

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 25, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.


Broomfield, CO 80020

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

Work Order #2411024

Enclosed are the results of analyses for samples received by Summit Scientific on 11/01/24 18:06. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WH-B01@8'	2411024-01	Soil	11/01/24 11:20	11/01/24 18:06
WH-B02@8'	2411024-02	Soil	11/01/24 11:22	11/01/24 18:06
WH-B03@8'	2411024-03	Soil	11/01/24 11:24	11/01/24 18:06
WH-B04@8'	2411024-04	Soil	11/01/24 11:26	11/01/24 18:06
WH-N01@7'	2411024-05	Soil	11/01/24 11:28	11/01/24 18:06
WH-S01@7'	2411024-06	Soil	11/01/24 11:30	11/01/24 18:06
WH-E01@7'	2411024-07	Soil	11/01/24 11:32	11/01/24 18:06
WH-E02@7'	2411024-08	Soil	11/01/24 11:34	11/01/24 18:06
WH-E03@7'	2411024-09	Soil	11/01/24 11:36	11/01/24 18:06
WH-E04@7'	2411024-10	Soil	11/01/24 11:38	11/01/24 18:06
WH-W01@7'	2411024-11	Soil	11/01/24 11:40	11/01/24 18:06
WH-W02@7'	2411024-12	Soil	11/01/24 11:42	11/01/24 18:06
WH-W03@7'	2411024-13	Soil	11/01/24 11:44	11/01/24 18:06
WH-W04@7'	2411024-14	Soil	11/01/24 11:46	11/01/24 18:06

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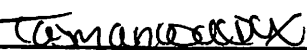

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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2411024	

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#: 23176
Phone: PM (610) 405-9078	Project Name: Aristocrat Angus 7-2-10 & 42-10 WH	PO/Billing Codes: 8523.198
Sampler Name: Sean Clarke, Gabrielle Mather	Project Number:	Contact:

					Preservative				Matrix				Analysis Requested							Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	Chloride	Sulfate	TDS	Full Table 915			
1	WH-B0108'	11/1/24	11:20	2			X			X										X		
2	WH-B0208'		11:22																			
3	WH-B0308'		11:24																			
4	WH-B0408'		11:26																			
5	WH-N0107'		11:28																			
6	WH-S0107'		11:30																			
7	WH-E0107'		11:32																			
8	WH-E0207'		11:34																			
9	WH-E0307'		11:36																			
10	WH-E0407'		11:38																			
11	WH-W0107'		11:40																			
12	WH-W0207'		11:42																			
13	WH-W0307'		11:44																			
14	WH-W0407'	↓	11:46	↓			↓			↓										↓		
15																						

Relinquished by: 	Date/Time: 11/1/24 17:15	Received by: Tasman Lockbox	Date/Time:	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: 	Date/Time: 11/24 1800	Received by: 	Date/Time: 11/24 1800	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 6.6	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2411024Client: Curtis Zaman Client Project ID: Anstocrat Angus 7-2-10/42-10WHShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply) Air ☐ Soil ☒ Solid ☐ Water ☐ Other ☐Temp (°C) 6.6Thermometer # 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"/>	on DOE
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 Name11/1/24
Date/Time



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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B01@8'
2411024-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0240	59.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.29	74.4 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B01@8'
2411024-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/06/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0191	57.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0193	57.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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WH-B01@8'
2411024-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	1.08	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	41.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.43	0.400	"	"	"	"	"	"
Lead	6.74	0.200	"	"	"	"	"	"
Nickel	2.74	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.9	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	9.94	0.0500	"	"	"	"	"	"	
Sodium	43.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.75	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: 23176
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WH-B01@8'
2411024-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	90.9			%	1	BHK0375	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.264	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.61			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B02@8'
2411024-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0230	57.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	96.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.95	71.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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WH-B02@8'
2411024-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0196	58.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0187	56.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B02@8'
2411024-02 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.981	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	35.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.21	0.400	"	"	"	"	"	"
Lead	3.47	0.200	"	"	"	"	"	"
Nickel	2.62	0.400	"	"	"	"	"	"
Silver	0.0300	0.0200	"	"	"	"	"	"
Zinc	11.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/01/24 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/01/24 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.3	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.05	0.0500	"	"	"	"	"	"	
Sodium	120	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/01/24 11:22

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.70	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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6855 W. 119th Ave.
Broomfield CO, 80020

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B02@8'
2411024-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.2			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.638	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:22**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.34			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

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

Reported:
11/25/24 10:48

WH-B03@8'
2411024-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0256	63.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0369	92.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.2	81.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Reported:
11/25/24 10:48

WH-B03@8'
2411024-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B03@8'
2411024-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.02	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	43.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.31	0.400	"	"	"	"	"	"
Lead	3.72	0.200	"	"	"	"	"	"
Nickel	2.59	0.400	"	"	"	"	"	"
Silver	0.0201	0.0200	"	"	"	"	"	"
Zinc	11.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.0	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.19	0.0500	"	"	"	"	"	"	
Sodium	61.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.92	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B03@8'
2411024-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.8			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.361	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.58			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B04@8'
2411024-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.0075	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.020	0.0050	"	"	"	"	"	"	
Naphthalene	0.0083	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6.7	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0351	87.8 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0420	105 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0484	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	8.85	70.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Reported:
11/25/24 10:48

WH-B04@8'
2411024-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0169	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00705	0.00500	"	"	"	"	"	"	
Fluorene	0.0379	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0286	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.196	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	0.217	0.00500	"	"	"	"	"	"	E

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:26**

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B04@8'
2411024-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.70	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	143	0.400	"	"	"	"	"	"
Cadmium	0.595	0.200	"	"	"	"	"	"
Copper	8.56	0.400	"	"	"	"	"	"
Lead	248	0.200	"	"	"	"	"	"
Nickel	7.65	0.400	"	"	"	"	"	"
Silver	0.0676	0.0200	"	"	"	"	"	"
Zinc	304	0.400	"	"	"	"	"	"
Selenium	0.825	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/01/24 11:26

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: 11/01/24 11:26

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	125	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	11.5	0.0500	"	"	"	"	"	"	
Sodium	225	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 11/01/24 11:26

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.16	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/01/24 11:26

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-B04@8'
2411024-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	70.4	%	1	BHK0380	11/07/24	11/08/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.95	0.0100	mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	11.9		pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-N01@7'
2411024-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0271	67.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.4	91.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-N01@7'
2411024-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:28**

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-N01@7'
2411024-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.11	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	41.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.52	0.400	"	"	"	"	"	"
Lead	6.14	0.200	"	"	"	"	"	"
Nickel	2.59	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.5	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	11.1	0.0500	"	"	"	"	"	"	
Sodium	7.07	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.273	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-N01@7'
2411024-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.3			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.178	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.39			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-S01@7'
2411024-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0268	67.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	89.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Reported:
11/25/24 10:48

WH-S01@7'
2411024-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/08/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0167	50.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Reported:
11/25/24 10:48

WH-S01@7'
2411024-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.926	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	48.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.80	0.400	"	"	"	"	"	"
Lead	4.54	0.200	"	"	"	"	"	"
Nickel	2.55	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.6	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	7.96	0.0500	"	"	"	"	"	"	
Sodium	19.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.921	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Reported:
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WH-S01@7'
2411024-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.6			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.134	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.18			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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Reported:
11/25/24 10:48

WH-E01@7'
2411024-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0242	60.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.73	77.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Reported:
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WH-E01@7'
2411024-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Reported:
11/25/24 10:48

WH-E01@7'
2411024-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.06	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	40.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.69	0.400	"	"	"	"	"	"
Lead	10.8	0.200	"	"	"	"	"	"
Nickel	2.87	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	0.420	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	ND	0.0500	"	"	"	"	"	"	
Sodium	0.0758	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0314	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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WH-E01@7'
2411024-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.8			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.270	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.53			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E02@7'
2411024-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0266	66.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.36	66.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
11/25/24 10:48

WH-E02@7'
2411024-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0139	41.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0134	40.3 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E02@7'
2411024-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.16	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	46.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.88	0.400	"	"	"	"	"	"
Lead	15.4	0.200	"	"	"	"	"	"
Nickel	3.11	0.400	"	"	"	"	"	"
Silver	0.0253	0.0200	"	"	"	"	"	"
Zinc	13.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.9	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.63	0.0500	"	"	"	"	"	"	
Sodium	8.03	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.345	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
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Broomfield CO, 80020

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E02@7'
2411024-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	79.2			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0887	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.28			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

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

Reported:
11/25/24 10:48

WH-E03@7'
2411024-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0302	75.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0384	95.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	93.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E03@7'
2411024-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.9 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E03@7'
2411024-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.00	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	45.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.36	0.400	"	"	"	"	"	"
Lead	3.90	0.200	"	"	"	"	"	"
Nickel	2.95	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.3	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.39	0.0500	"	"	"	"	"	"	
Sodium	13.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.572	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E03@7'
2411024-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.4			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0691	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.04			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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Broomfield CO, 80020

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E04@7'
2411024-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.7	93.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Reported:
11/25/24 10:48

WH-E04@7'
2411024-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E04@7'
2411024-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.08	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	48.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.97	0.400	"	"	"	"	"	"
Lead	11.9	0.200	"	"	"	"	"	"
Nickel	2.85	0.400	"	"	"	"	"	"
Silver	0.0220	0.0200	"	"	"	"	"	"
Zinc	22.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.8	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	3.56	0.0500	"	"	"	"	"	"	
Sodium	32.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.68	0.00100	units	1	BHK0755	11/14/24	11/14/24	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 7-2-10 & 42-10 WH

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-E04@7'
2411024-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.0			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.343	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.86			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

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

Reported:
11/25/24 10:48

WH-W01@7'
2411024-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0367	91.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0375	93.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.05	64.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W01@7'
2411024-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W01@7'
2411024-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.09	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	50.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.62	0.400	"	"	"	"	"	"
Lead	4.09	0.200	"	"	"	"	"	"
Nickel	3.22	0.400	"	"	"	"	"	"
Silver	0.0230	0.0200	"	"	"	"	"	"
Zinc	11.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	31.3	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	11.7	0.0500	"	"	"	"	"	"	
Sodium	28.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.10	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W01@7'
2411024-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	79.4			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.152	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.55			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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

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

Reported:
11/25/24 10:48

WH-W02@7'
2411024-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0374	93.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.50	76.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

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

Reported:
11/25/24 10:48

WH-W02@7'
2411024-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0152	45.6 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:42**

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W02@7'
2411024-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.974	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	37.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.03	0.400	"	"	"	"	"	"
Lead	3.11	0.200	"	"	"	"	"	"
Nickel	2.83	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	9.81	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.1	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	9.76	0.0500	"	"	"	"	"	"	
Sodium	11.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.488	0.00100	units	1	BHK0755	11/14/24	11/14/24	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 7-2-10 & 42-10 WH

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W02@7'
2411024-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.6		%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0650	0.0100	mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30		pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W03@7'
2411024-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0425	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0377	94.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.8	94.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Reported:
11/25/24 10:48

WH-W03@7'
2411024-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0171	51.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:44**

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

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

Reported:
11/25/24 10:48

WH-W03@7'
2411024-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.986	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	40.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.44	0.400	"	"	"	"	"	"
Lead	10.1	0.200	"	"	"	"	"	"
Nickel	2.75	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.9	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.81	0.0500	"	"	"	"	"	"	
Sodium	5.79	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.248	0.00100	units	1	BHK0755	11/14/24	11/14/24	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 7-2-10 & 42-10 WH

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W03@7'
2411024-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.7			%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0924	0.0100		mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.05			pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

Summit Scientific

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

WH-W04@7'
2411024-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHK0282	11/06/24	11/07/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0370	92.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHK0283	11/06/24	11/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	84.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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WH-W04@7'
2411024-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHK0250	11/06/24	11/07/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.1 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHK0482	11/11/24	11/13/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Reported:
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WH-W04@7'
2411024-14 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.925	0.200	mg/kg dry	1	BHK0722	11/14/24	11/23/24	EPA 6020B
Barium	38.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.24	0.400	"	"	"	"	"	"
Lead	3.69	0.200	"	"	"	"	"	"
Nickel	2.83	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	10.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHK0675	11/13/24	11/18/24	EPA 7196A	

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

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.5	0.0500	mg/L dry	1	BHK0515	11/11/24	11/14/24	EPA 6020B	
Magnesium	8.76	0.0500	"	"	"	"	"	"	
Sodium	19.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.913	0.00100	units	1	BHK0755	11/14/24	11/14/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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11/25/24 10:48

WH-W04@7'
2411024-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.2		%	1	BHK0380	11/07/24	11/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0927	0.0100	mmhos/cm	1	BHK0518	11/11/24	11/14/24	EPA 120.1	

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

Date Sampled: **11/01/24 11:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.40		pH Units	1	BHK0516	11/11/24	11/14/24	EPA 9045D	

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHK0282 - EPA 5030 Soil MS

Blank (BHK0282-BLK1)

Prepared: 11/06/24 Analyzed: 11/07/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0225		"	0.0400		56.2	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	50-150			

LCS (BHK0282-BS1)

Prepared: 11/06/24 Analyzed: 11/07/24

Benzene	0.0815	0.0020	mg/kg	0.100		81.5	70-130			
Toluene	0.114	0.0050	"	0.100		114	70-130			
Ethylbenzene	0.0947	0.0050	"	0.100		94.7	70-130			
m,p-Xylene	0.191	0.010	"	0.200		95.4	70-130			
o-Xylene	0.0916	0.0050	"	0.100		91.6	70-130			
1,2,4-Trimethylbenzene	0.0904	0.0050	"	0.100		90.4	70-130			
1,3,5-Trimethylbenzene	0.0915	0.0050	"	0.100		91.5	70-130			
Naphthalene	0.0912	0.0038	"	0.100		91.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0364		"	0.0400		91.1	50-150			
Surrogate: Toluene-d8	0.0466		"	0.0400		116	50-150			
Surrogate: 4-Bromofluorobenzene	0.0456		"	0.0400		114	50-150			

Matrix Spike (BHK0282-MS1)

Source: 2411024-01

Prepared: 11/06/24 Analyzed: 11/07/24

Benzene	0.0626	0.0020	mg/kg	0.100	ND	62.6	70-130			QM-05
Toluene	0.0670	0.0050	"	0.100	ND	67.0	70-130			QM-05
Ethylbenzene	0.0756	0.0050	"	0.100	ND	75.6	70-130			
m,p-Xylene	0.140	0.010	"	0.200	ND	70.1	70-130			
o-Xylene	0.0718	0.0050	"	0.100	ND	71.8	70-130			
1,2,4-Trimethylbenzene	0.0613	0.0050	"	0.100	ND	61.3	70-130			QM-05
1,3,5-Trimethylbenzene	0.0704	0.0050	"	0.100	ND	70.4	70-130			
Naphthalene	0.0493	0.0038	"	0.100	ND	49.3	70-130			QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.4	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150			

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHK0282 - EPA 5030 Soil MS

Matrix Spike Dup (BHK0282-MSD1)	Source: 2411024-01			Prepared: 11/06/24 Analyzed: 11/07/24						
Benzene	0.0619	0.0020	mg/kg	0.100	ND	61.9	70-130	1.11	30	QM-05
Toluene	0.0676	0.0050	"	0.100	ND	67.6	70-130	0.758	30	QM-05
Ethylbenzene	0.0738	0.0050	"	0.100	ND	73.8	70-130	2.33	30	
m,p-Xylene	0.141	0.010	"	0.200	ND	70.6	70-130	0.640	30	
o-Xylene	0.0706	0.0050	"	0.100	ND	70.6	70-130	1.64	30	
1,2,4-Trimethylbenzene	0.0618	0.0050	"	0.100	ND	61.8	70-130	0.780	30	QM-05
1,3,5-Trimethylbenzene	0.0692	0.0050	"	0.100	ND	69.2	70-130	1.80	30	QM-05
Naphthalene	0.0495	0.0038	"	0.100	ND	49.5	70-130	0.425	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0257		"	0.0400		64.4	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	50-150			

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHK0283 - EPA 3550A

Blank (BHK0283-BLK1)

Prepared: 11/06/24 Analyzed: 11/09/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.0		"	12.5	104	30-150				

LCS (BHK0283-BS1)

Prepared: 11/06/24 Analyzed: 11/09/24

C10-C28 (DRO)	568	50	mg/kg	500	114	70-130				
Surrogate: o-Terphenyl	12.6		"	12.5	101	30-150				

Matrix Spike (BHK0283-MS1)

Source: 2411024-01

Prepared: 11/06/24 Analyzed: 11/09/24

C10-C28 (DRO)	583	50	mg/kg	500	35.6	109	70-130			
Surrogate: o-Terphenyl	12.4		"	12.5	98.8	30-150				

Matrix Spike Dup (BHK0283-MSD1)

Source: 2411024-01

Prepared: 11/06/24 Analyzed: 11/09/24

C10-C28 (DRO)	527	50	mg/kg	500	35.6	98.2	70-130	10.2	20	
Surrogate: o-Terphenyl	11.9		"	12.5	95.1	30-150				

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHK0250 - EPA 5030 Soil MS

Blank (BHK0250-BLK1)

Prepared & Analyzed: 11/06/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0177		"	0.0333		53.2	40-140			
Surrogate: Fluoranthene-d10	0.0192		"	0.0333		57.7	40-140			

LCS (BHK0250-BS1)

Prepared & Analyzed: 11/06/24

Acenaphthene	0.0193	0.00500	mg/kg	0.0333		57.9	40-140			
Anthracene	0.0185	0.00500	"	0.0333		55.4	40-140			
Benzo (a) anthracene	0.0180	0.00500	"	0.0333		54.0	40-140			
Benzo (a) pyrene	0.0189	0.00500	"	0.0333		56.6	40-140			
Benzo (b) fluoranthene	0.0189	0.00500	"	0.0333		56.6	40-140			
Benzo (k) fluoranthene	0.0195	0.00500	"	0.0333		58.6	40-140			
Chrysene	0.0186	0.00500	"	0.0333		55.7	40-140			
Dibenz (a,h) anthracene	0.0277	0.00500	"	0.0333		83.2	40-140			
Fluoranthene	0.0182	0.00500	"	0.0333		54.6	40-140			
Fluorene	0.0185	0.00500	"	0.0333		55.6	40-140			
Indeno (1,2,3-cd) pyrene	0.0329	0.00500	"	0.0333		98.6	40-140			
Pyrene	0.0224	0.00500	"	0.0333		67.2	40-140			
1-Methylnaphthalene	0.0189	0.00500	"	0.0333		56.6	40-140			
2-Methylnaphthalene	0.0187	0.00500	"	0.0333		56.1	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0192		"	0.0333		57.6	40-140			
Surrogate: Fluoranthene-d10	0.0188		"	0.0333		56.4	40-140			

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Project Manager: Sam Vogt

Reported:
11/25/24 10:48

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHK0250 - EPA 5030 Soil MS

Matrix Spike (BHK0250-MS1)

Source: 2411024-01

Prepared & Analyzed: 11/06/24

Acenaphthene	0.0174	0.00500	mg/kg	0.0333	ND	52.1	40-140		
Anthracene	0.0172	0.00500	"	0.0333	ND	51.5	40-140		
Benzo (a) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	40-140		
Benzo (a) pyrene	0.0173	0.00500	"	0.0333	ND	51.8	40-140		
Benzo (b) fluoranthene	0.0195	0.00500	"	0.0333	ND	58.5	40-140		
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	40-140		
Chrysene	0.0173	0.00500	"	0.0333	ND	51.9	40-140		
Dibenz (a,h) anthracene	0.0218	0.00500	"	0.0333	ND	65.3	40-140		
Fluoranthene	0.0170	0.00500	"	0.0333	ND	51.1	40-140		
Fluorene	0.0180	0.00500	"	0.0333	ND	54.1	40-140		
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.2	40-140		
Pyrene	0.0188	0.00500	"	0.0333	ND	56.5	40-140		
1-Methylnaphthalene	0.0176	0.00500	"	0.0333	ND	52.8	40-140		
2-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	54.1	40-140		
Surrogate: 2-Methylnaphthalene-d10	0.0177		"	0.0333		53.0	40-140		
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.1	40-140		

Matrix Spike Dup (BHK0250-MSD1)

Source: 2411024-01

Prepared & Analyzed: 11/06/24

Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.4	40-140	2.40	30
Anthracene	0.0177	0.00500	"	0.0333	ND	53.0	40-140	2.91	30
Benzo (a) anthracene	0.0184	0.00500	"	0.0333	ND	55.3	40-140	4.03	30
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	40-140	1.13	30
Benzo (b) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.1	40-140	13.5	30
Benzo (k) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.2	40-140	6.10	30
Chrysene	0.0176	0.00500	"	0.0333	ND	52.9	40-140	2.07	30
Dibenz (a,h) anthracene	0.0256	0.00500	"	0.0333	ND	76.9	40-140	16.4	30
Fluoranthene	0.0174	0.00500	"	0.0333	ND	52.1	40-140	1.96	30
Fluorene	0.0176	0.00500	"	0.0333	ND	52.8	40-140	2.41	30
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333	ND	65.4	40-140	8.37	30
Pyrene	0.0219	0.00500	"	0.0333	ND	65.7	40-140	15.1	30
1-Methylnaphthalene	0.0174	0.00500	"	0.0333	ND	52.2	40-140	1.05	30
2-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.0	40-140	2.00	30
Surrogate: 2-Methylnaphthalene-d10	0.0180		"	0.0333		54.0	40-140		
Surrogate: Fluoranthene-d10	0.0182		"	0.0333		54.7	40-140		

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

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

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

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

Batch BHK0482 - EPA 3050B

Blank (BHK0482-BLK1)

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

Boron ND 2.00 mg/L

LCS (BHK0482-BS1)

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

Boron 5.06 2.00 mg/L 5.00 101 80-120

Duplicate (BHK0482-DUP1)

Source: 2411024-01

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

Boron 0.355 2.00 mg/L 0.408 13.9 20

Matrix Spike (BHK0482-MS1)

Source: 2411024-01

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

Boron 5.28 2.00 mg/L 5.00 0.408 97.5 75-125

Matrix Spike Dup (BHK0482-MSD1)

Source: 2411024-01

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

Boron 5.36 2.00 mg/L 5.00 0.408 99.0 75-125 1.39 25

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHK0722 - EPA 3050B

Blank (BHK0722-BLK1)

Prepared: 11/14/24 Analyzed: 11/23/24

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 (BHK0722-BS1)

Prepared: 11/14/24 Analyzed: 11/23/24

Arsenic	41.8	0.200	mg/kg wet	41.7	100	80-120
Barium	38.6	0.400	"	41.7	92.7	80-120
Cadmium	2.02	0.200	"	2.08	96.9	80-120
Copper	44.7	0.400	"	41.7	107	80-120
Lead	19.8	0.200	"	20.8	95.2	80-120
Nickel	39.9	0.400	"	41.7	95.8	80-120
Silver	1.81	0.0200	"	2.08	87.0	80-120
Zinc	41.3	0.400	"	41.7	99.0	80-120
Selenium	4.71	0.260	"	4.17	113	80-120


Duplicate (BHK0722-DUP1)

Source: 2411024-01

Prepared: 11/14/24 Analyzed: 11/23/24

Arsenic	1.13	0.200	mg/kg dry	1.08	4.74	20
Barium	42.6	0.400	"	41.1	3.56	20
Cadmium	0.0981	0.200	"	0.0895	9.14	20
Copper	2.51	0.400	"	2.43	3.19	20
Lead	6.77	0.200	"	6.74	0.520	20
Nickel	2.80	0.400	"	2.74	2.18	20
Silver	0.0172	0.0200	"	0.0168	2.01	20
Zinc	11.2	0.400	"	11.3	0.0779	20
Selenium	ND	0.260	"	ND		20

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Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHK0722 - EPA 3050B

Matrix Spike (BHK0722-MS1)

Source: 2411024-01

Prepared: 11/14/24 Analyzed: 11/23/24

Arsenic	34.8	0.200	mg/kg dry	45.4	1.08	74.1	75-125			QM-05
Barium	89.3	0.400	"	45.4	41.1	106	75-125			
Cadmium	2.30	0.200	"	2.27	0.0895	97.5	75-125			
Copper	39.3	0.400	"	45.4	2.43	81.1	75-125			
Lead	53.1	0.200	"	22.7	6.74	204	75-125			QM-05
Nickel	35.5	0.400	"	45.4	2.74	72.0	75-125			QM-05
Silver	0.175	0.0200	"	2.27	0.0168	6.98	75-125			QM-05
Zinc	46.4	0.400	"	45.4	11.3	77.3	75-125			
Selenium	4.81	0.260	"	4.54	ND	106	75-125			

Matrix Spike Dup (BHK0722-MSD1)

Source: 2411024-01

Prepared: 11/14/24 Analyzed: 11/23/24

Arsenic	32.2	0.200	mg/kg dry	43.0	1.08	72.5	75-125	7.51	25	QM-05
Barium	91.1	0.400	"	43.0	41.1	117	75-125	2.01	25	
Cadmium	2.19	0.200	"	2.15	0.0895	97.6	75-125	5.29	25	
Copper	36.7	0.400	"	43.0	2.43	79.8	75-125	6.79	25	
Lead	35.3	0.200	"	21.5	6.74	133	75-125	40.3	25	QM-05
Nickel	33.1	0.400	"	43.0	2.74	70.7	75-125	6.85	25	QM-05
Silver	0.166	0.0200	"	2.15	0.0168	6.96	75-125	5.36	25	QM-05
Zinc	45.0	0.400	"	43.0	11.3	78.5	75-125	3.16	25	
Selenium	4.45	0.260	"	4.30	ND	104	75-125	7.75	25	

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHK0675 - 3060A Mod

Blank (BHK0675-BLK1)

Prepared: 11/13/24 Analyzed: 11/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHK0675-BS1)

Prepared: 11/13/24 Analyzed: 11/18/24

Chromium, Hexavalent 26.6 0.30 mg/kg wet 25.0 106 80-120

Duplicate (BHK0675-DUP1)

Source: 2411024-01

Prepared: 11/13/24 Analyzed: 11/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHK0675-MS1)

Source: 2411024-01

Prepared: 11/13/24 Analyzed: 11/18/24

Chromium, Hexavalent 31.2 0.30 mg/kg dry 27.5 ND 113 75-125

Matrix Spike Dup (BHK0675-MSD1)

Source: 2411024-01

Prepared: 11/13/24 Analyzed: 11/18/24

Chromium, Hexavalent 29.5 0.30 mg/kg dry 27.5 ND 107 75-125 5.43 20

Summit Scientific

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

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

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

Batch BHK0515 - General Preparation

Blank (BHK0515-BLK1)

Prepared: 11/11/24 Analyzed: 11/14/24

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

LCS (BHK0515-BS1)

Prepared: 11/11/24 Analyzed: 11/14/24

Calcium	5.01	0.0500	mg/L wet	5.00	100	70-130
Magnesium	5.11	0.0500	"	5.00	102	70-130
Sodium	5.21	0.0500	"	5.00	104	70-130

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

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

Summit Scientific

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

Batch BHK0375 - General Preparation

Duplicate (BHK0375-DUP1)		Source: 2410053-01			Prepared: 11/07/24 Analyzed: 11/08/24						
% Solids	97.2		%		97.0			0.236		20	

Batch BHK0380 - General Preparation

Duplicate (BHK0380-DUP1)		Source: 2411024-02			Prepared: 11/07/24 Analyzed: 11/08/24						
% Solids	82.2		%		83.2			1.22		20	

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

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

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

Batch BHK0518 - General Preparation

Blank (BHK0518-BLK1)

Prepared: 11/11/24 Analyzed: 11/14/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHK0518-BS1)

Prepared: 11/11/24 Analyzed: 11/14/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHK0518-DUP1)

Source: 2411023-01

Prepared: 11/11/24 Analyzed: 11/14/24

Specific Conductance (EC) 0.0832 0.0100 mmhos/cm 0.0847 1.72 20

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

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

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

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

Batch BHK0516 - General Preparation

LCS (BHK0516-BS1)

Prepared: 11/11/24 Analyzed: 11/14/24

pH	9.27	pH Units	9.18	101	95-105
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Duplicate (BHK0516-DUP1)

Source: 2411023-01

Prepared: 11/11/24 Analyzed: 11/14/24

pH	7.52	pH Units	7.75	3.01	20
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Project: Civitas - Aristocrat Angus 7-2-10 & 42-10 WH

Project Number: 23176
Project Manager: Sam Vogt

Reported:
11/25/24 10:48

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference