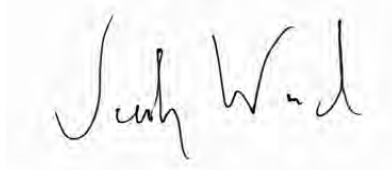
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.272	0.0100		mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.18			pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B04@10'
2310159-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGJ0357	10/09/23	10/09/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0358	10/09/23	10/10/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.79	78.3 %	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 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B04@10'
2310159-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGJ0379	10/10/23	10/11/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0196	58.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B04@10'
2310159-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.519	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	48.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.17	0.400	"	"	"	"	"	"	
Lead	3.40	0.200	"	"	"	"	"	"	
Nickel	1.13	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.91	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.2	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	4.72	0.0500	"	"	"	"	"	"	
Sodium	20.0	0.0500	"	"	"	"	"	"	

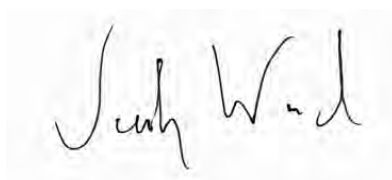
Calculated Analysis

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.04	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

WH-B04@10'
2310159-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.3			%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.270	0.0100		mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.22			pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG01@7'
2310159-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.351	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	32.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.892	0.400	"	"	"	"	"	"	
Lead	2.05	0.200	"	"	"	"	"	"	
Nickel	0.853	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.03	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	14.8	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	4.24	0.0500	"	"	"	"	"	"	
Sodium	4.46	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG01@7'
2310159-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.263	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.157	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.79		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG01@10'
2310159-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.454	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	47.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.985	0.400	"	"	"	"	"	"	
Lead	3.10	0.200	"	"	"	"	"	"	
Nickel	0.999	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.43	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.8	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	4.69	0.0500	"	"	"	"	"	"	
Sodium	4.14	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG01@10'
2310159-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.230	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.177	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.63		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG02@7'
2310159-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.417	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	28.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.980	0.400	"	"	"	"	"	"	
Lead	2.18	0.200	"	"	"	"	"	"	
Nickel	1.02	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.32	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	74.8	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	16.7	0.0500	"	"	"	"	"	"	
Sodium	4.61	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG02@7'
2310159-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.125	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0914	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.29		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG02@10'
2310159-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.447	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	38.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.06	0.400	"	"	"	"	"	"	
Lead	2.46	0.200	"	"	"	"	"	"	
Nickel	0.942	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.41	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.1	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	4.41	0.0500	"	"	"	"	"	"	
Sodium	5.56	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG02@10'
2310159-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.310	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.5		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.154	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG03@7'
2310159-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.403	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	34.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.886	0.400	"	"	"	"	"	"	
Lead	2.08	0.200	"	"	"	"	"	"	
Nickel	0.901	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	3.95	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	129	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	34.9	0.0500	"	"	"	"	"	"	
Sodium	3.11	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG03@7'
2310159-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0627	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.6		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0319	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.02		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG03@10'
2310159-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.465	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	46.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.06	0.400	"	"	"	"	"	"	
Lead	2.80	0.200	"	"	"	"	"	"	
Nickel	1.11	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.10	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	193	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	50.6	0.0500	"	"	"	"	"	"	
Sodium	3.94	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG03@10'
2310159-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0653	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.1		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0340	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.14		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG04@7'
2310159-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.409	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	38.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.963	0.400	"	"	"	"	"	"	
Lead	3.98	0.200	"	"	"	"	"	"	
Nickel	0.860	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.44	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	61.9	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	16.8	0.0500	"	"	"	"	"	"	
Sodium	5.36	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG04@7'
2310159-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.156	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.8		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0914	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.87		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG04@10'
2310159-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.418	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	47.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.963	0.400	"	"	"	"	"	"	
Lead	2.80	0.200	"	"	"	"	"	"	
Nickel	1.06	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.57	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	131	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	33.0	0.0500	"	"	"	"	"	"	
Sodium	2.91	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG04@10'
2310159-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0588	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0432	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.13		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG05@7'
2310159-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.444	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	47.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.884	0.400	"	"	"	"	"	"	
Lead	3.43	0.200	"	"	"	"	"	"	
Nickel	1.01	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.46	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	133	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	30.2	0.0500	"	"	"	"	"	"	
Sodium	8.68	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG05@7'
2310159-14 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.177	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.3		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0886	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.74		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG05@10'
2310159-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGJ0362	10/10/23	10/11/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.537	0.200	mg/kg dry	1	BGJ0383	10/10/23	10/11/23	EPA 6020B	
Barium	71.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.08	0.400	"	"	"	"	"	"	
Lead	3.41	0.200	"	"	"	"	"	"	
Nickel	1.17	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.78	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGJ0396	10/10/23	10/11/23	EPA 7196A	

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

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	146	0.0500	mg/L dry	1	BGJ0359	10/09/23	10/11/23	EPA 6020B	
Magnesium	32.3	0.0500	"	"	"	"	"	"	
Sodium	13.5	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

BG05@10'
2310159-15 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.263	0.00100	units	1	BGJ0485	10/11/23	10/11/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.6		%	1	BGJ0361	10/10/23	10/11/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0920	0.0100	mmhos/cm	1	BGJ0370	10/10/23	10/10/23	EPA 120.1	

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

Date Sampled: **10/09/23 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.10		pH Units	1	BGJ0369	10/10/23	10/10/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0357 - EPA 5030 Soil MS

Blank (BGJ0357-BLK1)

Prepared: 10/09/23 Analyzed: 10/10/23

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0301		"	0.0400		75.3	50-150				
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		98.9	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0380		"	0.0400		95.0	50-150				

LCS (BGJ0357-BS1)

Prepared: 10/09/23 Analyzed: 10/10/23

Benzene	0.100	0.0020	mg/kg	0.100		100	70-130				
Toluene	0.101	0.0050	"	0.100		101	70-130				
Ethylbenzene	0.0983	0.0050	"	0.100		98.3	70-130				
m,p-Xylene	0.194	0.010	"	0.200		97.0	70-130				
o-Xylene	0.0958	0.0050	"	0.100		95.8	70-130				
1,2,4-Trimethylbenzene	0.0936	0.0050	"	0.100		93.6	70-130				
1,3,5-Trimethylbenzene	0.0947	0.0050	"	0.100		94.7	70-130				
Naphthalene	0.0766	0.0038	"	0.100		76.6	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0411		"	0.0400		103	50-150				
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0407		"	0.0400		102	50-150				

Matrix Spike (BGJ0357-MS1)

Source: 2310157-01

Prepared: 10/09/23 Analyzed: 10/10/23

Benzene	0.0870	0.0020	mg/kg	0.100	ND	87.0	70-130				
Toluene	0.0839	0.0050	"	0.100	ND	83.9	70-130				
Ethylbenzene	0.0786	0.0050	"	0.100	ND	78.6	70-130				
m,p-Xylene	0.155	0.010	"	0.200	ND	77.7	70-130				
o-Xylene	0.0790	0.0050	"	0.100	ND	79.0	70-130				
1,2,4-Trimethylbenzene	0.0742	0.0050	"	0.100	ND	74.2	70-130				
1,3,5-Trimethylbenzene	0.0746	0.0050	"	0.100	ND	74.6	70-130				
Naphthalene	0.0732	0.0038	"	0.100	ND	73.2	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0452		"	0.0400		113	50-150				
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0390		"	0.0400		97.6	50-150				

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0357 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0357-MSD1)	Source: 2310157-01			Prepared: 10/09/23 Analyzed: 10/10/23						
Benzene	0.0832	0.0020	mg/kg	0.100	ND	83.2	70-130	4.44	30	
Toluene	0.0799	0.0050	"	0.100	ND	79.9	70-130	4.91	30	
Ethylbenzene	0.0771	0.0050	"	0.100	ND	77.1	70-130	1.85	30	
m,p-Xylene	0.152	0.010	"	0.200	ND	75.9	70-130	2.40	30	
o-Xylene	0.0778	0.0050	"	0.100	ND	77.8	70-130	1.61	30	
1,2,4-Trimethylbenzene	0.0787	0.0050	"	0.100	ND	78.7	70-130	5.81	30	
1,3,5-Trimethylbenzene	0.0724	0.0050	"	0.100	ND	72.4	70-130	3.02	30	
Naphthalene	0.0761	0.0038	"	0.100	ND	76.1	70-130	3.90	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0369</i>		<i>"</i>	<i>0.0400</i>		<i>92.3</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.8</i>	<i>50-150</i>			

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0358 - EPA 3550A

Blank (BGJ0358-BLK1)

Prepared: 10/09/23 Analyzed: 10/10/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		87.9	30-150			

LCS (BGJ0358-BS1)

Prepared: 10/09/23 Analyzed: 10/10/23

C10-C28 (DRO)	482	50	mg/kg	500		96.4	70-130			
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		86.0	30-150			

Matrix Spike (BGJ0358-MS1)

Source: 2310157-01

Prepared: 10/09/23 Analyzed: 10/10/23

C10-C28 (DRO)	461	50	mg/kg	500	ND	92.2	70-130			
Surrogate: <i>o</i> -Terphenyl	9.95		"	12.5		79.6	30-150			

Matrix Spike Dup (BGJ0358-MSD1)

Source: 2310157-01

Prepared: 10/09/23 Analyzed: 10/10/23

C10-C28 (DRO)	476	50	mg/kg	500	ND	95.1	70-130	3.16	20	
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.3	30-150			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGJ0379 - EPA 5030 Soil MS

Blank (BGJ0379-BLK1)

Prepared & Analyzed: 10/10/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0283</i>		"	<i>0.0333</i>		<i>84.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0376</i>		"	<i>0.0333</i>		<i>113</i>	<i>40-150</i>			

LCS (BGJ0379-BS1)

Prepared & Analyzed: 10/10/23

Acenaphthene	0.0254	0.00500	mg/kg	0.0333		76.1	31-137			
Anthracene	0.0321	0.00500	"	0.0333		96.4	30-120			
Benzo (a) anthracene	0.0290	0.00500	"	0.0333		87.1	30-120			
Benzo (a) pyrene	0.0261	0.00500	"	0.0333		78.4	30-120			
Benzo (b) fluoranthene	0.0248	0.00500	"	0.0333		74.3	30-120			
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333		80.4	30-120			
Chrysene	0.0345	0.00500	"	0.0333		104	30-120			
Dibenz (a,h) anthracene	0.0232	0.00500	"	0.0333		69.7	30-120			
Fluoranthene	0.0339	0.00500	"	0.0333		102	30-120			
Fluorene	0.0295	0.00500	"	0.0333		88.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0253	0.00500	"	0.0333		75.9	30-120			
Pyrene	0.0264	0.00500	"	0.0333		79.2	35-142			
1-Methylnaphthalene	0.0383	0.00500	"	0.0333		115	35-142			
2-Methylnaphthalene	0.0395	0.00500	"	0.0333		118	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0285</i>		"	<i>0.0333</i>		<i>85.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0332</i>		"	<i>0.0333</i>		<i>99.7</i>	<i>40-150</i>			

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGJ0379 - EPA 5030 Soil MS

Matrix Spike (BGJ0379-MS1)

Source: 2310118-01

Prepared & Analyzed: 10/10/23

Acenaphthene	0.0168	0.00500	mg/kg	0.0333	ND	50.5	31-137			
Anthracene	0.0184	0.00500	"	0.0333	ND	55.2	30-120			
Benzo (a) anthracene	0.0178	0.00500	"	0.0333	ND	53.3	30-120			
Benzo (a) pyrene	0.0141	0.00500	"	0.0333	ND	42.2	30-120			
Benzo (b) fluoranthene	0.0166	0.00500	"	0.0333	ND	49.7	30-120			
Benzo (k) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.8	30-120			
Chrysene	0.0195	0.00500	"	0.0333	ND	58.6	30-120			
Dibenz (a,h) anthracene	0.0159	0.00500	"	0.0333	ND	47.7	30-120			
Fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	30-120			
Fluorene	0.0172	0.00500	"	0.0333	ND	51.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0134	0.00500	"	0.0333	ND	40.3	30-120			
Pyrene	0.0154	0.00500	"	0.0333	ND	46.3	35-142			
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130			
2-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.2	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0162		"	0.0333		48.7	40-150			
Surrogate: Fluoranthene-d10	0.0195		"	0.0333		58.4	40-150			

Matrix Spike Dup (BGJ0379-MSD1)

Source: 2310118-01

Prepared & Analyzed: 10/10/23

Acenaphthene	0.0170	0.00500	mg/kg	0.0333	ND	51.0	31-137	0.928	30
Anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	7.06	30
Benzo (a) anthracene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	10.6	30
Benzo (a) pyrene	0.0158	0.00500	"	0.0333	ND	47.5	30-120	11.9	30
Benzo (b) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.4	30-120	13.5	30
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	3.67	30
Chrysene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	8.70	30
Dibenz (a,h) anthracene	0.0157	0.00500	"	0.0333	ND	47.2	30-120	1.17	30
Fluoranthene	0.0212	0.00500	"	0.0333	ND	63.5	30-120	6.16	30
Fluorene	0.0191	0.00500	"	0.0333	ND	57.2	30-120	10.2	30
Indeno (1,2,3-cd) pyrene	0.0165	0.00500	"	0.0333	ND	49.5	30-120	20.4	30
Pyrene	0.0164	0.00500	"	0.0333	ND	49.1	35-142	5.97	30
1-Methylnaphthalene	0.0245	0.00500	"	0.0333	ND	73.6	15-130	5.46	50
2-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.0	15-130	3.83	50
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.3	40-150		
Surrogate: Fluoranthene-d10	0.0210		"	0.0333		63.0	40-150		

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

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

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

Batch BGJ0362 - EPA 3050B

Blank (BGJ0362-BLK1)

Prepared: 10/10/23 Analyzed: 10/11/23

Boron ND 2.00 mg/L

LCS (BGJ0362-BS1)

Prepared: 10/10/23 Analyzed: 10/11/23

Boron 4.60 2.00 mg/L 5.00 91.9 80-120

Duplicate (BGJ0362-DUP1)

Source: 2310062-01

Prepared: 10/10/23 Analyzed: 10/11/23

Boron 0.345 2.00 mg/L 0.394 13.1 20

Matrix Spike (BGJ0362-MS1)

Source: 2310062-01

Prepared: 10/10/23 Analyzed: 10/11/23

Boron 4.34 2.00 mg/L 5.00 0.394 78.9 75-125

Matrix Spike Dup (BGJ0362-MSD1)

Source: 2310062-01

Prepared: 10/10/23 Analyzed: 10/11/23

Boron 4.69 2.00 mg/L 5.00 0.394 85.9 75-125 7.74 25

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0383 - EPA 3050B

Blank (BGJ0383-BLK1)

Prepared: 10/10/23 Analyzed: 10/11/23

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 (BGJ0383-BS1)

Prepared: 10/10/23 Analyzed: 10/11/23

Arsenic	37.8	0.200	mg/kg wet	40.0	94.5	80-120
Barium	37.4	0.400	"	40.0	93.4	80-120
Cadmium	1.83	0.200	"	2.00	91.7	80-120
Copper	37.6	0.400	"	40.0	94.0	80-120
Lead	17.6	0.200	"	20.0	88.1	80-120
Nickel	37.6	0.400	"	40.0	94.0	80-120
Silver	1.75	0.0200	"	2.00	87.3	80-120
Zinc	38.1	0.400	"	40.0	95.2	80-120
Selenium	3.49	0.260	"	4.00	87.2	80-120

Duplicate (BGJ0383-DUP1)

Source: 2309279-01

Prepared: 10/10/23 Analyzed: 10/11/23

Arsenic	1.20	0.200	mg/kg dry	1.21	0.402	20
Barium	200	0.400	"	194	2.85	20
Cadmium	0.276	0.200	"	0.246	11.6	20
Copper	2.62	0.400	"	2.55	2.81	20
Lead	10.4	0.200	"	9.13	13.5	20
Nickel	3.15	0.400	"	3.18	0.972	20
Silver	0.0466	0.0200	"	0.0414	12.0	20
Zinc	10.4	0.400	"	10.6	1.55	20
Selenium	ND	0.260	"	ND		20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGJ0383 - EPA 3050B

Matrix Spike (BGJ0383-MS1)

Source: 2309279-01

Prepared: 10/10/23 Analyzed: 10/11/23

Arsenic	38.9	0.200	mg/kg dry	44.0	1.21	85.6	75-125				
Barium	177	0.400	"	44.0	194	NR	75-125				QM-07
Cadmium	2.19	0.200	"	2.20	0.246	88.5	75-125				
Copper	25.3	0.400	"	44.0	2.55	51.8	75-125				QM-07
Lead	27.3	0.200	"	22.0	9.13	82.4	75-125				
Nickel	26.7	0.400	"	44.0	3.18	53.5	75-125				QM-07
Silver	1.37	0.0200	"	2.20	0.0414	60.2	75-125				QM-07
Zinc	43.6	0.400	"	44.0	10.6	75.0	75-125				
Selenium	3.50	0.260	"	4.40	ND	79.6	75-125				

Matrix Spike Dup (BGJ0383-MSD1)

Source: 2309279-01

Prepared: 10/10/23 Analyzed: 10/11/23

Arsenic	42.9	0.200	mg/kg dry	44.0	1.21	94.8	75-125	9.91	25		
Barium	192	0.400	"	44.0	194	NR	75-125	8.00	25		QM-07
Cadmium	2.33	0.200	"	2.20	0.246	94.9	75-125	6.30	25		
Copper	27.7	0.400	"	44.0	2.55	57.2	75-125	8.98	25		QM-07
Lead	29.9	0.200	"	22.0	9.13	94.2	75-125	9.08	25		
Nickel	29.2	0.400	"	44.0	3.18	59.1	75-125	8.70	25		QM-07
Silver	1.51	0.0200	"	2.20	0.0414	66.7	75-125	9.89	25		QM-07
Zinc	47.5	0.400	"	44.0	10.6	83.8	75-125	8.50	25		
Selenium	3.89	0.260	"	4.40	ND	88.4	75-125	10.6	25		

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGJ0396 - 3060A Mod

Blank (BGJ0396-BLK1)

Prepared: 10/10/23 Analyzed: 10/11/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGJ0396-BS1)

Prepared: 10/10/23 Analyzed: 10/11/23

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BGJ0396-DUP1)

Source: 2310144-01

Prepared: 10/10/23 Analyzed: 10/11/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGJ0396-MS1)

Source: 2310144-01

Prepared: 10/10/23 Analyzed: 10/11/23

Chromium, Hexavalent 24.0 0.30 mg/kg dry 25.7 ND 93.4 75-125

Matrix Spike Dup (BGJ0396-MSD1)

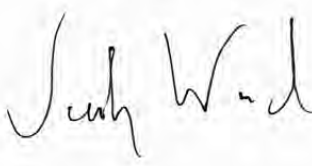
Source: 2310144-01

Prepared: 10/10/23 Analyzed: 10/11/23

Chromium, Hexavalent 24.2 0.30 mg/kg dry 25.7 ND 94.2 75-125 0.853 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

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

Summit Scientific

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

Batch BGJ0359 - General Preparation

Blank (BGJ0359-BLK1)

Prepared: 10/09/23 Analyzed: 10/11/23

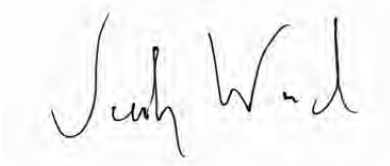
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BGJ0359-BS1)

Prepared: 10/09/23 Analyzed: 10/11/23

Calcium	5.32	0.0500	mg/L wet	5.00	106	70-130				
Magnesium	5.01	0.0500	"	5.00	100	70-130				
Sodium	5.30	0.0500	"	5.00	106	70-130				

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
 Project Manager: Sam Vogt

Reported:
 10/19/23 14:22

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

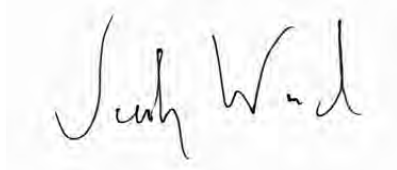
Summit Scientific

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

Batch BGJ0361 - General Preparation

Duplicate (BGJ0361-DUP1)	Source: 2310157-01		Prepared: 10/10/23 Analyzed: 10/11/23		
% Solids	75.8	%	74.0	2.51	20

Summit Scientific



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

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

Summit Scientific

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

Batch BGJ0370 - General Preparation

Blank (BGJ0370-BLK1)

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGJ0370-BS1)

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.5 95-105

Duplicate (BGJ0370-DUP1)

Source: 2310157-01

Prepared & Analyzed: 10/10/23

Specific Conductance (EC) 0.462 0.0100 mmhos/cm 0.462 0.00 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

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

Summit Scientific

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

Batch BGJ0369 - General Preparation

LCS (BGJ0369-BS1)

Prepared & Analyzed: 10/10/23

pH 9.15 pH Units 9.18 99.7 95-105

Duplicate (BGJ0369-DUP1)

Source: 2310157-01

Prepared & Analyzed: 10/10/23

pH 7.50 pH Units 7.50 0.00 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
10/19/23 14:22

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 03, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4 WH

Work Order #2311464

Enclosed are the results of analyses for samples received by Summit Scientific on 11/21/23 18:09. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-S05@9'	2311464-01	Soil	11/21/23 11:40	11/21/23 18:09
WH-S06@9'	2311464-02	Soil	11/21/23 11:45	11/21/23 18:09

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.

S₂

Sample Receipt Checklist

S2 Work Order# 2311464

Client CMAS/Tosman

Client Project ID: Anstocrat Angus 8-2-4 WH

Shipped 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"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ADJIE
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No Time Stamps
For volatiles in water - is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column - HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS

Custodian Printed Name

11/21/23

Date/Time



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S05@9'
2311464-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGK0912	11/22/23	11/30/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0475	119 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0492	123 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGK0913	11/22/23	11/25/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.6	141 %		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 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S05@9'
2311464-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGK1001	11/28/23	11/30/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGK0871	11/22/23	11/23/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S05@9'
2311464-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	0.766	0.200	mg/kg dry	1	BGL0022	12/01/23	12/03/23	EPA 6020B
Barium	32.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.889	0.400	"	"	"	"	"	"
Lead	2.50	0.200	"	"	"	"	"	"
Nickel	1.87	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	6.51	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/21/23 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: 11/21/23 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	44.1	0.0500	mg/L dry	1	BGL0170	12/05/23	12/08/23	EPA 6020B	
Magnesium	9.69	0.0500	"	"	"	"	"	"	
Sodium	3.28	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/21/23 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.117	0.00100	units	1	BGL0325	12/08/23	12/08/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S05@9'
2311464-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.8			%	1	BGK1094	11/29/23	11/29/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0558	0.0100		mmhos/cm	1	BGL0190	12/06/23	12/06/23	EPA 120.1	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S05@9'
2311464-01 (Soil)

Summit Scientific


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

Date Sampled: **11/21/23 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.71		pH Units	1	BGL0776	12/06/23	12/20/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S06@9'
2311464-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGK0912	11/22/23	11/30/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0481	120 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0487	122 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGK0913	11/22/23	11/25/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	17.4	139 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S06@9'
2311464-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGK1001	11/28/23	11/30/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0205	61.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGK0871	11/22/23	11/23/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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.



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S06@9'
2311464-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.00	0.200	mg/kg dry	1	BGL0022	12/01/23	12/03/23	EPA 6020B	
Barium	61.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.40	0.400	"	"	"	"	"	"	
Lead	4.20	0.200	"	"	"	"	"	"	
Nickel	2.54	0.400	"	"	"	"	"	"	
Silver	0.0222	0.0200	"	"	"	"	"	"	
Zinc	9.23	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/21/23 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK1080	11/29/23	12/01/23	EPA 7196A	

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

Date Sampled: 11/21/23 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.4	0.0500	mg/L dry	1	BGL0170	12/05/23	12/08/23	EPA 6020B	
Magnesium	4.95	0.0500	"	"	"	"	"	"	
Sodium	9.75	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/21/23 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.511	0.00100	units	1	BGL0325	12/08/23	12/08/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

WH-S06@9'
2311464-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.6		%	1	BGK1094	11/29/23	11/29/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.163	0.0100	mmhos/cm	1	BGL0190	12/06/23	12/06/23	EPA 120.1	


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

Date Sampled: **11/21/23 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.61		pH Units	1	BGL0189	12/06/23	12/06/23	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGK0912 - EPA 5030 Soil MS

Blank (BGK0912-BLK1)

Prepared: 11/22/23 Analyzed: 11/29/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0448		"	0.0400		112	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	50-150			

LCS (BGK0912-BS1)

Prepared: 11/22/23 Analyzed: 11/29/23

Benzene	0.109	0.0020	mg/kg	0.100		109	70-130			
Toluene	0.104	0.0050	"	0.100		104	70-130			
Ethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
m,p-Xylene	0.189	0.010	"	0.200		94.4	70-130			
o-Xylene	0.0861	0.0050	"	0.100		86.1	70-130			
1,2,4-Trimethylbenzene	0.0824	0.0050	"	0.100		82.4	70-130			
1,3,5-Trimethylbenzene	0.0869	0.0050	"	0.100		86.9	70-130			
Naphthalene	0.131	0.0038	"	0.100		131	70-130			QLCS-01
Surrogate: 1,2-Dichloroethane-d4	0.0443		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	50-150			

Matrix Spike (BGK0912-MS1)

Source: 2311463-01

Prepared: 11/22/23 Analyzed: 11/29/23

Benzene	0.00756	0.0020	mg/kg	0.100	ND	7.56	70-130			QM-05
Toluene	0.00762	0.0050	"	0.100	ND	7.62	70-130			QM-05
Ethylbenzene	0.0135	0.0050	"	0.100	ND	13.5	70-130			QM-05
m,p-Xylene	0.0306	0.010	"	0.200	ND	15.3	70-130			QM-05
o-Xylene	0.0155	0.0050	"	0.100	ND	15.5	70-130			QM-05
1,2,4-Trimethylbenzene	0.0196	0.0050	"	0.100	ND	19.6	70-130			QM-05
1,3,5-Trimethylbenzene	0.0185	0.0050	"	0.100	ND	18.5	70-130			QM-05
Naphthalene	0.0782	0.0038	"	0.100	ND	78.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	50-150			

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BGK0912 - EPA 5030 Soil MS

Matrix Spike Dup (BGK0912-MSD1)	Source: 2311463-01			Prepared: 11/22/23 Analyzed: 11/29/23						
Benzene	0.0143	0.0020	mg/kg	0.100	ND	14.3	70-130	61.5	30	QM-05
Toluene	0.0165	0.0050	"	0.100	ND	16.5	70-130	73.5	30	QM-05
Ethylbenzene	0.0189	0.0050	"	0.100	ND	18.9	70-130	33.1	30	QM-05
m,p-Xylene	0.0441	0.010	"	0.200	ND	22.0	70-130	36.1	30	QM-05
o-Xylene	0.0234	0.0050	"	0.100	ND	23.4	70-130	40.6	30	QM-05
1,2,4-Trimethylbenzene	0.0256	0.0050	"	0.100	ND	25.6	70-130	26.5	30	QM-05
1,3,5-Trimethylbenzene	0.0239	0.0050	"	0.100	ND	23.9	70-130	25.3	30	QM-05
Naphthalene	0.0869	0.0038	"	0.100	ND	86.9	70-130	10.5	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0358</i>		<i>"</i>	<i>0.0400</i>		<i>89.6</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0371</i>		<i>"</i>	<i>0.0400</i>		<i>92.8</i>	<i>50-150</i>			

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGK0913 - EPA 3550A

Blank (BGK0913-BLK1)

Prepared: 11/22/23 Analyzed: 11/25/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.8		"	12.5	102	30-150					

LCS (BGK0913-BS1)

Prepared: 11/22/23 Analyzed: 11/25/23

C10-C28 (DRO)	561	50	mg/kg	500	112	70-130					
Surrogate: <i>o</i> -Terphenyl	16.9		"	12.5	135	30-150					

Matrix Spike (BGK0913-MS1)

Source: 2311463-01

Prepared: 11/22/23 Analyzed: 11/25/23

C10-C28 (DRO)	767	50	mg/kg	500	18.6	150	70-130				QM-07
Surrogate: <i>o</i> -Terphenyl	14.9		"	12.5	119	30-150					

Matrix Spike Dup (BGK0913-MSD1)

Source: 2311463-01

Prepared: 11/22/23 Analyzed: 11/25/23

C10-C28 (DRO)	702	50	mg/kg	500	18.6	137	70-130	8.90	20		QM-07
Surrogate: <i>o</i> -Terphenyl	15.0		"	12.5	120	30-150					

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGK1001 - EPA 5030 Soil MS

Blank (BGK1001-BLK1)

Prepared: 11/28/23 Analyzed: 11/29/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0277		"	0.0333		83.2	40-150			
Surrogate: Fluoranthene-d10	0.0306		"	0.0333		91.9	40-150			

LCS (BGK1001-BS1)

Prepared: 11/28/23 Analyzed: 11/29/23

Acenaphthene	0.0303	0.00500	mg/kg	0.0333		90.9	31-137			
Anthracene	0.0300	0.00500	"	0.0333		89.9	30-120			
Benzo (a) anthracene	0.0282	0.00500	"	0.0333		84.6	30-120			
Benzo (a) pyrene	0.0288	0.00500	"	0.0333		86.3	30-120			
Benzo (b) fluoranthene	0.0280	0.00500	"	0.0333		84.1	30-120			
Benzo (k) fluoranthene	0.0314	0.00500	"	0.0333		94.1	30-120			
Chrysene	0.0308	0.00500	"	0.0333		92.3	30-120			
Dibenz (a,h) anthracene	0.0295	0.00500	"	0.0333		88.5	30-120			
Fluoranthene	0.0297	0.00500	"	0.0333		89.2	30-120			
Fluorene	0.0308	0.00500	"	0.0333		92.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0351	0.00500	"	0.0333		105	30-120			
Pyrene	0.0379	0.00500	"	0.0333		114	35-142			
1-Methylnaphthalene	0.0303	0.00500	"	0.0333		90.9	35-142			
2-Methylnaphthalene	0.0271	0.00500	"	0.0333		81.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0295		"	0.0333		88.4	40-150			
Surrogate: Fluoranthene-d10	0.0300		"	0.0333		89.9	40-150			

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGK1001 - EPA 5030 Soil MS

Matrix Spike (BGK1001-MS1)

Source: 2311461-01

Prepared: 11/28/23 Analyzed: 11/29/23

Acenaphthene	0.0216	0.00500	mg/kg	0.0333	ND	64.9	31-137			
Anthracene	0.0222	0.00500	"	0.0333	ND	66.5	30-120			
Benzo (a) anthracene	0.0204	0.00500	"	0.0333	ND	61.2	30-120			
Benzo (a) pyrene	0.0216	0.00500	"	0.0333	ND	64.7	30-120			
Benzo (b) fluoranthene	0.0197	0.00500	"	0.0333	ND	59.0	30-120			
Benzo (k) fluoranthene	0.0210	0.00500	"	0.0333	ND	62.9	30-120			
Chrysene	0.0211	0.00500	"	0.0333	ND	63.2	30-120			
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333	ND	54.6	30-120			
Fluoranthene	0.0219	0.00500	"	0.0333	ND	65.6	30-120			
Fluorene	0.0219	0.00500	"	0.0333	ND	65.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333	ND	67.7	30-120			
Pyrene	0.0256	0.00500	"	0.0333	ND	76.8	35-142			
1-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130			
2-Methylnaphthalene	0.0175	0.00500	"	0.0333	ND	52.4	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0221		"	0.0333		66.2	40-150			
Surrogate: Fluoranthene-d10	0.0219		"	0.0333		65.8	40-150			

Matrix Spike Dup (BGK1001-MSD1)

Source: 2311461-01

Prepared: 11/28/23 Analyzed: 11/29/23

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.1	31-137	9.34	30
Anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	20.4	30
Benzo (a) anthracene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	17.1	30
Benzo (a) pyrene	0.0198	0.00500	"	0.0333	ND	59.4	30-120	8.61	30
Benzo (b) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	7.37	30
Benzo (k) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	11.8	30
Chrysene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	15.1	30
Dibenz (a,h) anthracene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	22.1	30
Fluoranthene	0.0212	0.00500	"	0.0333	ND	63.7	30-120	3.03	30
Fluorene	0.0204	0.00500	"	0.0333	ND	61.2	30-120	6.95	30
Indeno (1,2,3-cd) pyrene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	8.82	30
Pyrene	0.0284	0.00500	"	0.0333	ND	85.2	35-142	10.4	30
1-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.5	15-130	2.24	50
2-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.9	15-130	11.0	50
Surrogate: 2-Methylnaphthalene-d10	0.0199		"	0.0333		59.6	40-150		
Surrogate: Fluoranthene-d10	0.0179		"	0.0333		53.7	40-150		

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

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

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

Batch BGK0871 - EPA 3050B

Blank (BGK0871-BLK1)

Prepared: 11/22/23 Analyzed: 11/23/23

Boron ND 2.00 mg/L

LCS (BGK0871-BS1)

Prepared: 11/22/23 Analyzed: 11/23/23

Boron 4.38 2.00 mg/L 5.00 87.7 80-120

Duplicate (BGK0871-DUP1)

Source: 2311422-01

Prepared: 11/22/23 Analyzed: 11/23/23

Boron 0.165 2.00 mg/L 0.175 5.84 20

Matrix Spike (BGK0871-MS1)

Source: 2311422-01

Prepared: 11/22/23 Analyzed: 11/23/23

Boron 4.73 2.00 mg/L 5.00 0.175 91.1 75-125

Matrix Spike Dup (BGK0871-MSD1)

Source: 2311422-01

Prepared: 11/22/23 Analyzed: 11/23/23

Boron 4.35 2.00 mg/L 5.00 0.175 83.5 75-125 8.38 25

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGL0022 - EPA 3050B

Blank (BGL0022-BLK1)

Prepared: 12/01/23 Analyzed: 12/02/23

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 (BGL0022-BS1)

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	45.6	0.200	mg/kg wet	40.0	114	80-120
Barium	43.5	0.400	"	40.0	109	80-120
Cadmium	2.08	0.200	"	2.00	104	80-120
Copper	45.4	0.400	"	40.0	114	80-120
Lead	19.4	0.200	"	20.0	96.9	80-120
Nickel	45.6	0.400	"	40.0	114	80-120
Silver	1.91	0.0200	"	2.00	95.7	80-120
Zinc	46.6	0.400	"	40.0	116	80-120
Selenium	4.38	0.260	"	4.00	110	80-120

Duplicate (BGL0022-DUP1)

Source: 2309536-01

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	0.830	0.200	mg/kg dry	0.902	8.29	20	
Barium	284	0.400	"	313	9.67	20	
Cadmium	0.180	0.200	"	0.166	8.34	20	
Copper	0.677	0.400	"	0.831	20.4	20	QR-01
Lead	5.48	0.200	"	5.02	8.75	20	
Nickel	1.79	0.400	"	1.91	6.27	20	
Silver	0.0219	0.0200	"	0.0232	5.83	20	
Zinc	5.22	0.400	"	5.63	7.62	20	
Selenium	0.203	0.260	"	0.197	2.63	20	

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGL0022 - EPA 3050B

Matrix Spike (BGL0022-MS1)

Source: 2309536-01

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	17.8	0.200	mg/kg dry	43.8	0.902	38.6	75-125				QM-07
Barium	339	0.400	"	43.8	313	59.4	75-125				QM-07
Cadmium	2.37	0.200	"	2.19	0.166	101	75-125				
Copper	17.3	0.400	"	43.8	0.831	37.7	75-125				QM-07
Lead	24.3	0.200	"	21.9	5.02	87.9	75-125				
Nickel	18.6	0.400	"	43.8	1.91	38.1	75-125				QM-07
Silver	2.11	0.0200	"	2.19	0.0232	95.5	75-125				
Zinc	22.3	0.400	"	43.8	5.63	38.1	75-125				QM-07
Selenium	8.43	0.260	"	4.38	0.197	188	75-125				QM-07

Matrix Spike Dup (BGL0022-MSD1)

Source: 2309536-01

Prepared: 12/01/23 Analyzed: 12/02/23

Arsenic	17.9	0.200	mg/kg dry	43.8	0.902	38.8	75-125	0.402	25		QM-07
Barium	304	0.400	"	43.8	313	NR	75-125	10.7	25		QM-07
Cadmium	2.19	0.200	"	2.19	0.166	92.6	75-125	7.98	25		
Copper	17.4	0.400	"	43.8	0.831	37.9	75-125	0.365	25		QM-07
Lead	22.3	0.200	"	21.9	5.02	78.8	75-125	8.61	25		
Nickel	18.8	0.400	"	43.8	1.91	38.6	75-125	1.14	25		QM-07
Silver	1.92	0.0200	"	2.19	0.0232	86.7	75-125	9.52	25		
Zinc	24.5	0.400	"	43.8	5.63	43.2	75-125	9.61	25		QM-07
Selenium	8.66	0.260	"	4.38	0.197	193	75-125	2.70	25		QM-07

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.



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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGK1080 - 3060A Mod

Blank (BGK1080-BLK1)

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGK1080-BS1)

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 100 80-120

Duplicate (BGK1080-DUP1)

Source: 2311455-01

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND ND 20

Matrix Spike (BGK1080-MS1)

Source: 2311455-01

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 28.9 0.30 mg/kg dry 28.9 ND 99.8 75-125

Matrix Spike Dup (BGK1080-MSD1)

Source: 2311455-01

Prepared: 11/29/23 Analyzed: 12/01/23

Chromium, Hexavalent 28.8 0.30 mg/kg dry 28.9 ND 99.4 75-125 0.402 20

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

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

Summit Scientific

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

Batch BGL0170 - General Preparation

Blank (BGL0170-BLK1)

Prepared: 12/05/23 Analyzed: 12/08/23

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

LCS (BGL0170-BS1)

Prepared: 12/05/23 Analyzed: 12/08/23

Calcium	6.01	0.0500	mg/L wet	5.00	120	70-130				
Magnesium	5.84	0.0500	"	5.00	117	70-130				
Sodium	5.68	0.0500	"	5.00	114	70-130				

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
 Project Manager: Sam Vogt

Reported:
 01/03/24 08:56

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

Summit Scientific

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

Batch BGK1094 - General Preparation

Duplicate (BGK1094-DUP1)

Source: 2311428-02

Prepared & Analyzed: 11/29/23

% Solids	90.3		%		87.0			3.68	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

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

Summit Scientific

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

Batch BGL0190 - General Preparation

Blank (BGL0190-BLK1)

Prepared & Analyzed: 12/06/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGL0190-BS1)

Prepared & Analyzed: 12/06/23

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

Duplicate (BGL0190-DUP1)

Source: 2311228-01

Prepared & Analyzed: 12/06/23

Specific Conductance (EC) 1.01 0.0100 mmhos/cm 1.02 0.493 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

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

Summit Scientific

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

Batch BGL0189 - General Preparation

LCS (BGL0189-BS1)

Prepared & Analyzed: 12/06/23

pH	9.09		pH Units	9.18		99.0	95-105		
----	------	--	----------	------	--	------	--------	--	--

Duplicate (BGL0189-DUP1)

Source: 2311461-01

Prepared & Analyzed: 12/06/23

pH	8.29		pH Units			8.29		0.00	20
----	------	--	----------	--	--	------	--	------	----

Batch BGL0776 - General Preparation

LCS (BGL0776-BS1)

Prepared & Analyzed: 12/20/23

pH	9.16		pH Units	9.18		99.8	95-105		
----	------	--	----------	------	--	------	--------	--	--

Duplicate (BGL0776-DUP1)

Source: 2311045-03

Prepared & Analyzed: 12/20/23

pH	7.82		pH Units			7.88		0.764	20
----	------	--	----------	--	--	------	--	-------	----

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

Project: Civitas - Aristocrat Angus 8-2-4 WH

Project Number: 23263
Project Manager: Sam Vogt

Reported:
01/03/24 08:56

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- QLCS-01 The spike recovery was outside acceptance limits for this analyte indicating a potential high bias. The corresponding samples did not exhibit concentrations above reporting level for this analyte. Data quality is not affected.
- 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 15, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 8-2-4

Work Order #2404264

Enclosed are the results of analyses for samples received by Summit Scientific on 04/15/24 17:54. 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 written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
 Project Manager: Sam Vogt

Reported:
 05/15/24 15:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG06@7'	2404264-01	Soil	04/15/24 09:50	04/15/24 17:54
BG06@9'	2404264-02	Soil	04/15/24 09:55	04/15/24 17:54
BG06@10'	2404264-03	Soil	04/15/24 10:00	04/15/24 17:54
BG07@7'	2404264-04	Soil	04/15/24 10:05	04/15/24 17:54
BG07@9'	2404264-05	Soil	04/15/24 10:10	04/15/24 17:54
BG07@10'	2404264-06	Soil	04/15/24 10:15	04/15/24 17:54
BG08@7'	2404264-07	Soil	04/15/24 10:20	04/15/24 17:54
BG08@9'	2404264-08	Soil	04/15/24 10:25	04/15/24 17:54
BG08@10'	2404264-09	Soil	04/15/24 10:30	04/15/24 17:54
BG09@7'	2404264-10	Soil	04/15/24 10:35	04/15/24 17:54
BG09@9'	2404264-11	Soil	04/15/24 10:40	04/15/24 17:54
BG09@10'	2404264-12	Soil	04/15/24 10:45	04/15/24 17:54
BG10@7'	2404264-13	Soil	04/15/24 10:50	04/15/24 17:54
BG10@9'	2404264-14	Soil	04/15/24 10:55	04/15/24 17:54
BG10@10'	2404264-15	Soil	04/15/24 11:00	04/15/24 17:54

SUMMIT SCIENTIFIC

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

Lab ID	Page	of
240424		

Send Data To:		Send Invoice To:	
Client: Civitas/Tasman	Project Manager: Sam Vogt/Jacob Evans	Company:	
Address: 6855 W. 119th Ave	E-Mail: svgot@tasman-geo.com; jevans@civiresources.com	Project Name/Location:	
City/State/Zip: Broomfield, CO 80020		AFE#: 23263	
Phone: PM (610) 405-9078	Project Name: Aristocrat Angus 8-2-4	PO/Billing Codes: 8523.198	
Sampler Name: Sean Clarke Blake Ulrich	Project Number:	Contact:	

ID	Sample Description	#	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions		
						HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	PAHs	pH, EC, SAR		Boron	Metals
1	BG06@7'		4/15/24	9:50	2			X			X							X	X	X	pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI
2	BG06@9'		4/15/24	9:55																	
3	BG06@10'			10:00																	
4	BG07@7'			10:05																	
5	BG07@9'			10:10																	
6	BG07@10'			10:15																	
7	BG08@7'			10:20																	
8	BG08@9'			10:25																	
9	BG08@10'			10:30																	
10	BG09@7'			10:35																	
11	BG09@9'			10:40																	
12	BG09@10'			10:45																	
13	BG10@7'			10:50																	
14	BG10@9'			10:55																	
15	BG10@10'			11:00																	

Relinquished by: <i>Amelia</i>	Date/Time: 4/15/24 15:30	Received by: Tasman Lockbox	Date/Time: 4/15/24 15:30	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 4/15/24 1754	Received by: <i>[Signature]</i>	Date/Time: 4/15/24 1754	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	X Field Turb.	
Temperature Upon Receipt: 8.2	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 240404

Client: Cumtast (asmav) Client Project ID: Anstocrat Angus 8-2-4

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on 20e
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS
Custodian Printed Name

4/15/24
Date/Time

8.5



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@7'
2404264-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.64	0.200		mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	60.4	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	2.43	0.400		"	"	"	"	"	"	
Lead	4.22	0.200		"	"	"	"	"	"	
Nickel	3.34	0.400		"	"	"	"	"	"	
Silver	0.0239	0.0200		"	"	"	"	"	"	
Zinc	12.3	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	309	0.0500		mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	58.7	0.0500		"	"	"	"	"	"	
Sodium	5.17	0.0500		"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@7'
2404264-01 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0707	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0776	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.73		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@9'
2404264-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.16	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	42.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.27	0.400	"	"	"	"	"	"	
Lead	3.19	0.200	"	"	"	"	"	"	
Nickel	2.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	9.43	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	218	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	46.0	0.0500	"	"	"	"	"	"	
Sodium	4.69	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@9'
2404264-02 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0753	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0535	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@10'
2404264-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.03	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	34.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.16	0.400	"	"	"	"	"	"	
Lead	2.96	0.200	"	"	"	"	"	"	
Nickel	2.11	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.91	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	28.8	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	7.17	0.0500	"	"	"	"	"	"	
Sodium	3.88	0.0500	"	"	"	"	"	"	

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.



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG06@10'
2404264-03 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.168	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.126	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.65		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@7'
2404264-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.10	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	38.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.14	0.400	"	"	"	"	"	"	
Lead	2.92	0.200	"	"	"	"	"	"	
Nickel	2.32	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.52	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	333	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	63.8	0.0500	"	"	"	"	"	"	
Sodium	10.0	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@7'
2404264-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.132	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.201	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.46		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@9'
2404264-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.11	0.179	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	35.6	0.357	"	"	"	"	"	"	
Cadmium	ND	0.179	"	"	"	"	"	"	
Copper	2.24	0.357	"	"	"	"	"	"	
Lead	2.93	0.179	"	"	"	"	"	"	
Nickel	2.44	0.357	"	"	"	"	"	"	
Silver	ND	0.0179	"	"	"	"	"	"	
Zinc	8.92	0.357	"	"	"	"	"	"	
Selenium	ND	0.232	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	23.2	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	6.94	0.0500	"	"	"	"	"	"	
Sodium	5.78	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@9'
2404264-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.270	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.3		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.164	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@10'
2404264-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.27	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	39.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.30	0.400	"	"	"	"	"	"	
Lead	3.29	0.200	"	"	"	"	"	"	
Nickel	2.42	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	9.52	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	479	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	88.1	0.0500	"	"	"	"	"	"	
Sodium	9.44	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG07@10'
2404264-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.104	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.1		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.191	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.56		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@7'
2404264-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.873	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	35.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.86	0.400	"	"	"	"	"	"	
Lead	2.52	0.200	"	"	"	"	"	"	
Nickel	1.77	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.10	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	484	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	99.2	0.0500	"	"	"	"	"	"	
Sodium	4.93	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@7'
2404264-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0533	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.146	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.24		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@9'
2404264-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.912	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	32.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.07	0.400	"	"	"	"	"	"	
Lead	2.52	0.200	"	"	"	"	"	"	
Nickel	1.94	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.15	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	344	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	69.7	0.0500	"	"	"	"	"	"	
Sodium	5.09	0.0500	"	"	"	"	"	"	

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.



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@9'
2404264-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0654	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.8		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.175	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.18		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@10'
2404264-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.818	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	34.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.93	0.400	"	"	"	"	"	"	
Lead	3.79	0.200	"	"	"	"	"	"	
Nickel	1.81	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.31	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	644	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	124	0.0500	"	"	"	"	"	"	
Sodium	5.87	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG08@10'
2404264-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0555	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.4		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0196	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.22		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@7'
2404264-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.975	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	36.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.87	0.400	"	"	"	"	"	"	
Lead	2.63	0.200	"	"	"	"	"	"	
Nickel	1.82	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.47	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	193	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	48.6	0.0500	"	"	"	"	"	"	
Sodium	2.28	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@7'
2404264-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0380	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.2		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0158	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@9'
2404264-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.03	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	36.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.16	0.400	"	"	"	"	"	"	
Lead	2.93	0.200	"	"	"	"	"	"	
Nickel	1.88	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.43	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	120	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	29.1	0.0500	"	"	"	"	"	"	
Sodium	2.25	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@9'
2404264-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0478	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0266	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.69		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@10'
2404264-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.07	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	41.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.16	0.400	"	"	"	"	"	"	
Lead	2.77	0.200	"	"	"	"	"	"	
Nickel	2.18	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	9.12	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	189	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	44.3	0.0500	"	"	"	"	"	"	
Sodium	2.49	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG09@10'
2404264-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0424	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0201	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@7'
2404264-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.01	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	41.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.09	0.400	"	"	"	"	"	"	
Lead	3.01	0.200	"	"	"	"	"	"	
Nickel	2.13	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.69	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	210	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	53.6	0.0500	"	"	"	"	"	"	
Sodium	4.45	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@7'
2404264-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0709	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0293	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@9'
2404264-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.994	0.181	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	38.2	0.362	"	"	"	"	"	"	
Cadmium	ND	0.181	"	"	"	"	"	"	
Copper	2.11	0.362	"	"	"	"	"	"	
Lead	3.13	0.181	"	"	"	"	"	"	
Nickel	1.96	0.362	"	"	"	"	"	"	
Silver	ND	0.0181	"	"	"	"	"	"	
Zinc	8.70	0.362	"	"	"	"	"	"	
Selenium	ND	0.236	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	154	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	36.0	0.0500	"	"	"	"	"	"	
Sodium	7.04	0.0500	"	"	"	"	"	"	

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.



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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@9'
2404264-14 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.133	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0661	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.36		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@10'
2404264-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHD0737	04/22/24	05/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.00	0.200	mg/kg dry	1	BHD1024	04/29/24	05/03/24	EPA 6020B	
Barium	39.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.16	0.400	"	"	"	"	"	"	
Lead	3.16	0.200	"	"	"	"	"	"	
Nickel	2.12	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.96	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0806	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	212	0.0500	mg/L dry	1	BHD1114	04/30/24	05/10/24	EPA 6020B	
Magnesium	50.2	0.0500	"	"	"	"	"	"	
Sodium	7.86	0.0500	"	"	"	"	"	"	

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

BG10@10'
2404264-15 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.126	0.00100	units	1	BHE0394	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.1		%	1	BHD0757	04/22/24	04/24/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0742	0.0100	mmhos/cm	1	BHD1116	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.34		pH Units	1	BHD1115	04/30/24	05/02/24	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

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

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

Batch BHD0737 - EPA 3050B

Blank (BHD0737-BLK1)

Prepared: 04/22/24 Analyzed: 05/05/24

Boron ND 2.00 mg/L

LCS (BHD0737-BS1)

Prepared: 04/22/24 Analyzed: 05/05/24

Boron 4.62 2.00 mg/L 5.00 92.4 80-120

Duplicate (BHD0737-DUP1)

Source: 2404264-01

Prepared: 04/22/24 Analyzed: 05/05/24

Boron 0.0420 2.00 mg/L 0.0692 49.0 20 QR-01

Matrix Spike (BHD0737-MS1)

Source: 2404264-01

Prepared: 04/22/24 Analyzed: 05/05/24

Boron 4.61 2.00 mg/L 5.01 0.0692 90.7 75-125

Matrix Spike Dup (BHD0737-MSD1)

Source: 2404264-01

Prepared: 04/22/24 Analyzed: 05/05/24

Boron 4.61 2.00 mg/L 5.01 0.0692 90.6 75-125 0.0687 25

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

Total Metals by EPA 6020B - Quality Control
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Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

Batch BHD1024 - EPA 3050B

Blank (BHD1024-BLK1)

Prepared: 04/29/24 Analyzed: 05/03/24

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 (BHD1024-BS1)

Prepared: 04/29/24 Analyzed: 05/03/24

Arsenic	36.5	0.200	mg/kg wet	40.0	91.3	80-120
Barium	37.1	0.400	"	40.0	92.8	80-120
Cadmium	1.89	0.200	"	2.00	94.6	80-120
Copper	40.5	0.400	"	40.0	101	80-120
Lead	18.8	0.200	"	20.0	93.9	80-120
Nickel	39.7	0.400	"	40.0	99.1	80-120
Silver	1.90	0.0200	"	2.00	94.9	80-120
Zinc	39.6	0.400	"	40.0	99.0	80-120
Selenium	4.16	0.260	"	4.00	104	80-120

Duplicate (BHD1024-DUP1)

Source: 2404264-01

Prepared: 04/29/24 Analyzed: 05/03/24

Arsenic	1.59	0.200	mg/kg dry	1.64	2.73	20
Barium	58.0	0.400	"	60.4	4.05	20
Cadmium	0.100	0.200	"	0.0974	2.97	20
Copper	2.30	0.400	"	2.43	5.31	20
Lead	3.96	0.200	"	4.22	6.41	20
Nickel	3.23	0.400	"	3.34	3.40	20
Silver	0.0238	0.0200	"	0.0239	0.772	20
Zinc	11.3	0.400	"	12.3	8.04	20
Selenium	ND	0.260	"	ND		20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD1024 - EPA 3050B

Matrix Spike (BHD1024-MS1)

Source: 2404264-01

Prepared: 04/29/24 Analyzed: 05/03/24

Arsenic	39.3	0.200	mg/kg dry	40.6	1.64	92.7	75-125			
Barium	97.1	0.400	"	40.6	60.4	90.2	75-125			
Cadmium	2.07	0.200	"	2.03	0.0974	97.3	75-125			
Copper	27.2	0.400	"	40.6	2.43	60.9	75-125			QM-05
Lead	23.0	0.200	"	20.3	4.22	92.4	75-125			
Nickel	28.2	0.400	"	40.6	3.34	61.2	75-125			QM-05
Silver	1.95	0.0200	"	2.03	0.0239	95.0	75-125			
Zinc	37.2	0.400	"	40.6	12.3	61.3	75-125			QM-05
Selenium	3.63	0.260	"	4.06	ND	89.3	75-125			

Matrix Spike Dup (BHD1024-MSD1)

Source: 2404264-01

Prepared: 04/29/24 Analyzed: 05/03/24

Arsenic	39.0	0.200	mg/kg dry	40.6	1.64	91.9	75-125	0.854	25	
Barium	96.7	0.400	"	40.6	60.4	89.3	75-125	0.348	25	
Cadmium	2.09	0.200	"	2.03	0.0974	98.0	75-125	0.722	25	
Copper	28.5	0.400	"	40.6	2.43	64.3	75-125	4.91	25	QM-05
Lead	23.3	0.200	"	20.3	4.22	93.9	75-125	1.33	25	
Nickel	29.5	0.400	"	40.6	3.34	64.3	75-125	4.38	25	QM-05
Silver	1.94	0.0200	"	2.03	0.0239	94.4	75-125	0.709	25	
Zinc	38.8	0.400	"	40.6	12.3	65.2	75-125	4.17	25	QM-05
Selenium	3.91	0.260	"	4.06	ND	96.2	75-125	7.38	25	

Post Spike (BHD1024-PS1)

Source: 2404264-01

Prepared: 04/29/24 Analyzed: 05/03/24

Arsenic	99.8		ug/l	100	3.85	96.0	75-125			
Barium	231		"	100	142	88.6	75-125			
Cadmium	5.19		"	5.00	0.229	99.3	75-125			
Copper	71.6		"	100	5.70	65.9	75-125			QM-01
Lead	58.4		"	50.0	9.92	97.0	75-125			
Nickel	73.5		"	100	7.85	65.6	75-125			QM-01
Silver	4.98		"	5.00	0.0562	98.5	75-125			
Zinc	95.6		"	100	28.8	66.8	75-125			QM-01
Selenium	10.7		"	10.0	0.0591	106	75-125			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0806 - 3060A Mod

Blank (BHD0806-BLK1)

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0806-BS1)

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.4 80-120

Duplicate (BHD0806-DUP1)

Source: 2404264-01

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0806-MS1)

Source: 2404264-01

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent 25.3 0.30 mg/kg dry 26.6 ND 95.2 75-125

Matrix Spike Dup (BHD0806-MSD1)

Source: 2404264-01

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent 25.3 0.30 mg/kg dry 26.6 ND 95.0 75-125 0.210 20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

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

Summit Scientific

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

Batch BHD1114 - General Preparation

Blank (BHD1114-BLK1)

Prepared: 04/30/24 Analyzed: 05/10/24

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

LCS (BHD1114-BS1)

Prepared: 04/30/24 Analyzed: 05/10/24

Calcium	5.11	0.0500	mg/L wet	5.00		102	70-130			
Magnesium	4.90	0.0500	"	5.00		98.0	70-130			
Sodium	4.96	0.0500	"	5.00		99.1	70-130			

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Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

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

Summit Scientific

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

Batch BHD0757 - General Preparation

Duplicate (BHD0757-DUP1)	Source: 2404263-01	Prepared: 04/22/24	Analyzed: 04/24/24		
% Solids	83.4	%	84.1	0.920	20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

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

Summit Scientific

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

Batch BHD1116 - General Preparation

Blank (BHD1116-BLK1)

Prepared: 04/30/24 Analyzed: 05/02/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD1116-BS1)

Prepared: 04/30/24 Analyzed: 05/02/24

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

Duplicate (BHD1116-DUP1)

Source: 2404263-01

Prepared: 04/30/24 Analyzed: 05/02/24

Specific Conductance (EC) 2.13 0.0100 mmhos/cm 2.16 1.63 20

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

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

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

Summit Scientific

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

Batch BHD1115 - General Preparation

LCS (BHD1115-BS1)

Prepared: 04/30/24 Analyzed: 05/02/24

pH	9.08	pH Units	9.18	98.9	95-105
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Duplicate (BHD1115-DUP1)

Source: 2404263-01

Prepared: 04/30/24 Analyzed: 05/02/24

pH	8.18	pH Units	8.21	0.366	20
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 8-2-4

Project Number: 23260
Project Manager: Sam Vogt

Reported:
05/15/24 15:19

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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