

Lumry 31-24 & 42-24

NENE Sec. 24-T1N-R69W

API #: 013-06576

Remediation Project #: 24482

Form 19 Data Package

May 2023

Prepared by Tasman, Inc.



On behalf of Crestone Peak Resources Operating, LLC



PHOTO LOG



Equipment ID:	Equipment Type:
Material:	Volume:
Contents:	

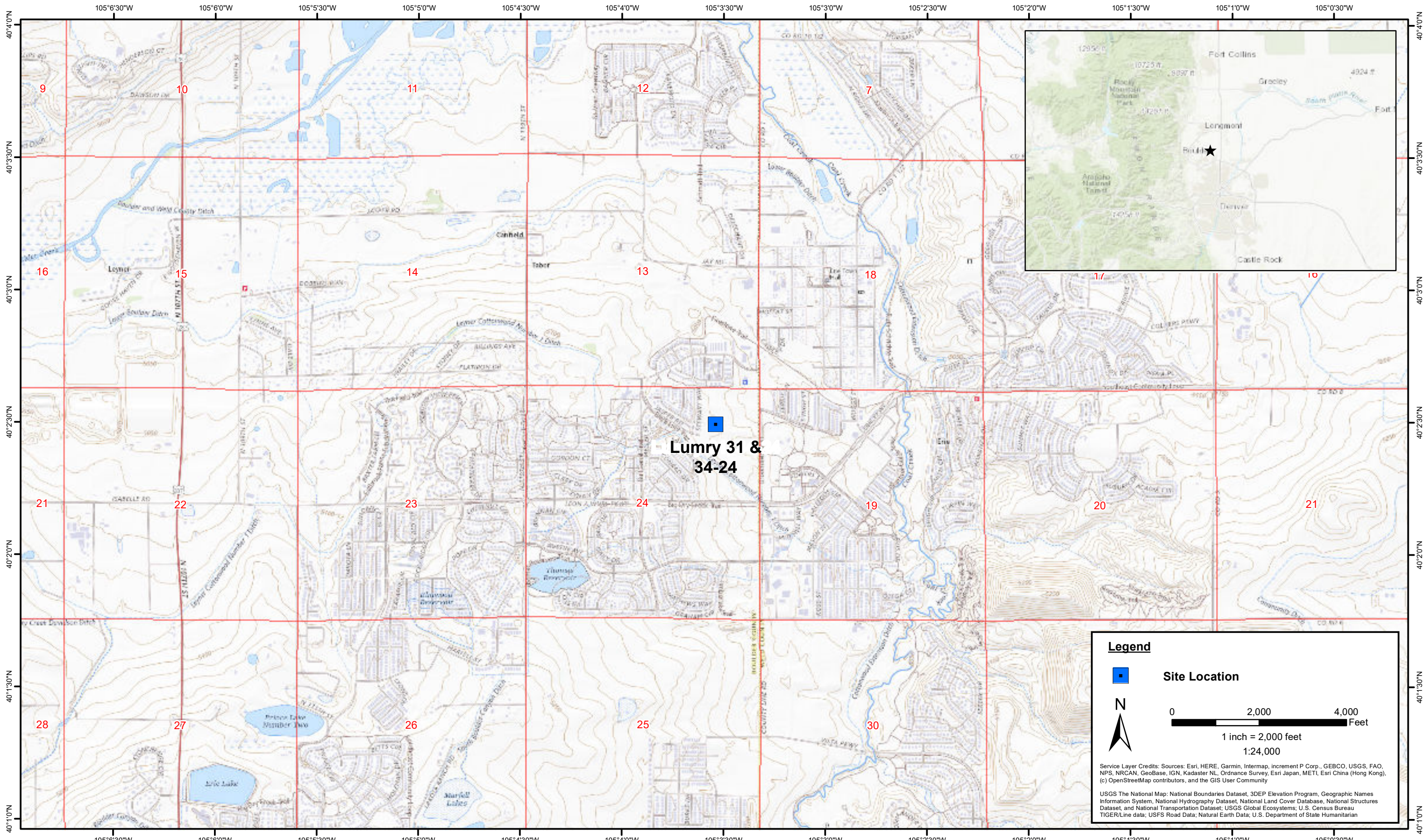
Notes/Conditions: Surrounded land use, facing E

Equipment ID:	Equipment Type:
Material:	Volume:
Contents:	

Notes/Conditions: Surrounded land use, facing W

					
Material:	Volume:	Contents:	Material:	Volume:	Contents:
Notes/Conditions: Soil screening and sampling locations, E			Notes/Conditions: Soil screening and sampling locations, N		

FIGURES



DATE:	June 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



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

Crestone Peak Resources Operating, LLC
Lumry 31 & 34-24
 NENE Sec. 24-T1N-R69W
 Boulder County, Colorado

Site Location Map

Figure
1



Legend

- Soil sample location – field screened
- Soil sample location – below COGCC Table 915-1 standards
- Soil sample location – exceeded COGCC Table 915-1 standards
- Excavation Extent
- Stockpile Location (Collected via Trimble GPS)

Notes

All locations are approximate unless otherwise noted.


GPS – Global Positioning System

COGCC – Colorado Oil & Gas Conservation Commission

0 ft. 10 ft. 20 ft.

Image Source: Google Earth

DATE:	June 5, 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	S. Vogt



Tasman, Inc.
6855 W. 119th Avenue
Broomfield, Colorado 80020

Crestone Peak Resources Operating, LLC
Lumry 31-24 & 42-24
 NENE Sec. 24-T1N-R69W
 Boulder County, Colorado

Soil Sample
Location Map

FIGURE
2

TABLES

TABLE 1
LUMRY 31-24 & 42-24
SOIL SAMPLE LOCATIONS
CRESTONE PEAK RESOURCES OPERATING, LLC



Soil Sample Location	Depth	Date	PID Reading (ppm)	Latitude	Longitude	GPS PDOP Value	Lab (Y/N)
31-24-WH-B01@8'	8'	05/15/2023	1.1	40.041561	-105.059106	0.9	Y
31-24-WH-E01@7'	7'	05/15/2023	1.0	40.041567	-105.059112	1	N
31-24-WH-N01@7'	7'	05/15/2023	0.7	40.041580	-105.059107	1.1	N
31-24-WH-S01@7'	7'	05/15/2023	319.5	40.041560	-105.059103	1.2	Y
31-24-WH-W01@7'	7'	05/15/2023	1.1	40.041567	-105.059105	1.1	N
42-24-WH-B01@8'	8'	05/15/2023	0.5	40.041435	-105.059085	1	Y
42-24-WH-E01@7'	7'	05/15/2023	0.1	40.041446	-105.059085	1.1	N
42-24-WH-N01@7'	7'	05/15/2023	0.5	40.041453	-105.059087	1.1	N
42-24-WH-S01@7'	7'	05/15/2023	0.3	40.041425	-105.059096	0.9	N
42-24-WH-W01@7'	7'	05/15/2023	0.4	40.041445	-105.059103	1.1	N
FL-B01@2'	2'	05/15/2023	0.2	40.041580	-105.059096	1	Y
FL-B02@6'	6'	05/15/2023	0.4	40.041449	-105.059091	1.3	Y
SP-CS01	-	05/15/2023	0.0	40.041404	-105.059155	-	Y
SP-CS02	-	05/15/2023	2.7	40.041611	-105.059165	-	Y

Notes:

PID = Photoionization Detector

ppm = parts per million

HC = Hydrocarbon

GPS = Global Positioning System

PDOP = Position Dilution of Precision

- = Not Applicable

TABLE 2
LUMRY 31-24 & 42-24
SOIL ANALYTICAL DATA - VOCs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Naphthalene (mg/kg)	TVPH-GRO (mg/kg)	TEPH-DRO (mg/kg)	TEPH-ORO (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
COGCC Organic Compounds in Soils ⁽¹⁾			0.0026	0.69	0.78	9.9	0.0038	500			0.0081	0.0087
COGCC Organic Compounds in Soils ⁽²⁾			1.2	490	5.8	58	2	500			30	27
31-24-WH-B01@8'	8'	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
31-24-WH-S01@7'	7'	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	0.0055	35	<50	<50	<0.0050	0.0054
42-24-WH-B01@8'	8'	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
FL-B01@2'	2'	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
FL-B02@6'	6'	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS01	-	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050
SP-CS02	-	05/15/2023	<0.0020	<0.0050	<0.0050	<0.010	<0.0038	<0.50	<50	<50	<0.0050	<0.0050

Notes:

VOCs = Volatile Organic Compounds

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

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = milligrams per kilogram

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

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

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

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

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

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

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

TABLE 3
LUMRY 31-24 & 42-24
SOIL ANALYTICAL DATA - PAHs
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo(a)A (mg/kg)	Benzo(b)F (mg/kg)	Benzo(k)F (mg/kg)	Benzo(a)P (mg/kg)	Chrysene (mg/kg)	D (a,h) A (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	Pyrene (mg/kg)
COGCC Organic Compounds in Soils ⁽¹⁾			0.55	5.8	0.011	0.3	2.9	0.24	9	0.96	8.9	0.54	0.98	0.006	0.019	1.3
COGCC Organic Compounds in Soils ⁽²⁾			360	1,800	1.1	1.1	11	0.11	110	0.11	240	240	1.1	18	24	180
31-24-WH-B01@8'	8'	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
31-24-WH-S01@7'	7'	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
42-24-WH-B01@8'	8'	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL-B01@2'	2'	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL-B02@6'	6'	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SP-CS01	-	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SP-CS02	-	05/15/2023	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Notes:

PAHs = Polycyclic Aromatic Hydrocarbons

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

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = milligrams per kilogram

Benzo(a)A = Benzo(a)Anthracene

Benzo(b)F = Benzo(b)Fluoranthene

Benzo(k)F = Benzo(k)Fluoranthene

Benzo(a)P = Benzo(a)Pyrene

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

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

1-M = 1-Methylnaphthalene

2-M = 2-Methylnaphthalene

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

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

TABLE 4
LUMRY 31-24 & 42-24
SOIL ANALYTICAL DATA - METALS
CRESTONE PEAK RESOURCES OPERATING, LLC

Soil Sample Location	Depth	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
COGCC Metals in Soils ⁽¹⁾			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
COGCC Metals in Soils ⁽²⁾			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
31-24-WH-B01@8'	8'	05/15/2023	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending

Notes:

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

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mg/kg = milligrams per kilogram

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

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

Average background concentration x1.25

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

* Result exceeded the COGCC Table 915-1 standard, but was within site-specific 1.25x background multiplier levels

**TABLE 5
LUMRY 31-24 & 42-24**



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

Soil Sample Location	Depth	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
COGCC Soil Suitability for Reclamation⁽¹⁾			6 - 8.3	< 6	< 4	2
31-24-WH-B01@8'	8'	05/15/2023	8.38	0.460	0.348	0.237
31-24-WH-S01@7'	7'	05/15/2023	7.78	0.544	0.472	0.339
42-24-WH-B01@8'	8'	05/15/2023	7.64	0.499	0.398	0.419
FL-B01@2'	2'	05/15/2023	7.65	0.427	0.379	0.167
FL-B02@6'	6'	05/15/2023	7.56	0.764	0.260	0.132
SP-CS01	-	05/15/2023	7.52	0.192	0.364	0.518
SP-CS02	-	05/15/2023	7.26	0.225	0.400	0.346

Notes:

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

COGCC = Colorado Oil and Gas Conservation Commission

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

mmhos/cm = millimhos per centimeter

mg/L = milligrams per liter

pH = Potential of Hydrogen

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

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

Average background concentration

* Result exceeded the COGCC Table 915-1 standard, but was within site-specific background concentrations

LABORATORY ANALYTICAL DATA

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 05, 2023

Sam Vogt

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Civitas - Lumry 42-24 & 31-24 WH

Work Order #2305385

Enclosed are the results of analyses for samples received by Summit Scientific on 05/16/23 17:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
31-24-WH-B01@8'	2305385-01	Soil	05/15/23 12:20	05/16/23 17:57
31-24-WH-S01@7'	2305385-02	Soil	05/15/23 12:28	05/16/23 17:57
42-24-WH-B01@8'	2305385-03	Soil	05/15/23 12:40	05/16/23 17:57
SP-CS01	2305385-04	Soil	05/15/23 12:52	05/16/23 17:57
SP-CS02	2305385-05	Soil	05/15/23 12:56	05/16/23 17:57
FL-B01@2'	2305385-06	Soil	05/15/23 13:00	05/16/23 17:57
FL-B02@6'	2305385-07	Soil	05/15/23 13:06	05/16/23 17:57

Summit Scientific

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

Send Data To:		Send Invoice To:	
Client: Civitas/Tasman	Project Manager: Sam Vogt/Jacob Evans	Company:	
Address: 6855 W. 119th Ave	E-Mail: svgot@tasman-geo.com; jevans@civiresources.com	Project Name/Location:	
City/State/Zip: Broomfield, CO 80020	Project Name: <i>Lumry 42-24 & 31-24 WH</i>	AFE#: <i>42-24 → 22263 ; 31-24 → 22270</i>	
Phone: PM (610) 405-9078	Project Number:	PO/Billing Codes: <i>8523.198</i>	
Sampler Name: <i>Chris Girardi</i>		Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 + 1,3,5 TMBS	TPH (GRO, DRO, ORO)	PAHs	pH, EC, SAR	Boron		Metals		
1	<i>31-24-WH-BØ1 @ 8'</i>	<i>5/15/23</i>	<i>1220</i>	<i>3</i>			<i>X</i>			<i>X</i>			<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>		pH, EC, SAR by Saturated paste preparation method Boron by Hot Water Soluble preparation Method Table 915 Metals - As, Ba, Cd, Cu, Pb, Ni, Se, Ag, Zn, Cr VI		
2	<i>31-24-WH-SØ1 @ 7'</i>		<i>1228</i>																			
3	<i>42-24-WH-BØ1 @ 8'</i>		<i>1240</i>																			
4	<i>SP-CØØ1</i>		<i>1252</i>																			
5	<i>SP-CØØ2</i>		<i>1256</i>																			
6	<i>FL-BØ1 @ 2'</i>		<i>1300</i>																			
7	<i>FL-BØ2 @ 6'</i>		<i>1306</i>																			
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: <i>Chris Girardi</i>	Date/Time: <i>5/16/23 0815</i>	Received by: Tasman Lockbox	Date/Time: <i>5/16/23 0815</i>	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: <i>5/16/23 1757</i>	Received by: <i>[Signature]</i>	Date/Time: <i>5/16/23 1757</i>	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: <i>11-1</i>	Corrected Temperature: <i>[Signature]</i>	IR gun #: <i>1</i>	HNO3 lot #: _____	Standard	<input checked="" type="checkbox"/> Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2305385

Client: Carter Lawman Client Project ID: Lumry 42-24 & 31-24 WH

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

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

Temp (°C) Thermometer #

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

Additional Comments (if any):

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

AS

Custodian Printed Name

5/18/23

Date/Time



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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-B01@8'
2305385-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0618	05/17/23	05/18/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0459	115 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0438	110 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	18.4	147 %		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 - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-B01@8'
2305385-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0194	58.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0217	65.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.237	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 12:20**

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

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-B01@8'
2305385-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	184	0.0555	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	35.3	0.0555	"	"	"	"	"	"	
Sodium	26.0	0.0555	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.460	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.348	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.38		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-S01@7'
2305385-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/18/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.0054	0.0050	"	"	"	"	"	"	
Naphthalene	0.0055	0.0038	"	"	"	"	06/01/23	"	
Gasoline Range Hydrocarbons	35	0.50	"	"	"	"	05/18/23	"	

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0376	94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0480	120 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.8	111 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-S01@7'
2305385-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	54.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0181	54.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.339	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 12:28**

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

31-24-WH-S01@7'
2305385-02 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	420	0.0572	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	75.5	0.0572	"	"	"	"	"	"	
Sodium	46.1	0.0572	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.544	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.472	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 12:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.78		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

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Broomfield CO, 80020

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

42-24-WH-B01@8'
2305385-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/19/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0422	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0435	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.9	95.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

42-24-WH-B01@8'
2305385-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.419	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 12:40**

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

42-24-WH-B01@8'
2305385-03 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.4	0.0571	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	7.29	0.0571	"	"	"	"	"	"	
Sodium	12.6	0.0571	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.499	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.5		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.398	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.64		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS01
2305385-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/19/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0434	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.13	73.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS01
2305385-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0199	59.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0209	62.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.518	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 12:52**

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

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS01
2305385-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	408	0.0567	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	57.0	0.0567	"	"	"	"	"	"	
Sodium	15.6	0.0567	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.192	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.1		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.364	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.52		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS02
2305385-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/19/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0425	106 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0436	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.4	99.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS02
2305385-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.346	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 12:56**

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 - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

SP-CS02
2305385-05 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	298	0.0562	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	58.4	0.0562	"	"	"	"	"	"	"
Sodium	16.2	0.0562	"	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.225	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.400	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 12:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.26		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B01@2'
2305385-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/19/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0428	107 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.2	97.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B01@2'
2305385-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0169	50.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.167	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 13:00**

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B01@2'
2305385-06 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	261	0.0572	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	40.7	0.0572	"	"	"	"	"	"	
Sodium	28.1	0.0572	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.427	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.5		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.379	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.65		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B02@6'
2305385-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0618	05/17/23	05/19/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0417	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0436	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0619	05/17/23	05/18/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	99.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B02@6'
2305385-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0635	05/18/23	05/22/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0153	45.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0150	45.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.132	0.0100	mg/L	1	BGE0783	05/23/23	05/24/23	EPA 6020B	

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

Date Sampled: **05/15/23 13:06**

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 - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

FL-B02@6'
2305385-07 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.2	0.0587	mg/L dry	1	BGE0768	05/22/23	05/25/23	EPA 6020B	
Magnesium	5.88	0.0587	"	"	"	"	"	"	
Sodium	16.4	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.764	0.00100	units	1	BGE0946	05/26/23	05/26/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.2		%	1	BGE0740	05/22/23	05/22/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.260	0.0100	mmhos/cm	1	BGE0806	05/23/23	05/23/23	EPA 120.1	

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

Date Sampled: **05/15/23 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.56		pH Units	1	BGE0805	05/23/23	05/23/23	EPA 9045D	

Summit Scientific

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

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGE0618 - EPA 5030 Soil MS

Blank (BGE0618-BLK1)

Prepared: 05/17/23 Analyzed: 05/18/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0428		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0436		"	0.0400		109	50-150			

LCS (BGE0618-BS1)

Prepared: 05/17/23 Analyzed: 05/18/23

Benzene	0.126	0.0020	mg/kg	0.125		101	70-130			
Toluene	0.145	0.0050	"	0.125		116	70-130			
Ethylbenzene	0.124	0.0050	"	0.125		98.8	70-130			
m,p-Xylene	0.322	0.010	"	0.250		129	70-130			
o-Xylene	0.140	0.0050	"	0.125		112	70-130			
1,2,4-Trimethylbenzene	0.123	0.0050	"	0.125		98.1	70-130			
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.125		96.2	70-130			
Naphthalene	0.124	0.0038	"	0.125		99.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0413		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	50-150			

Matrix Spike (BGE0618-MS1)

Source: 2305357-01

Prepared: 05/17/23 Analyzed: 05/18/23

Benzene	0.113	0.0020	mg/kg	0.125	ND	90.8	70-130			
Toluene	0.140	0.0050	"	0.125	ND	112	70-130			
Ethylbenzene	0.149	0.0050	"	0.125	ND	119	70-130			
m,p-Xylene	0.292	0.010	"	0.250	ND	117	70-130			
o-Xylene	0.132	0.0050	"	0.125	ND	106	70-130			
1,2,4-Trimethylbenzene	0.147	0.0050	"	0.125	ND	118	70-130			
1,3,5-Trimethylbenzene	0.151	0.0050	"	0.125	ND	120	70-130			
Naphthalene	0.124	0.0038	"	0.125	ND	98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	50-150			

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

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

Batch BGE0618 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0618-MSD1)	Source: 2305357-01			Prepared: 05/17/23 Analyzed: 05/18/23						
Benzene	0.112	0.0020	mg/kg	0.125	ND	89.4	70-130	1.55	30	
Toluene	0.140	0.0050	"	0.125	ND	112	70-130	0.343	30	
Ethylbenzene	0.146	0.0050	"	0.125	ND	117	70-130	1.81	30	
m,p-Xylene	0.285	0.010	"	0.250	ND	114	70-130	2.65	30	
o-Xylene	0.131	0.0050	"	0.125	ND	105	70-130	0.934	30	
1,2,4-Trimethylbenzene	0.147	0.0050	"	0.125	ND	118	70-130	0.387	30	
1,3,5-Trimethylbenzene	0.148	0.0050	"	0.125	ND	118	70-130	2.01	30	
Naphthalene	0.124	0.0038	"	0.125	ND	99.3	70-130	0.436	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0451</i>		<i>"</i>	<i>0.0400</i>		<i>113</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0426</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGE0619 - EPA 3550A

Blank (BGE0619-BLK1)

Prepared: 05/17/23 Analyzed: 05/18/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.4		"	12.5		115		30-150			

LCS (BGE0619-BS1)

Prepared: 05/17/23 Analyzed: 05/18/23

C10-C28 (DRO)	401	50	mg/kg	500		80.1		70-130			
Surrogate: <i>o</i> -Terphenyl	9.84		"	12.5		78.7		30-150			

Matrix Spike (BGE0619-MS1)

Source: 2305357-01

Prepared: 05/17/23 Analyzed: 05/18/23

C10-C28 (DRO)	502	50	mg/kg	500	ND	100		70-130			
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		101		30-150			

Matrix Spike Dup (BGE0619-MSD1)

Source: 2305357-01

Prepared: 05/17/23 Analyzed: 05/18/23

C10-C28 (DRO)	434	50	mg/kg	500	ND	86.7		70-130	14.6	20	
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.7		30-150			

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0635 - EPA 5030 Soil MS

Blank (BGE0635-BLK1)

Prepared: 05/18/23 Analyzed: 05/22/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0373</i>		"	<i>0.0333</i>		<i>112</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0338</i>		"	<i>0.0333</i>		<i>102</i>	<i>40-150</i>			

LCS (BGE0635-BS1)

Prepared: 05/18/23 Analyzed: 05/22/23

Acenaphthene	0.0308	0.00500	mg/kg	0.0333	92.5	31-137
Anthracene	0.0313	0.00500	"	0.0333	93.8	30-120
Benzo (a) anthracene	0.0279	0.00500	"	0.0333	83.7	30-120
Benzo (a) pyrene	0.0252	0.00500	"	0.0333	75.7	30-120
Benzo (b) fluoranthene	0.0229	0.00500	"	0.0333	68.8	30-120
Benzo (k) fluoranthene	0.0295	0.00500	"	0.0333	88.5	30-120
Chrysene	0.0335	0.00500	"	0.0333	101	30-120
Dibenz (a,h) anthracene	0.0220	0.00500	"	0.0333	66.1	30-120
Fluoranthene	0.0311	0.00500	"	0.0333	93.4	30-120
Fluorene	0.0300	0.00500	"	0.0333	90.0	30-120
Indeno (1,2,3-cd) pyrene	0.0210	0.00500	"	0.0333	63.0	30-120
Pyrene	0.0315	0.00500	"	0.0333	94.5	35-142
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	67.6	35-142
2-Methylnaphthalene	0.0263	0.00500	"	0.0333	78.8	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0295</i>		"	<i>0.0333</i>	<i>88.4</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0306</i>		"	<i>0.0333</i>	<i>91.7</i>	<i>40-150</i>

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Broomfield CO, 80020

Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

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

Batch BGE0635 - EPA 5030 Soil MS

Matrix Spike (BGE0635-MS1)	Source: 2305382-01			Prepared: 05/18/23 Analyzed: 05/22/23							
Acenaphthene	0.0208	0.00500	mg/kg	0.0333	ND	62.5	31-137				
Anthracene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Benzo (a) anthracene	0.0234	0.00500	"	0.0333	ND	70.3	30-120				
Benzo (a) pyrene	0.0214	0.00500	"	0.0333	ND	64.3	30-120				
Benzo (b) fluoranthene	0.0190	0.00500	"	0.0333	ND	56.9	30-120				
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.8	30-120				
Chrysene	0.0233	0.00500	"	0.0333	ND	69.9	30-120				
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333	ND	54.1	30-120				
Fluoranthene	0.0230	0.00500	"	0.0333	0.00198	63.1	30-120				
Fluorene	0.0206	0.00500	"	0.0333	ND	61.8	30-120				
Indeno (1,2,3-cd) pyrene	0.0183	0.00500	"	0.0333	ND	54.9	30-120				
Pyrene	0.0224	0.00500	"	0.0333	0.00259	59.4	35-142				
1-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	65.9	15-130				
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.4	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0210</i>		<i>"</i>	<i>0.0333</i>		<i>62.9</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0247</i>		<i>"</i>	<i>0.0333</i>		<i>74.1</i>	<i>40-150</i>				

Matrix Spike Dup (BGE0635-MSD1)	Source: 2305382-01			Prepared: 05/18/23 Analyzed: 05/22/23							
Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.0	31-137	5.82	30		
Anthracene	0.0202	0.00500	"	0.0333	ND	60.7	30-120	14.4	30		
Benzo (a) anthracene	0.0216	0.00500	"	0.0333	ND	64.7	30-120	8.25	30		
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	ND	60.7	30-120	5.63	30		
Benzo (b) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	6.65	30		
Benzo (k) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	11.6	30		
Chrysene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	13.8	30		
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	4.14	30		
Fluoranthene	0.0205	0.00500	"	0.0333	0.00198	55.6	30-120	11.4	30		
Fluorene	0.0190	0.00500	"	0.0333	ND	57.1	30-120	7.89	30		
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	3.19	30		
Pyrene	0.0204	0.00500	"	0.0333	0.00259	53.4	35-142	9.47	30		
1-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.3	15-130	8.84	50		
2-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.3	15-130	8.79	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		<i>"</i>	<i>0.0333</i>		<i>60.5</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0215</i>		<i>"</i>	<i>0.0333</i>		<i>64.5</i>	<i>40-150</i>				

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Project: Civitas - Lumry 42-24 & 31-24 WH
Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

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

Batch BGE0783 - EPA 3050B

Blank (BGE0783-BLK1)

Prepared: 05/23/23 Analyzed: 05/24/23

Boron ND 0.0100 mg/L

LCS (BGE0783-BS1)

Prepared: 05/23/23 Analyzed: 05/24/23

Boron 4.06 0.0100 mg/L 5.00 81.3 80-120

Duplicate (BGE0783-DUP1)

Source: 2305374-01

Prepared: 05/23/23 Analyzed: 05/24/23

Boron 0.210 0.0100 mg/L 0.216 2.77 20

Matrix Spike (BGE0783-MS1)

Source: 2305374-01

Prepared: 05/23/23 Analyzed: 05/24/23

Boron 4.31 0.0100 mg/L 5.00 0.216 81.9 75-125

Matrix Spike Dup (BGE0783-MSD1)

Source: 2305374-01

Prepared: 05/23/23 Analyzed: 05/24/23

Boron 4.44 0.0100 mg/L 5.00 0.216 84.4 75-125 2.82 25

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

Summit Scientific

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

Batch BGE0768 - General Preparation

Blank (BGE0768-BLK1)

Prepared: 05/22/23 Analyzed: 05/25/23

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

LCS (BGE0768-BS1)

Prepared: 05/22/23 Analyzed: 05/25/23

Calcium	3.89	0.0500	mg/L wet	5.00	77.7	70-130
Magnesium	5.42	0.0500	"	5.00	108	70-130
Sodium	5.52	0.0500	"	5.00	110	70-130

Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

Summit Scientific

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

Batch BGE0740 - General Preparation

Duplicate (BGE0740-DUP1)	Source: 2305380-01			Prepared & Analyzed: 05/22/23							
% Solids	97.4		%		97.3				0.197	20	

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Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

Summit Scientific

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

Batch BGE0806 - General Preparation

Blank (BGE0806-BLK1)

Prepared & Analyzed: 05/23/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGE0806-BS1)

Prepared & Analyzed: 05/23/23

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BGE0806-DUP1)

Source: 2305380-01

Prepared & Analyzed: 05/23/23

Specific Conductance (EC) 0.314 0.0100 mmhos/cm 0.320 1.80 20

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Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

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

Summit Scientific

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

Batch BGE0805 - General Preparation

LCS (BGE0805-BS1)

Prepared & Analyzed: 05/23/23

pH	9.08	pH Units	9.18	98.9	95-105
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Duplicate (BGE0805-DUP1)

Source: 2305380-01

Prepared & Analyzed: 05/23/23

pH	7.78	pH Units	7.80	0.257	20
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Summit Scientific

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Project: Civitas - Lumry 42-24 & 31-24 WH

Project Number: 42-24-22263 31-24-22270
Project Manager: Sam Vogt

Reported:
06/05/23 12:17

Notes and Definitions

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