

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 31, 2024

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - HSR Ackard 5-2

Work Order #2410244

Enclosed are the results of analyses for samples received by Summit Scientific on 10/15/24 18:00. 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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP-B01@3"	2410244-01	Soil	10/15/24 11:00	10/15/24 18:00
SEP-B02@3"	2410244-02	Soil	10/15/24 11:02	10/15/24 18:00
WH-B01@6'	2410244-03	Soil	10/15/24 11:04	10/15/24 18:00
FL-B01@4'	2410244-04	Soil	10/15/24 11:14	10/15/24 18:00
FL-B02@3'	2410244-05	Soil	10/15/24 11:16	10/15/24 18:00
AST-B01@6"	2410244-06	Soil	10/15/24 11:18	10/15/24 18:00
PW-B01@5'	2410244-07	Soil	10/15/24 11:20	10/15/24 18:00
PW-S01@4'	2410244-09	Soil	10/15/24 11:24	10/15/24 18:00
DL1-B01@3'	2410244-12	Soil	10/15/24 11:30	10/15/24 18:00
DL1-B02@4'	2410244-13	Soil	10/15/24 11:32	10/15/24 18:00
DL1-B03@3'	2410244-14	Soil	10/15/24 11:34	10/15/24 18:00
DL2-B01@3'	2410244-15	Soil	10/15/24 11:36	10/15/24 18:00
DL2-B02@4'	2410244-16	Soil	10/15/24 11:38	10/15/24 18:00
SP-CS01	2410244-17	Soil	10/15/24 11:40	10/15/24 18:00
SP-CS02	2410244-18	Soil	10/15/24 11:42	10/15/24 18:00
SP-CS03	2410244-19	Soil	10/15/24 11:44	10/15/24 18:00

Case Narrative

Rerun analyses were performed by client request on 10/24/2024.
The rerun results included in this report are denoted with "RE#."

This is a revision of the report originally sent on 10/22/2024 at 10:28 AM MT.

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.

Lab ID	Page 1 of 2
2410244	

	Send Data To:	Send Invoice To:
Client: Civitas / Tasman	Project Manager: Sam Vogt / Jacob Evans	Company: Civitas
Address: 6855 W. 119th Ave.	E-Mail: Svogt@tasman-geo.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020	Jevans@civitasresources.com	AFE#: 24459
Phone: PM Phone # - (610)-405-9078	Project Name: HSR-ACKARD 5-2	PO/Billing Codes: 8523.198
Sampler Name: Sean Clarke	Project Number:	Contact:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMB's	TPH(GRO,DRO,ORO)	PAH	pH,EC,SAR	Boron	Metals	Full Table 915	Special Instructions	
1	SEP-BØ1@3"	10/15/24	11:00	2			X			X												
2	SEP-BØ2@3'		11:02																			
3	WH-BØ1@6'		11:04																			
4	FL-BØ1@4'		11:14																			
5	FL-BØ2@3'		11:16																			
6	AST-BØ1@6"		11:18																			
7	PW-BØ1@5'		11:20																			
8	PW-NØ1@8' ^{sc} 4'		11:22																			On-hold
9	PW-SØ1@8' ^{sc} 4'		11:24																			On-hold
10	PW-EØ1@8' ^{sc} 4'		11:26																			On-hold
11	PW-WØ1@4'		11:28																			On-hold
12	DL1-BØ1@3'		11:30																			
13	DL1-BØ2@4'		11:32																			
14	DL1-BØ3@3'		11:34																			
15	DL2-BØ1@3'		11:36																			

Relinquished by: [Signature] Date/Time: 10/15/24 15:45 Received by: Tasman Lockbox Date/Time: _____

Relinquished by: [Signature] Date/Time: 10/15/24 1800 Received by: [Signature] Date/Time: 10/15/24 1800

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Temperature Upon Receipt: 80 Corrected Temperature 0 IR gun #: _____ HNO₃ lot #: _____

Notes:

TAT Business Days
Same Day ☐
1 Day ☐
2 Days ☐
3 Days ☐
Standard ☒

Field DO
Field EC
Field ORP
Field pH
Field Temp.
Field Turb.

SS

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

Lab ID

Page 2 of 2

2410244

Send Data To:

Send Invoice To:

Client: Civitas / Tasman

Project Manager: Sam Vogt / Jacob Evans

Company: Civitas

Address: 6855 W. 119th Ave.

E-Mail: Svogt@tasman-geo.com

Project Name/Location:

City/State/Zip: Broomfield, CO 80020

Jevans@civitasresources.com

AFE#: 24459

Phone: PM Phone # - (610)-405-9078

Project Name: HSR - ACKARD 5-2

PO/Billing Codes: 8523.198

Sampler Name: Sean Clarke

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 TMB's	TPH(GRO,DRO,ORO)	PAH	pH,EC,SAR	Boron	Metals	Full Table 915
1	DL2-B02@4'	10/15/24	11:38	2			X			X										X
2	SP-CS01	↓	11:40	↓			↓			↓										↓
3	SP-CS02	↓	11:42	↓			↓			↓										↓
4	SP-CS03	↓	11:44	↓			↓			↓										↓
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by:

Date/Time:

Received by:

Date/Time:

TAT Business Days

Field DO

Notes:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Same Day

Field EC

1 Day

Field ORP

2 Days

Field pH

3 Days

Field Temp.

Standard

Field Turb.

Temperature Upon Receipt: 8.0

Corrected Temperature: 8

IR gun #: 1

HNO3 lot #:

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2410244Client: Curtasf asmanClient Project ID: USR-ACKARD 5-2Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

8.0

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
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.				

Custodian Printed Name

Date/Time



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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B01@3"
2410244-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0348	87.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.08	64.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B01@3"
2410244-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0152	45.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0202	60.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B01@3"
2410244-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.53	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	31.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.28	0.400	"	"	"	"	"	"
Lead	6.50	0.200	"	"	"	"	"	"
Nickel	3.43	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	13.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.8	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	4.45	0.0500	"	"	"	"	"	"	
Sodium	1.58	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0724	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B01@3"
2410244-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.8			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.173	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.60			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B02@3"
2410244-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0331	82.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0413	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.18	73.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
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Reported:
10/31/24 12:03

SEP-B02@3"
2410244-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0192	57.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:02**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B02@3"
2410244-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.01	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	73.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.26	0.400	"	"	"	"	"	"
Lead	9.75	0.200	"	"	"	"	"	"
Nickel	6.69	0.400	"	"	"	"	"	"
Silver	0.0356	0.0200	"	"	"	"	"	"
Zinc	18.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.7	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	3.75	0.0500	"	"	"	"	"	"	
Sodium	0.697	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0275	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SEP-B02@3"
2410244-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	92.1			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.143	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.39			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

WH-B01@6'
2410244-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0373	93.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0410	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.6	92.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

WH-B01@6'
2410244-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0142	42.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0181	54.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

WH-B01@6'
2410244-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.09	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	75.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.67	0.400	"	"	"	"	"	"
Lead	7.26	0.200	"	"	"	"	"	"
Nickel	7.32	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	17.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.7	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	6.35	0.0500	"	"	"	"	"	"	
Sodium	26.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.22	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

WH-B01@6'
2410244-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.250	0.0100	mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.75		pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B01@4'
2410244-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0352	88.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.4	90.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B01@4'
2410244-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:14**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B01@4'
2410244-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.11	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	117	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.80	0.400	"	"	"	"	"	"
Lead	8.49	0.200	"	"	"	"	"	"
Nickel	9.42	0.400	"	"	"	"	"	"
Silver	0.0363	0.0200	"	"	"	"	"	"
Zinc	20.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	44.5	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	11.5	0.0500	"	"	"	"	"	"	
Sodium	11.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.380	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B01@4'
2410244-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.0			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.282	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.32			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B02@3'
2410244-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0377	94.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.96	79.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B02@3'
2410244-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0150	45.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:16**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B02@3'
2410244-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.81	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	84.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.03	0.400	"	"	"	"	"	"
Lead	7.23	0.200	"	"	"	"	"	"
Nickel	6.73	0.400	"	"	"	"	"	"
Silver	0.0311	0.0200	"	"	"	"	"	"
Zinc	18.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.0	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	3.00	0.0500	"	"	"	"	"	"	
Sodium	1.94	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0756	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

FL-B02@3'
2410244-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.156	0.0100	mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

AST-B01@6"
2410244-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0324	81.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.44	75.5 %	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

AST-B01@6"
2410244-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0181	54.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

AST-B01@6"
2410244-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.97	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	33.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.27	0.400	"	"	"	"	"	"
Lead	5.85	0.200	"	"	"	"	"	"
Nickel	3.82	0.400	"	"	"	"	"	"
Silver	0.0205	0.0200	"	"	"	"	"	"
Zinc	14.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	19.9	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	8.74	0.0500	"	"	"	"	"	"	
Sodium	5.89	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.277	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

AST-B01@6"
2410244-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	94.0			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.349	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

AST-B01@6"
2410244-06RE1 (Soil)

Summit Scientific

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

Date Sampled: **10/15/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	4.09			pH Units	1	BHJ1165	10/17/24	10/28/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-B01@5'
2410244-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0354	88.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0424	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.5	84.1 %	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-B01@5'
2410244-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0188	56.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:20**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-B01@5'
2410244-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.20	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	83.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.29	0.400	"	"	"	"	"	"
Lead	8.96	0.200	"	"	"	"	"	"
Nickel	7.90	0.400	"	"	"	"	"	"
Silver	0.0438	0.0200	"	"	"	"	"	"
Zinc	20.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.9	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	4.44	0.0500	"	"	"	"	"	"	
Sodium	4.13	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.169	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-B01@5'
2410244-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	86.9			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.190	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.34			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-S01@4'
2410244-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0351	87.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:24**

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

PAH by EPA Method 8270D SIM

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-S01@4'
2410244-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0139	41.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:24**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-S01@4'
2410244-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.56	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	62.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.57	0.400	"	"	"	"	"	"
Lead	7.69	0.200	"	"	"	"	"	"
Nickel	6.36	0.400	"	"	"	"	"	"
Silver	0.0347	0.0200	"	"	"	"	"	"
Zinc	18.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	111	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	5.45	0.0500	"	"	"	"	"	"	
Sodium	1.61	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0405	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PW-S01@4'
2410244-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.2			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.209	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:24**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.18			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B01@3'
2410244-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0343	85.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.1	80.5 %	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B01@3'
2410244-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.00603	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.00543	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	0.00516	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0201	60.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0264	79.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:30**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B01@3'
2410244-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.30	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	50.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.75	0.400	"	"	"	"	"	"
Lead	9.37	0.200	"	"	"	"	"	"
Nickel	4.67	0.400	"	"	"	"	"	"
Silver	0.0656	0.0200	"	"	"	"	"	"
Zinc	20.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.4	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	3.81	0.0500	"	"	"	"	"	"	
Sodium	1.57	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0714	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B01@3'
2410244-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.5			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.222	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.11			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B02@4'
2410244-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0299	74.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.28	66.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B02@4'
2410244-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0174	52.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0223	66.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B02@4'
2410244-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.70	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	72.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.67	0.400	"	"	"	"	"	"
Lead	8.09	0.200	"	"	"	"	"	"
Nickel	6.18	0.400	"	"	"	"	"	"
Silver	0.0245	0.0200	"	"	"	"	"	"
Zinc	18.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	47.5	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	6.62	0.0500	"	"	"	"	"	"	
Sodium	21.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.764	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B02@4'
2410244-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.2			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.389	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.04			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B03@3'
2410244-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0353	88.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B03@3'
2410244-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0174	52.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0233	70.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B03@3'
2410244-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.09	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	69.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.30	0.400	"	"	"	"	"	"
Lead	9.55	0.200	"	"	"	"	"	"
Nickel	6.82	0.400	"	"	"	"	"	"
Silver	0.0319	0.0200	"	"	"	"	"	"
Zinc	18.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.0	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	3.92	0.0500	"	"	"	"	"	"	
Sodium	8.11	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.355	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL1-B03@3'
2410244-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.1			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.230	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.21			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B01@3'
2410244-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0358	89.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.57	76.6 %	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B01@3'
2410244-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0178	53.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0248	74.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B01@3'
2410244-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.40	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	56.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.35	0.400	"	"	"	"	"	"
Lead	6.75	0.200	"	"	"	"	"	"
Nickel	5.38	0.400	"	"	"	"	"	"
Silver	0.0304	0.0200	"	"	"	"	"	"
Zinc	17.1	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	43.7	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	4.58	0.0500	"	"	"	"	"	"	
Sodium	1.83	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0704	0.00100	units	1	BHJ0888	10/22/24	10/22/24	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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B01@3'
2410244-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.9			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.152	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.35			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B02@4'
2410244-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0357	89.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.47	59.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B02@4'
2410244-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/21/24	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: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0248	74.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B02@4'
2410244-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.71	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	64.9	0.400	"	"	"	"	"	"
Cadmium	0.232	0.200	"	"	"	"	"	"
Copper	10.2	0.400	"	"	"	"	"	"
Lead	11.7	0.200	"	"	"	"	"	"
Nickel	5.76	0.400	"	"	"	"	"	"
Silver	0.123	0.0200	"	"	"	"	"	"
Zinc	24.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	122	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	5.76	0.0500	"	"	"	"	"	"	
Sodium	1.30	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0312	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:38**

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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

DL2-B02@4'
2410244-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.0	%	1	BHJ0664	10/17/24	10/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.206	0.0100	mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS01
2410244-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.15	73.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS01
2410244-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS01
2410244-17 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.27	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	73.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.87	0.400	"	"	"	"	"	"
Lead	10.1	0.200	"	"	"	"	"	"
Nickel	7.47	0.400	"	"	"	"	"	"
Silver	0.0335	0.0200	"	"	"	"	"	"
Zinc	20.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.4	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	3.35	0.0500	"	"	"	"	"	"	
Sodium	2.53	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.113	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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6855 W. 119th Ave.
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS01
2410244-17 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.0			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.189	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.28			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS02
2410244-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0331	82.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.27	66.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS02
2410244-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0218	65.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS02
2410244-18 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.94	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/19/24	EPA 6020B
Barium	80.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	8.24	0.400	"	"	"	"	"	"
Lead	14.2	0.200	"	"	"	"	"	"
Nickel	6.96	0.400	"	"	"	"	"	"
Silver	0.0254	0.0200	"	"	"	"	"	"
Zinc	19.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.7	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	5.39	0.0500	"	"	"	"	"	"	
Sodium	16.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.746	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS02
2410244-18 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.2			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.353	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.20			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS03
2410244-19 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHJ0713	10/17/24	10/18/24	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: **10/15/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0327	81.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHJ0717	10/17/24	10/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.99	71.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS03
2410244-19 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0669	10/17/24	10/19/24	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: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0229	68.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0638	10/16/24	10/18/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/15/24 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 - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS03
2410244-19 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.13	0.200	mg/kg dry	1	BHJ0764	10/18/24	10/20/24	EPA 6020B
Barium	73.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.69	0.400	"	"	"	"	"	"
Lead	8.24	0.200	"	"	"	"	"	"
Nickel	7.31	0.400	"	"	"	"	"	"
Silver	0.0381	0.0200	"	"	"	"	"	"
Zinc	20.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0686	10/17/24	10/18/24	EPA 7196A	

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

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.3	0.0500	mg/L dry	1	BHJ0710	10/17/24	10/22/24	EPA 6020B	
Magnesium	5.22	0.0500	"	"	"	"	"	"	
Sodium	2.85	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.126	0.00100	units	1	BHJ0888	10/22/24	10/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

SP-CS03
2410244-19 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.7			%	1	BHJ0664	10/17/24	10/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.273	0.0100		mmhos/cm	1	BHJ0711	10/17/24	10/18/24	EPA 120.1	

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

Date Sampled: **10/15/24 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.04			pH Units	1	BHJ0712	10/17/24	10/18/24	EPA 9045D	

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHJ0713 - EPA 5030 Soil MS

Blank (BHJ0713-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

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	0.0387		"	0.0400		96.7	50-150			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	50-150			

LCS (BHJ0713-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

Benzene	0.0866	0.0020	mg/kg	0.100		86.6	70-130			
Toluene	0.0936	0.0050	"	0.100		93.6	70-130			
Ethylbenzene	0.0973	0.0050	"	0.100		97.3	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.2	70-130			
o-Xylene	0.0960	0.0050	"	0.100		96.0	70-130			
1,2,4-Trimethylbenzene	0.0959	0.0050	"	0.100		95.9	70-130			
1,3,5-Trimethylbenzene	0.0940	0.0050	"	0.100		94.0	70-130			
Naphthalene	0.0834	0.0038	"	0.100		83.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0355		"	0.0400		88.8	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.4	50-150			

Matrix Spike (BHJ0713-MS1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

Benzene	0.0858	0.0020	mg/kg	0.100	ND	85.8	70-130			
Toluene	0.0932	0.0050	"	0.100	ND	93.2	70-130			
Ethylbenzene	0.0948	0.0050	"	0.100	ND	94.8	70-130			
m,p-Xylene	0.182	0.010	"	0.200	ND	91.2	70-130			
o-Xylene	0.0896	0.0050	"	0.100	ND	89.6	70-130			
1,2,4-Trimethylbenzene	0.0895	0.0050	"	0.100	ND	89.5	70-130			
1,3,5-Trimethylbenzene	0.0901	0.0050	"	0.100	ND	90.1	70-130			
Naphthalene	0.0742	0.0038	"	0.100	ND	74.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0363		"	0.0400		90.8	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0713 - EPA 5030 Soil MS

Matrix Spike Dup (BHJ0713-MSD1)		Source: 2410244-01			Prepared: 10/17/24 Analyzed: 10/18/24					
Benzene	0.0779	0.0020	mg/kg	0.100	ND	77.9	70-130	9.60	30	
Toluene	0.0850	0.0050	"	0.100	ND	85.0	70-130	9.19	30	
Ethylbenzene	0.0887	0.0050	"	0.100	ND	88.7	70-130	6.60	30	
m,p-Xylene	0.170	0.010	"	0.200	ND	85.1	70-130	6.93	30	
o-Xylene	0.0848	0.0050	"	0.100	ND	84.8	70-130	5.47	30	
1,2,4-Trimethylbenzene	0.0828	0.0050	"	0.100	ND	82.8	70-130	7.77	30	
1,3,5-Trimethylbenzene	0.0835	0.0050	"	0.100	ND	83.5	70-130	7.60	30	
Naphthalene	0.0703	0.0038	"	0.100	ND	70.3	70-130	5.36	30	
Surrogate: 1,2-Dichloroethane-d4		0.0330	"	0.0400		82.5	50-150			
Surrogate: Toluene-d8		0.0401	"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene		0.0387	"	0.0400		96.7	50-150			

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0717 - EPA 3550A

Blank (BHJ0717-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.7		"	12.5		110	30-150			

LCS (BHJ0717-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	441	50	mg/kg	500		88.2	70-130			
Surrogate: o-Terphenyl	13.2		"	12.5		106	30-150			

Matrix Spike (BHJ0717-MS1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	435	50	mg/kg	500	ND	87.1	70-130			
Surrogate: o-Terphenyl	10.7		"	12.5		85.6	30-150			

Matrix Spike Dup (BHJ0717-MSD1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

C10-C28 (DRO)	477	50	mg/kg	500	ND	95.4	70-130	9.15	20	
Surrogate: o-Terphenyl	12.0		"	12.5		96.1	30-150			

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Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0669 - EPA 5030 Soil MS

Blank (BHJ0669-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

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	0.0153		"	0.0333		46.0	40-150			
Surrogate: Fluoranthene-d10	0.0222		"	0.0333		66.6	40-150			

LCS (BHJ0669-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

Acenaphthene	0.0225	0.00500	mg/kg	0.0333		67.6	31-137			
Anthracene	0.0240	0.00500	"	0.0333		72.0	30-120			
Benzo (a) anthracene	0.0237	0.00500	"	0.0333		71.2	30-120			
Benzo (a) pyrene	0.0206	0.00500	"	0.0333		61.9	30-120			
Benzo (b) fluoranthene	0.0203	0.00500	"	0.0333		60.8	30-120			
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333		60.8	30-120			
Chrysene	0.0233	0.00500	"	0.0333		69.8	30-120			
Dibenz (a,h) anthracene	0.0229	0.00500	"	0.0333		68.6	30-120			
Fluoranthene	0.0231	0.00500	"	0.0333		69.4	30-120			
Fluorene	0.0224	0.00500	"	0.0333		67.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0216	0.00500	"	0.0333		64.9	30-120			
Pyrene	0.0242	0.00500	"	0.0333		72.5	35-142			
1-Methylnaphthalene	0.0192	0.00500	"	0.0333		57.7	35-142			
2-Methylnaphthalene	0.0202	0.00500	"	0.0333		60.6	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.3	40-150			
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.5	40-150			

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHJ0669 - EPA 5030 Soil MS

Matrix Spike (BHJ0669-MS1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/19/24

Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.8	31-137		
Anthracene	0.0232	0.00500	"	0.0333	ND	69.7	30-120		
Benzo (a) anthracene	0.0236	0.00500	"	0.0333	ND	70.9	30-120		
Benzo (a) pyrene	0.0210	0.00500	"	0.0333	ND	63.1	30-120		
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	30-120		
Benzo (k) fluoranthene	0.0230	0.00500	"	0.0333	ND	68.9	30-120		
Chrysene	0.0235	0.00500	"	0.0333	ND	70.6	30-120		
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333	ND	54.5	30-120		
Fluoranthene	0.0229	0.00500	"	0.0333	ND	68.8	30-120		
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120		
Indeno (1,2,3-cd) pyrene	0.0172	0.00500	"	0.0333	ND	51.7	30-120		
Pyrene	0.0252	0.00500	"	0.0333	ND	75.7	35-142		
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	53.9	15-130		
2-Methylnaphthalene	0.0178	0.00500	"	0.0333	ND	53.3	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0176		"	0.0333		52.9	40-150		
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.9	40-150		

Matrix Spike Dup (BHJ0669-MSD1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/19/24

Acenaphthene	0.0188	0.00500	mg/kg	0.0333	ND	56.3	31-137	15.5	30
Anthracene	0.0234	0.00500	"	0.0333	ND	70.3	30-120	0.800	30
Benzo (a) anthracene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	0.388	30
Benzo (a) pyrene	0.0215	0.00500	"	0.0333	ND	64.6	30-120	2.36	30
Benzo (b) fluoranthene	0.0230	0.00500	"	0.0333	ND	68.9	30-120	0.513	30
Benzo (k) fluoranthene	0.0229	0.00500	"	0.0333	ND	68.7	30-120	0.310	30
Chrysene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	0.703	30
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	2.69	30
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	0.820	30
Fluorene	0.0189	0.00500	"	0.0333	ND	56.6	30-120	16.1	30
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	2.85	30
Pyrene	0.0262	0.00500	"	0.0333	ND	78.6	35-142	3.77	30
1-Methylnaphthalene	0.0172	0.00500	"	0.0333	ND	51.5	15-130	4.50	50
2-Methylnaphthalene	0.0182	0.00500	"	0.0333	ND	54.6	15-130	2.50	50
Surrogate: 2-Methylnaphthalene-d10	0.0168		"	0.0333		50.5	40-150		
Surrogate: Fluoranthene-d10	0.0224		"	0.0333		67.1	40-150		

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0638 - EPA 3050B

Blank (BHJ0638-BLK1)

Prepared: 10/16/24 Analyzed: 10/18/24

Boron ND 2.00 mg/L

LCS (BHJ0638-BS1)

Prepared: 10/16/24 Analyzed: 10/18/24

Boron 5.15 2.00 mg/L 5.00 103 80-120

Duplicate (BHJ0638-DUP1)

Source: 2410203-30

Prepared: 10/16/24 Analyzed: 10/18/24

Boron 0.0847 2.00 mg/L 0.0566 39.8 20 QR-01

Matrix Spike (BHJ0638-MS1)

Source: 2410203-30

Prepared: 10/16/24 Analyzed: 10/18/24

Boron 5.21 2.00 mg/L 4.98 0.0566 103 75-125

Matrix Spike Dup (BHJ0638-MSD1)

Source: 2410203-30

Prepared: 10/16/24 Analyzed: 10/18/24

Boron 5.17 2.00 mg/L 4.98 0.0566 103 75-125 0.692 25

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0764 - EPA 3050B

Blank (BHJ0764-BLK1)

Prepared: 10/18/24 Analyzed: 10/19/24

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 (BHJ0764-BS1)

Prepared: 10/18/24 Analyzed: 10/19/24

Arsenic	38.3	0.200	mg/kg wet	39.7	96.5	80-120
Barium	41.9	0.400	"	39.7	106	80-120
Cadmium	2.06	0.200	"	1.98	104	80-120
Copper	38.1	0.400	"	39.7	96.1	80-120
Lead	20.7	0.200	"	19.8	104	80-120
Nickel	38.6	0.400	"	39.7	97.2	80-120
Silver	2.10	0.0200	"	1.98	106	80-120
Zinc	38.7	0.400	"	39.7	97.6	80-120
Selenium	3.80	0.260	"	3.97	95.7	80-120

Duplicate (BHJ0764-DUP1)

Source: 2410244-01

Prepared: 10/18/24 Analyzed: 10/19/24

Arsenic	2.07	0.200	mg/kg dry	1.53	29.5	20	QR-04
Barium	40.9	0.400	"	31.7	25.2	20	QR-04
Cadmium	0.121	0.200	"	0.0948	24.0	20	QR-01
Copper	5.44	0.400	"	4.28	23.9	20	QR-04
Lead	6.52	0.200	"	6.50	0.283	20	
Nickel	4.24	0.400	"	3.43	21.0	20	QR-04
Silver	0.0188	0.0200	"	0.0138	30.9	20	QR-01
Zinc	15.4	0.400	"	13.0	16.7	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0764 - EPA 3050B

Matrix Spike (BHJ0764-MS1)		Source: 2410244-01			Prepared: 10/18/24 Analyzed: 10/19/24					
Arsenic	44.2	0.200	mg/kg dry	44.9	1.53	95.2	75-125			
Barium	89.9	0.400	"	44.9	31.7	130	75-125			QM-05
Cadmium	2.31	0.200	"	2.24	0.0948	99.0	75-125			
Copper	48.2	0.400	"	44.9	4.28	98.0	75-125			
Lead	28.7	0.200	"	22.4	6.50	99.2	75-125			
Nickel	47.6	0.400	"	44.9	3.43	98.5	75-125			
Silver	2.18	0.0200	"	2.24	0.0138	96.4	75-125			
Zinc	48.2	0.400	"	44.9	13.0	78.5	75-125			
Selenium	4.15	0.260	"	4.49	ND	92.5	75-125			

Matrix Spike Dup (BHJ0764-MSD1)		Source: 2410244-01			Prepared: 10/18/24 Analyzed: 10/19/24					
Arsenic	45.1	0.200	mg/kg dry	45.6	1.53	95.5	75-125	1.89	25	
Barium	96.2	0.400	"	45.6	31.7	142	75-125	6.78	25	QM-05
Cadmium	2.44	0.200	"	2.28	0.0948	103	75-125	5.33	25	
Copper	48.8	0.400	"	45.6	4.28	97.7	75-125	1.21	25	
Lead	29.9	0.200	"	22.8	6.50	103	75-125	3.94	25	
Nickel	47.9	0.400	"	45.6	3.43	97.6	75-125	0.618	25	
Silver	2.28	0.0200	"	2.28	0.0138	99.6	75-125	4.77	25	
Zinc	46.3	0.400	"	45.6	13.0	73.0	75-125	4.12	25	QM-05
Selenium	4.31	0.260	"	4.56	ND	94.6	75-125	3.81	25	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0686 - 3060A Mod

Blank (BHJ0686-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0686-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 27.6 0.30 mg/kg wet 25.0 111 80-120

Duplicate (BHJ0686-DUP1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0686-MS1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 30.6 0.30 mg/kg dry 28.5 ND 108 75-125

Matrix Spike Dup (BHJ0686-MSD1)

Source: 2410244-01

Prepared: 10/17/24 Analyzed: 10/18/24

Chromium, Hexavalent 29.7 0.30 mg/kg dry 28.5 ND 104 75-125 3.02 20

Summit Scientific

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Tasman Geosciences
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Broomfield CO, 80020

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0710 - General Preparation

Blank (BHJ0710-BLK1)

Prepared: 10/17/24 Analyzed: 10/21/24

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

LCS (BHJ0710-BS1)

Prepared: 10/17/24 Analyzed: 10/21/24

Calcium	6.34	0.0500	mg/L wet	5.00	127	70-130
Magnesium	5.60	0.0500	"	5.00	112	70-130
Sodium	5.11	0.0500	"	5.00	102	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Civitas - HSR Ackard 5-2

Project Number: 24459

Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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

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

Batch BHJ0664 - General Preparation

Duplicate (BHJ0664-DUP1)			Source: 2410223-01			Prepared & Analyzed: 10/17/24				
% Solids	82.1		%			82.7		0.728	20	

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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 BHJ0711 - General Preparation

Blank (BHJ0711-BLK1)

Prepared: 10/17/24 Analyzed: 10/18/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0711-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

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

Duplicate (BHJ0711-DUP1)

Source: 2410240-01

Prepared: 10/17/24 Analyzed: 10/18/24

Specific Conductance (EC) 0.894 0.0100 mmhos/cm 0.897 0.279 20

Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

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

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

Batch BHJ0712 - General Preparation

LCS (BHJ0712-BS1)

Prepared: 10/17/24 Analyzed: 10/18/24

pH	9.15		pH Units	9.18		99.7	95-105		
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Duplicate (BHJ0712-DUP1)

Source: 2410240-01

Prepared: 10/17/24 Analyzed: 10/18/24

pH	8.11		pH Units		8.11			0.00	20
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Batch BHJ1165 - General Preparation

LCS (BHJ1165-BS1)

Prepared & Analyzed: 10/28/24

pH	9.13		pH Units	9.18		99.5	95-105		
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Duplicate (BHJ1165-DUP1)

Source: 2410119-01RE1

Prepared & Analyzed: 10/28/24

pH	10.4		pH Units		10.5			0.383	20
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Summit Scientific

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

Project: Civitas - HSR Ackard 5-2

Project Number: 24459
Project Manager: Sam Vogt

Reported:
10/31/24 12:03

Notes and Definitions

QR-04	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QR-01	Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
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