

Aristocrat Angus 4-6-4

SESW Sec. 4-T3N-R65W

API #: 123-33993

Remediation Project #: 32034

F19 Data Package

March 2024

Prepared by Tasman, Inc.



On behalf of Crestone Peak Resources Operating, LLC



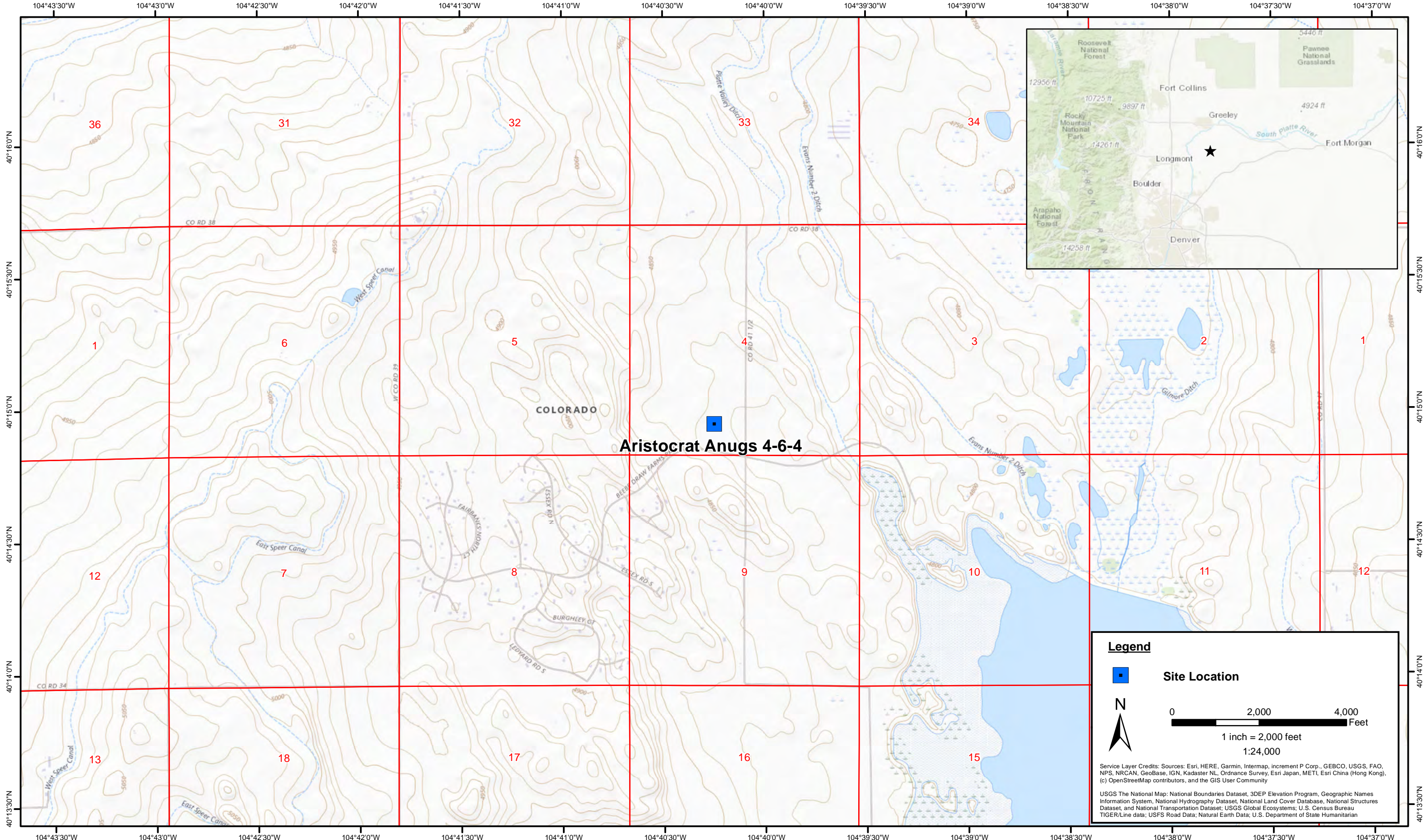
PHOTO LOG



Photographic Log

<p>SE S SW W</p> <p>120 150 180 210 240 270</p> <p>☀ 202°S (T) ● 40°14'57"N, 104°40'15"W ±16ft ▲ 4821ft</p>			<p>SW W NW N</p> <p>210 240 270 300 330 0 30</p> <p>☀ 298°NW (T) ● 40°14'57"N, 104°40'14"W ±16ft ▲ 4812ft</p>				
<p>08 Mar 2024, 12:31:56</p>			<p>08 Mar 2024, 12:31:37</p>				
Equipment ID:		Equipment Type:		Equipment ID:		Equipment Type:	
Material:	Volume:	Contents:		Material:	Volume:	Contents:	
Notes/Conditions: Soil sampling and screening locations.				Notes/Conditions: Soil sampling location.			

FIGURES



Aristocrat Angus 4-6-4

Legend

Site Location

N

0 2,000 4,000 Feet

1 inch = 2,000 feet
1:24,000

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian

DATE:	April 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	J. Woffinden

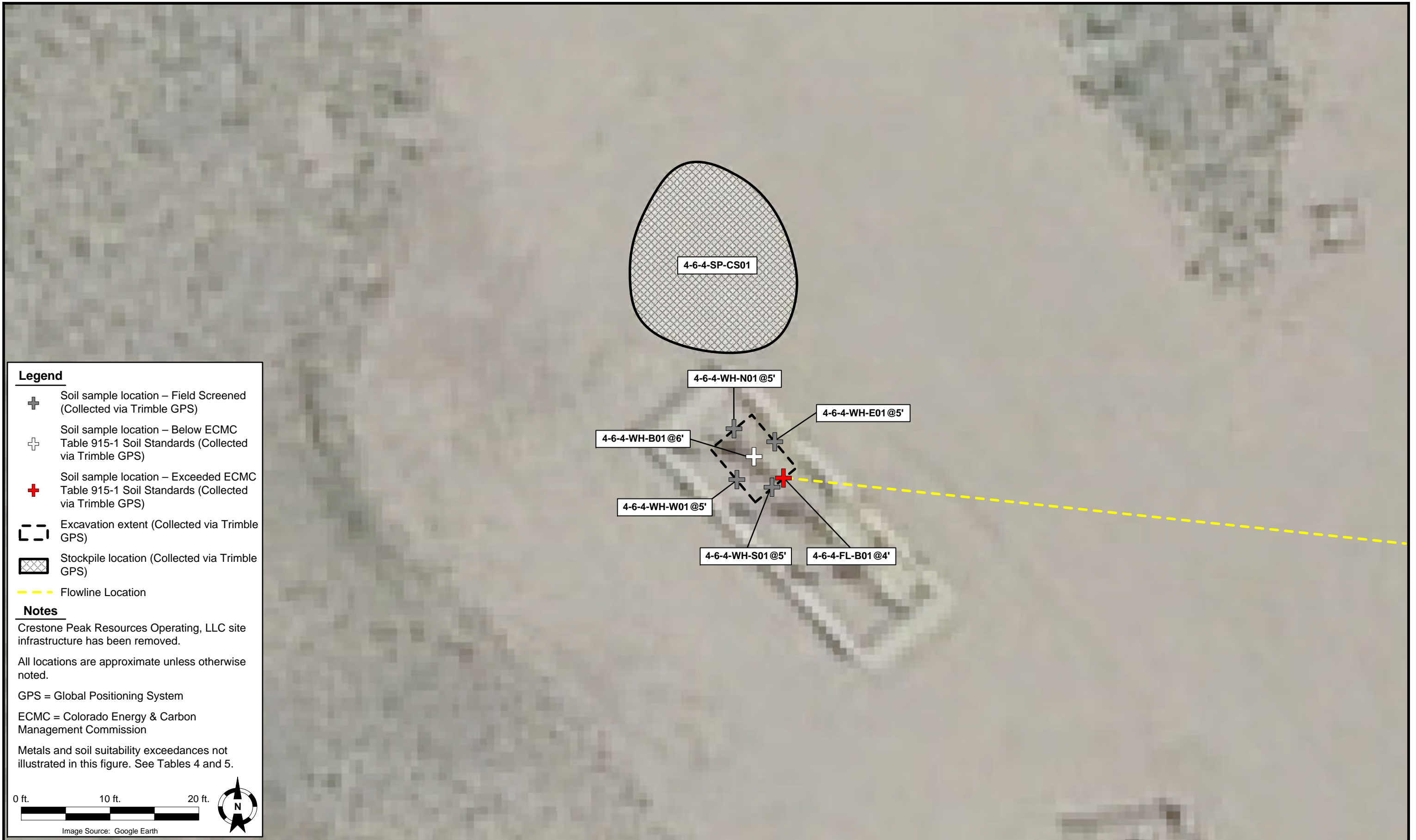


Tasman, Inc.
6855 W. 119th Ave
Broomfield, CO 80020







Crestone Peak Resources Operating, LLC
Aristocrat Angus 4-6-4
SESW Sec. 4-T3N-R65W
Weld County, Colorado

Site Location Map

Figure
1



Legend

-  Soil sample location – Field Screened (Collected via Trimble GPS)
-  Soil sample location – Below ECMC Table 915-1 Soil Standards (Collected via Trimble GPS)
-  Soil sample location – Exceeded ECMC Table 915-1 Soil Standards (Collected via Trimble GPS)
-  Excavation extent (Collected via Trimble GPS)
-  Stockpile location (Collected via Trimble GPS)
-  Flowline Location

Notes

Crestone Peak Resources Operating, LLC site infrastructure has been removed.

All locations are approximate unless otherwise noted.

GPS = Global Positioning System

ECMC = Colorado Energy & Carbon Management Commission

Metals and soil suitability exceedances not illustrated in this figure. See Tables 4 and 5.

0 ft. 10 ft. 20 ft.



Image Source: Google Earth



DATE:	April 26, 2024
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Molson



Tasman, Inc.
6855 W119th Ave.
Broomfield, CO 80020

Crestone Peak Resources Operating, LLC
Aristocrat Angus 4-6-4
SESW Sec. 4-T3N-R65W
Weld County, Colorado

Soil Sample Location Map
(03/08/2024)

Figure
2

TABLES

TABLE 1
ARISTOCRAT ANGUS 4-6-4
SOIL SAMPLE LOCATIONS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
4-6-4-WH-B01@6'	6'	03/08/2024	0.3	40.249236	-104.670815	-	Y
4-6-4-WH-N01@5'	5'	03/08/2024	0.5	40.249252	-104.670829	-	N
4-6-4-WH-S01@5'	5'	03/08/2024	0.3	40.249239	-104.670812	1	N
4-6-4-WH-E01@5'	5'	03/08/2024	0.4	40.249249	-104.670813	-	N
4-6-4-WH-W01@5'	5'	03/08/2024	0.3	40.249238	-104.670828	-	Y
4-6-4-FL-B01@4'	4'	03/08/2024	12.9	40.249238	-104.670809	-	Y
4-6-4-SP-CS01	-	03/08/2024	0.1	-	-	-	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

TABLE 2
ARISTOCRAT ANGUS 4-6-4
SOIL ANALYTICAL DATA - VOCs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
ECMC Organic Compounds in Soils - RSL ⁽²⁾			1.2	490	5.8	58	2	500			30	27
4-6-4-WH-B01@6'	6'	03/08/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.50	<50	<0.0050	<0.0050
4-6-4-WH-W01@5'	5'	03/08/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.50	<50	<0.0050	<0.0050
4-6-4-FL-B01@4'	4'	03/08/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	230	2.6	<50	<0.0050	0.025
4-6-4-SP-CS01	-	03/08/2024	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<50	<0.50	<50	<0.0050	<0.0050

Notes:

VOCs = Volatile Organic Compounds

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory reporting limit

mg/kg = milligrams per kilogram

TVPH - GRO = Total Volatile Petroleum Hydrocarbons - Gasoline Range Organics

TEPH - DRO = Total Extractable Petroleum Hydrocarbons - Diesel Range Organics

TEPH - ORO = Total Extractable Petroleum Hydrocarbons - Oil Range Organics

1,2,4 - TMB = 1,2,4 - Trimethylbenzene

1,3,5 - TMB = 1,3,5 - Trimethylbenzene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

TABLE 3
ARISTOCRAT ANGUS 4-6-4
SOIL ANALYTICAL DATA - PAHs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
ECMC Organic Compounds in Soils - GSSL ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
ECMC Organic Compounds in Soils - RSL ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
4-6-4-WH-B01@6'	6'	03/08/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
4-6-4-WH-W01@5'	5'	03/08/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
4-6-4-FL-B01@4'	4'	03/08/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00507	0.00882	<0.00500
4-6-4-SP-CS01	-	03/08/2024	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

(1) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory reporting limit

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

D (a,h) A = Dibenz(a,h)Anthracene

1,2,3-CD = Indeno(1,2,3-cd)Pyrene

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Organic Compounds in Soils - Residential Soil Screening Level Concentrations

TABLE 4
ARISTOCRAT ANGUS 4-6-4
SOIL ANALYTICAL DATA - METALS
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Metals in Soils - GSSL ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
ECMC Metals in Soils - RSL ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
4-6-4-WH-B01@6'	6'	03/08/2024	1.21	104	<0.200	<0.30	3.69	13.2	3.19	<0.260	0.0657	15.9
4-6-4-WH-W01@5'	5'	03/08/2024	1.81	78.9	<0.200	<0.30	4.26	12.4	4.81	<0.260	0.0837	27.2
4-6-4-FL-B01@4'	4'	03/08/2024	1.36	68.7	<0.200	<0.30	3.68	12.8	3.65	<0.260	0.0701	19.2
4-6-4-SP-CS01	-	03/08/2024	1.23	107	<0.200	<0.30	4.35	8.64	3.46	<0.260	0.0713	18.2

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations (Effective January 15, 2021)

(2) Standards for soil are taken from ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

GSSL = Protection of Groundwater Screening Level

RSL = Residential Soil Screening Level

(<) = Analytical result is less than the indicated laboratory minimum detection limit

mg/kg = milligrams per kilogram

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Protection of Groundwater Soil Screening Level Concentrations

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Metals in Soils - Residential Soil Screening Level Concentrations

Italics = Laboratory minimum detection limit exceeds the ECMC Table 915-1 Standard

TABLE 5
ARISTOCRAT ANGUS 4-6-4



SOIL ANALYTICAL DATA - SOIL RECLAMATION
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
ECMC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
4-6-4-WH-B01@6'	6'	03/08/2024	8.02	0.845	0.298	<2.00
4-6-4-WH-W01@5'	5'	03/08/2024	8.42	0.451	0.354	<2.00
4-6-4-FL-B01@4'	4'	03/08/2024	7.86	0.944	0.263	<2.00
4-6-4-SP-CS01	-	03/08/2024	8.08	0.457	0.184	<2.00

Notes:

(1) Standards for soil are taken from ECMC Table 915-1: Soil Suitability for Reclamation (Effective January 15, 2021)

ECMC = Colorado Energy & Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

BOLD = Analytical result is in exceedance of ECMC Table 915-1: Soil Suitability for Reclamation Concentrations

LABORATORY ANALYTICAL DATA

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 25, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

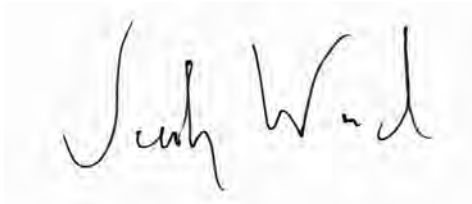
Broomfield, CO 80020

RE: Civitas - Aristocrat Angus 4-6-4

Work Order #2403149

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/24 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
4-6-4-WH-B01@6'	2403149-01	Soil	03/08/24 11:30	03/08/24 17:50
4-6-4-WH-W01@5'	2403149-05	Soil	03/08/24 11:50	03/08/24 17:50
4-6-4-FL-B01@4'	2403149-06	Soil	03/08/24 11:55	03/08/24 17:50
4-6-4-SP-CS01	2403149-07	Soil	03/08/24 12:00	03/08/24 17:50

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page of
2403149	

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#: 23561
Phone: PM (610) 405-9078	Project Name: Aristocrat Angus 4-6-4	PO/Billing Codes:
Sampler Name: Sean Clark, Ben Long	Project Number:	Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil			BTEXN	1,2,4 + 1,3,5 TMBs	TPH (GRO, DRO, ORO)	PAHs	pH, EC, SAR	Boron	Metals			
1	WH-B01@6'	3/8/24	11:30	2			X													X	pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI Full Table 915	
2	WH-N01@5'		11:35																			O ₂ -hold
3	WH-S01@5'		11:40																			O ₂ -hold
4	WH-E01@5'		11:45																			O ₂ -hold
5	WH-W01@5'		11:50																			
6	FL-B01@4'		11:55																			
7	SP-CS01		12:00																			
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <i>Sam Vogt</i>	Date/Time: 3/8/24 17:00	Received by: Tasman Lockbox	Date/Time: 3/8/24 17:00	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 3/8/24 17:00	Received by: <i>[Signature]</i>	Date/Time: 3/8/24 17:50	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 7.3	Corrected Temperature: C	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2403149

Client CMAA/casman Client Project ID: Airstarcat Angus 4-6-4

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

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

Temp (°C)

Thermometer #

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

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

AS

Custodian Printed Name

3/8/24

Date/Time



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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-B01@6'
2403149-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHC0327	03/12/24	03/13/24	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: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	96.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	94.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHC0329	03/12/24	03/13/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.91	55.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-B01@6'
2403149-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0355	03/13/24	03/13/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0515	03/15/24	04/25/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/24 11:30**

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

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-B01@6'
2403149-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.21	0.200	mg/kg dry	1	BHC0729	03/20/24	04/20/24	EPA 6020B	
Barium	104	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.69	0.400	"	"	"	"	"	"	
Lead	13.2	0.200	"	"	"	"	"	"	
Nickel	3.19	0.400	"	"	"	"	"	"	
Silver	0.0657	0.0200	"	"	"	"	"	"	
Zinc	15.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0614	03/18/24	03/20/24	EPA 7196A	

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

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	31.3	0.0500	mg/L dry	1	BHC0889	03/24/24	04/06/24	EPA 6020B	
Magnesium	6.79	0.0500	"	"	"	"	"	"	
Sodium	20.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.845	0.00100	units	1	BHD0231	04/08/24	04/08/24	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 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-B01@6'
2403149-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.3			%	1	BHC0437	03/15/24	03/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/24 11:30**

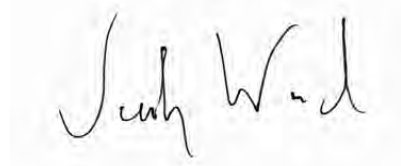
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.298	0.0100		mmhos/cm	1	BHC0890	03/24/24	03/26/24	EPA 120.1	

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

Date Sampled: **03/08/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.02			pH Units	1	BHC0891	03/24/24	03/26/24	EPA 9045D	

Summit Scientific



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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-W01@5'
2403149-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHC0327	03/12/24	03/13/24	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: **03/08/24 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0412	103 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.6 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0329	03/12/24	03/13/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	5.64	45.1 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-W01@5'
2403149-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0355	03/13/24	03/13/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	43.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0515	03/15/24	04/25/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/24 11:50**

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 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-W01@5'
2403149-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.81	0.200	mg/kg dry	1	BHC0729	03/20/24	04/20/24	EPA 6020B	
Barium	78.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.26	0.400	"	"	"	"	"	"	
Lead	12.4	0.200	"	"	"	"	"	"	
Nickel	4.81	0.400	"	"	"	"	"	"	
Silver	0.0837	0.0200	"	"	"	"	"	"	
Zinc	27.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0614	03/18/24	03/20/24	EPA 7196A	

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

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1100	0.0500	mg/L dry	1	BHC0889	03/24/24	04/06/24	EPA 6020B	
Magnesium	124	0.0500	"	"	"	"	"	"	
Sodium	59.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.451	0.00100	units	1	BHD0231	04/08/24	04/08/24	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 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-WH-W01@5'
2403149-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.0			%	1	BHC0437	03/15/24	03/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/24 11:50**

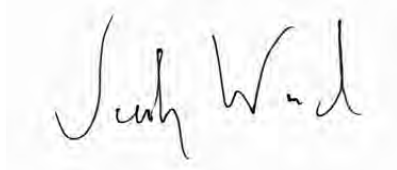
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.354	0.0100		mmhos/cm	1	BHC0890	03/24/24	03/26/24	EPA 120.1	

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

Date Sampled: **03/08/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.42			pH Units	1	BHC0891	03/24/24	03/26/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-FL-B01@4'
2403149-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHC0327	03/12/24	03/14/24	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	0.025	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.6	0.50	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0396	99.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	230	50	mg/kg	1	BHC0329	03/12/24	03/13/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.69	61.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-FL-B01@4'
2403149-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0355	03/13/24	03/13/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.00507	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00882	0.00500	"	"	"	"	"	"	

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	72.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0515	03/15/24	04/25/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/24 11:55**

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-FL-B01@4'
2403149-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.36	0.200	mg/kg dry	1	BHC0729	03/20/24	04/20/24	EPA 6020B	
Barium	68.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.68	0.400	"	"	"	"	"	"	
Lead	12.8	0.200	"	"	"	"	"	"	
Nickel	3.65	0.400	"	"	"	"	"	"	
Silver	0.0701	0.0200	"	"	"	"	"	"	
Zinc	19.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0614	03/18/24	03/20/24	EPA 7196A	

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

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	94.2	0.0500	mg/L dry	1	BHC0889	03/24/24	04/06/24	EPA 6020B	
Magnesium	13.2	0.0500	"	"	"	"	"	"	
Sodium	36.9	0.0500	"	"	"	"	"	"	

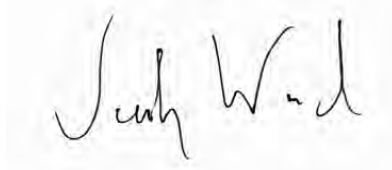
Calculated Analysis

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.944	0.00100	units	1	BHD0231	04/08/24	04/08/24	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 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-FL-B01@4'
2403149-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.4		%	1	BHC0437	03/15/24	03/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/24 11:55**

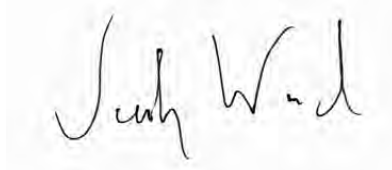
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.263	0.0100	mmhos/cm	1	BHC0890	03/24/24	03/26/24	EPA 120.1	

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

Date Sampled: **03/08/24 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BHC0891	03/24/24	03/26/24	EPA 9045D	

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-SP-CS01
2403149-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHC0327	03/12/24	03/13/24	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: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0404	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0368	91.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0329	03/12/24	03/13/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.73	53.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
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Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-SP-CS01
2403149-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0355	03/13/24	03/13/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0515	03/15/24	04/25/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/08/24 12:00**

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-SP-CS01
2403149-07 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.23	0.200	mg/kg dry	1	BHC0729	03/20/24	04/20/24	EPA 6020B	
Barium	107	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.35	0.400	"	"	"	"	"	"	
Lead	8.64	0.200	"	"	"	"	"	"	
Nickel	3.46	0.400	"	"	"	"	"	"	
Silver	0.0713	0.0200	"	"	"	"	"	"	
Zinc	18.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0614	03/18/24	03/20/24	EPA 7196A	

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

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.5	0.0500	mg/L dry	1	BHC0889	03/24/24	04/06/24	EPA 6020B	
Magnesium	5.17	0.0500	"	"	"	"	"	"	
Sodium	9.10	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.457	0.00100	units	1	BHD0231	04/08/24	04/08/24	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 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

4-6-4-SP-CS01
2403149-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.4		%	1	BHC0437	03/15/24	03/16/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/08/24 12:00**

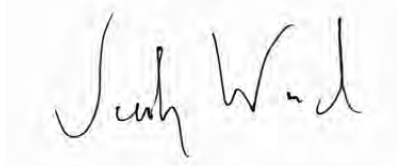
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.184	0.0100	mmhos/cm	1	BHC0890	03/24/24	03/26/24	EPA 120.1	

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

Date Sampled: **03/08/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BHC0891	03/24/24	03/26/24	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHC0327 - EPA 5030 Soil MS

Blank (BHC0327-BLK1)

Prepared: 03/12/24 Analyzed: 03/13/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0398		"	0.0400		99.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0386		"	0.0400		96.6	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		97.1	50-150			

LCS (BHC0327-BS1)

Prepared: 03/12/24 Analyzed: 03/13/24

Benzene	0.0952	0.0020	mg/kg	0.100		95.2	70-130			
Toluene	0.0917	0.0050	"	0.100		91.7	70-130			
Ethylbenzene	0.0902	0.0050	"	0.100		90.2	70-130			
m,p-Xylene	0.183	0.010	"	0.200		91.3	70-130			
o-Xylene	0.0880	0.0050	"	0.100		88.0	70-130			
1,2,4-Trimethylbenzene	0.0855	0.0050	"	0.100		85.5	70-130			
1,3,5-Trimethylbenzene	0.0860	0.0050	"	0.100		86.0	70-130			
Naphthalene	0.0729	0.0038	"	0.100		72.9	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0431		"	0.0400		108	50-150			
<i>Surrogate: Toluene-d8</i>	0.0405		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0384		"	0.0400		96.0	50-150			

Matrix Spike (BHC0327-MS1)

Source: 2403149-01

Prepared: 03/12/24 Analyzed: 03/13/24

Benzene	0.0784	0.0020	mg/kg	0.100	ND	78.4	70-130			
Toluene	0.0736	0.0050	"	0.100	ND	73.6	70-130			
Ethylbenzene	0.0778	0.0050	"	0.100	ND	77.8	70-130			
m,p-Xylene	0.151	0.010	"	0.200	ND	75.7	70-130			
o-Xylene	0.0757	0.0050	"	0.100	ND	75.7	70-130			
1,2,4-Trimethylbenzene	0.0622	0.0050	"	0.100	ND	62.2	70-130			QM-07
1,3,5-Trimethylbenzene	0.0720	0.0050	"	0.100	ND	72.0	70-130			
Naphthalene	0.0446	0.0038	"	0.100	ND	44.6	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0424		"	0.0400		106	50-150			
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		99.1	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0382		"	0.0400		95.5	50-150			

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

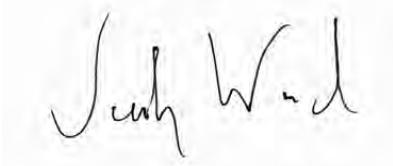
Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BHC0327 - EPA 5030 Soil MS

Matrix Spike Dup (BHC0327-MSD1)	Source: 2403149-01			Prepared: 03/12/24 Analyzed: 03/13/24						
Benzene	0.0759	0.0020	mg/kg	0.100	ND	75.9	70-130	3.15	30	
Toluene	0.0734	0.0050	"	0.100	ND	73.4	70-130	0.367	30	
Ethylbenzene	0.0747	0.0050	"	0.100	ND	74.7	70-130	4.05	30	
m,p-Xylene	0.150	0.010	"	0.200	ND	74.8	70-130	1.20	30	
o-Xylene	0.0742	0.0050	"	0.100	ND	74.2	70-130	2.00	30	
1,2,4-Trimethylbenzene	0.0606	0.0050	"	0.100	ND	60.6	70-130	2.74	30	QM-07
1,3,5-Trimethylbenzene	0.0699	0.0050	"	0.100	ND	69.9	70-130	2.92	30	QM-07
Naphthalene	0.0446	0.0038	"	0.100	ND	44.6	70-130	0.0673	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0391</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.1</i>	<i>50-150</i>			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHC0329 - EPA 3550A

Blank (BHC0329-BLK1)

Prepared: 03/12/24 Analyzed: 03/13/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	10.8		"	12.5		86.4	30-150			

LCS (BHC0329-BS1)

Prepared: 03/12/24 Analyzed: 03/13/24

C10-C28 (DRO)	412	50	mg/kg	500		82.4	70-130			
Surrogate: <i>o</i> -Terphenyl	10.1		"	12.5		81.0	30-150			

Matrix Spike (BHC0329-MS1)

Source: 2403149-01

Prepared: 03/12/24 Analyzed: 03/13/24

C10-C28 (DRO)	404	50	mg/kg	500	27.9	75.2	70-130			
Surrogate: <i>o</i> -Terphenyl	8.85		"	12.5		70.8	30-150			

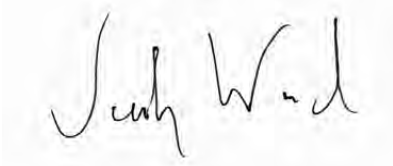
Matrix Spike Dup (BHC0329-MSD1)

Source: 2403149-01

Prepared: 03/12/24 Analyzed: 03/13/24

C10-C28 (DRO)	452	50	mg/kg	500	27.9	84.9	70-130	11.3	20	
Surrogate: <i>o</i> -Terphenyl	8.60		"	12.5		68.8	30-150			

Summit Scientific



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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHC0355 - EPA 5030 Soil MS

Blank (BHC0355-BLK1)

Prepared & Analyzed: 03/13/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0179</i>		"	<i>0.0333</i>		<i>53.8</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0163</i>		"	<i>0.0333</i>		<i>48.9</i>		<i>40-150</i>		

LCS (BHC0355-BS1)

Prepared & Analyzed: 03/13/24

Acenaphthene	0.0201	0.00500	mg/kg	0.0333		60.2		31-137		
Anthracene	0.0209	0.00500	"	0.0333		62.7		30-120		
Benzo (a) anthracene	0.0167	0.00500	"	0.0333		50.2		30-120		
Benzo (a) pyrene	0.0195	0.00500	"	0.0333		58.6		30-120		
Benzo (b) fluoranthene	0.0152	0.00500	"	0.0333		45.6		30-120		
Benzo (k) fluoranthene	0.0193	0.00500	"	0.0333		57.8		30-120		
Chrysene	0.0207	0.00500	"	0.0333		62.2		30-120		
Dibenz (a,h) anthracene	0.0167	0.00500	"	0.0333		50.0		30-120		
Fluoranthene	0.0184	0.00500	"	0.0333		55.3		30-120		
Fluorene	0.0202	0.00500	"	0.0333		60.7		30-120		
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333		46.8		30-120		
Pyrene	0.0213	0.00500	"	0.0333		64.0		35-142		
1-Methylnaphthalene	0.0171	0.00500	"	0.0333		51.2		35-142		
2-Methylnaphthalene	0.0175	0.00500	"	0.0333		52.4		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0173</i>		"	<i>0.0333</i>		<i>51.9</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0178</i>		"	<i>0.0333</i>		<i>53.4</i>		<i>40-150</i>		

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHC0355 - EPA 5030 Soil MS

Matrix Spike (BHC0355-MS1)	Source: 2403149-01			Prepared & Analyzed: 03/13/24						
Acenaphthene	0.0147	0.00500	mg/kg	0.0333	ND	44.2	31-137			
Anthracene	0.0205	0.00500	"	0.0333	ND	61.4	30-120			
Benzo (a) anthracene	0.0178	0.00500	"	0.0333	ND	53.3	30-120			
Benzo (a) pyrene	0.0134	0.00500	"	0.0333	ND	40.3	30-120			
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	30-120			
Benzo (k) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120			
Chrysene	0.0167	0.00500	"	0.0333	ND	50.1	30-120			
Dibenz (a,h) anthracene	0.0222	0.00500	"	0.0333	ND	66.7	30-120			
Fluoranthene	0.0159	0.00500	"	0.0333	ND	47.7	30-120			
Fluorene	0.0152	0.00500	"	0.0333	ND	45.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0157	0.00500	"	0.0333	ND	47.1	30-120			
Pyrene	0.0202	0.00500	"	0.0333	ND	60.7	35-142			
1-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7	15-130			
2-Methylnaphthalene	0.0260	0.00500	"	0.0333	ND	78.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0201</i>		<i>"</i>	<i>0.0333</i>		<i>60.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0143</i>		<i>"</i>	<i>0.0333</i>		<i>43.0</i>	<i>40-150</i>			

Matrix Spike Dup (BHC0355-MSD1)	Source: 2403149-01			Prepared & Analyzed: 03/13/24						
Acenaphthene	0.0172	0.00500	mg/kg	0.0333	ND	51.5	31-137	15.3	30	
Anthracene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	6.41	30	
Benzo (a) anthracene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	9.52	30	
Benzo (a) pyrene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	11.8	30	
Benzo (b) fluoranthene	0.0206	0.00500	"	0.0333	ND	61.8	30-120	31.1	30	QR-02
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	24.3	30	
Chrysene	0.0159	0.00500	"	0.0333	ND	47.8	30-120	4.69	30	
Dibenz (a,h) anthracene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	13.1	30	
Fluoranthene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	19.3	30	
Fluorene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	18.9	30	
Indeno (1,2,3-cd) pyrene	0.0179	0.00500	"	0.0333	ND	53.7	30-120	13.0	30	
Pyrene	0.0136	0.00500	"	0.0333	ND	40.8	35-142	39.1	30	QR-02
1-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7	15-130	0.0297	50	
2-Methylnaphthalene	0.0231	0.00500	"	0.0333	ND	69.2	15-130	12.0	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0181</i>		<i>"</i>	<i>0.0333</i>		<i>54.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0139</i>		<i>"</i>	<i>0.0333</i>		<i>41.6</i>	<i>40-150</i>			

Summit Scientific

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

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

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

Batch BHC0515 - EPA 3050B

Blank (BHC0515-BLK1)

Prepared: 03/15/24 Analyzed: 04/25/24

Boron ND 2.00 mg/L

LCS (BHC0515-BS1)

Prepared: 03/15/24 Analyzed: 04/25/24

Boron 5.37 2.00 mg/L 5.00 107 80-120

Duplicate (BHC0515-DUP1)

Source: 2403147-15

Prepared: 03/15/24 Analyzed: 04/25/24

Boron 0.0861 2.00 mg/L 0.132 42.2 20 QR-01

Matrix Spike (BHC0515-MS1)

Source: 2403147-15

Prepared: 03/15/24 Analyzed: 04/25/24

Boron 5.06 2.00 mg/L 5.00 0.132 98.5 75-125

Matrix Spike Dup (BHC0515-MSD1)

Source: 2403147-15

Prepared: 03/15/24 Analyzed: 04/25/24

Boron 5.37 2.00 mg/L 5.00 0.132 105 75-125 6.00 25

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHC0729 - EPA 3050B

Blank (BHC0729-BLK1)

Prepared: 03/20/24 Analyzed: 04/20/24

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 (BHC0729-BS1)

Prepared: 03/20/24 Analyzed: 04/20/24

Arsenic	41.6	0.200	mg/kg wet	40.0	104	80-120
Barium	39.5	0.400	"	40.0	98.7	80-120
Cadmium	1.97	0.200	"	2.00	98.7	80-120
Copper	42.0	0.400	"	40.0	105	80-120
Lead	19.4	0.200	"	20.0	97.0	80-120
Nickel	41.1	0.400	"	40.0	103	80-120
Silver	2.00	0.0200	"	2.00	99.8	80-120
Zinc	41.8	0.400	"	40.0	105	80-120
Selenium	4.05	0.260	"	4.00	101	80-120

Duplicate (BHC0729-DUP1)

Source: 2402388-02

Prepared: 03/20/24 Analyzed: 04/20/24

Arsenic	2.10	0.200	mg/kg dry	2.22	5.50	20
Barium	68.8	0.400	"	84.0	19.9	20
Cadmium	0.128	0.200	"	0.133	3.53	20
Copper	3.96	0.400	"	4.36	9.64	20
Lead	4.96	0.200	"	5.70	13.8	20
Nickel	4.13	0.400	"	4.59	10.5	20
Silver	0.0612	0.0200	"	0.0625	2.03	20
Zinc	14.8	0.400	"	16.0	8.21	20
Selenium	ND	0.260	"	ND		20

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHC0729 - EPA 3050B

Matrix Spike (BHC0729-MS1)

Source: 2402388-02

Prepared: 03/20/24 Analyzed: 04/20/24

Arsenic	28.6	0.200	mg/kg dry	41.9	2.22	62.8	75-125				QM-07
Barium	123	0.400	"	41.9	84.0	93.4	75-125				
Cadmium	2.27	0.200	"	2.10	0.133	102	75-125				
Copper	30.9	0.400	"	41.9	4.36	63.3	75-125				QM-07
Lead	26.7	0.200	"	21.0	5.70	100	75-125				
Nickel	31.0	0.400	"	41.9	4.59	63.0	75-125				QM-07
Silver	2.12	0.0200	"	2.10	0.0625	98.2	75-125				
Zinc	44.0	0.400	"	41.9	16.0	66.7	75-125				QM-07
Selenium	3.48	0.260	"	4.19	ND	83.0	75-125				

Matrix Spike Dup (BHC0729-MSD1)

Source: 2402388-02

Prepared: 03/20/24 Analyzed: 04/20/24

Arsenic	29.1	0.200	mg/kg dry	41.9	2.22	64.0	75-125	1.70	25		QM-07
Barium	122	0.400	"	41.9	84.0	90.3	75-125	1.07	25		
Cadmium	2.27	0.200	"	2.10	0.133	102	75-125	0.0184	25		
Copper	31.4	0.400	"	41.9	4.36	64.5	75-125	1.62	25		QM-07
Lead	26.8	0.200	"	21.0	5.70	101	75-125	0.420	25		
Nickel	31.8	0.400	"	41.9	4.59	64.8	75-125	2.40	25		QM-07
Silver	2.10	0.0200	"	2.10	0.0625	97.4	75-125	0.794	25		
Zinc	45.2	0.400	"	41.9	16.0	69.6	75-125	2.75	25		QM-07
Selenium	3.43	0.260	"	4.19	ND	81.8	75-125	1.48	25		

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHC0614 - 3060A Mod

Blank (BHC0614-BLK1)

Prepared: 03/18/24 Analyzed: 03/20/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHC0614-BS1)

Prepared: 03/18/24 Analyzed: 03/20/24

Chromium, Hexavalent 23.2 0.30 mg/kg wet 25.0 92.8 80-120

Duplicate (BHC0614-DUP1)

Source: 2403146-01

Prepared: 03/18/24 Analyzed: 03/20/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHC0614-MS1)

Source: 2403146-01

Prepared: 03/18/24 Analyzed: 03/20/24

Chromium, Hexavalent 25.4 0.30 mg/kg dry 27.1 ND 93.6 75-125

Matrix Spike Dup (BHC0614-MSD1)

Source: 2403146-01

Prepared: 03/18/24 Analyzed: 03/20/24

Chromium, Hexavalent 25.1 0.30 mg/kg dry 27.1 ND 92.8 75-125 0.858 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

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

Summit Scientific

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

Batch BHC0889 - General Preparation

Blank (BHC0889-BLK1)

Prepared: 03/24/24 Analyzed: 04/06/24

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

LCS (BHC0889-BS1)

Prepared: 03/24/24 Analyzed: 04/06/24

Calcium	4.91	0.0500	mg/L wet	5.00		98.2	70-130			
Magnesium	5.05	0.0500	"	5.00		101	70-130			
Sodium	5.13	0.0500	"	5.00		103	70-130			

Summit Scientific

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

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

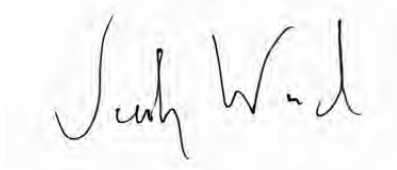
Summit Scientific

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

Batch BHC0437 - General Preparation

Duplicate (BHC0437-DUP1)	Source: 2403147-01	Prepared: 03/15/24	Analyzed: 03/16/24
% Solids	97.4	%	95.8
			1.65
			20

Summit Scientific



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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

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

Summit Scientific

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

Batch BHC0890 - General Preparation

Blank (BHC0890-BLK1)

Prepared: 03/24/24 Analyzed: 03/26/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHC0890-BS1)

Prepared: 03/24/24 Analyzed: 03/26/24

Specific Conductance (EC) 0.144 0.0100 mmhos/cm 0.150 96.2 95-105

Duplicate (BHC0890-DUP1)

Source: 2403124-06

Prepared: 03/24/24 Analyzed: 03/26/24

Specific Conductance (EC) 0.618 0.0100 mmhos/cm 0.633 2.45 20

Summit Scientific

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

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
 Project Manager: Sam Vogt

Reported:
 04/25/24 15:23

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

Summit Scientific

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

Batch BHC0891 - General Preparation

LCS (BHC0891-BS1)

Prepared: 03/24/24 Analyzed: 03/26/24

pH	9.09	pH Units	9.18	99.0	95-105
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Duplicate (BHC0891-DUP1)

Source: 2403124-06

Prepared: 03/24/24 Analyzed: 03/26/24

pH	7.45	pH Units	7.41	0.538	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Aristocrat Angus 4-6-4

Project Number: 23561
Project Manager: Sam Vogt

Reported:
04/25/24 15:23

Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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