

# **SITE ASSESSMENT REPORT**

## **LILLI UNIT O-5 FACILITY**

**ECMC SPILL TRACKING # 482192**

**ECMC REMEDIATION # 20862**

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



6855 W. 119<sup>th</sup> Ave  
Broomfield, CO 80020

## **TABLES**

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS02@2.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS03@2.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS04@2.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
FS01@3.5'	05/03/22	<0.0020	<0.0050	<0.0050	0.023	0.027	0.0078	0.0070	0.62	<50	<50	<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	
AST01@0.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
AST02@0.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
AST03@0.5'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SEP01-FL@3'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SEP01-DL@3'	05/03/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	51	<50	<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	
BH06@6'	09/20/22	0.0071	0.013	0.21	53	2.1	0.6																		

TABLE 1  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - LILLI UNIT O-5 FACILITY

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	05/03/22	7.77	2.90	2.75	0.146
SS02@2.5'	05/03/22	8.24	2.21	0.564	NA
SS03@2.5'	05/03/22	8.12	1.40	0.542	NA
SS04@2.5'	05/03/22	8.18	2.50	0.689	NA
FS01@3.5'	05/03/22	7.91	1.49	1.22	0.0837
AST01@0.5'	05/03/22	8.29	3.83	0.505	0.0915
AST02@0.5'	05/03/22	7.75	2.12	2.32	0.0659
AST03@0.5'	05/03/22	8.00	1.38	0.530	0.0945
SEP01-FL@3'	05/03/22	8.17	6.18	1.20	0.226
SEP01-DL@3'	05/03/22	8.15	2.87	0.779	0.0765
BG01@2.5'	05/03/22	NA	4.46	NA	NA
BG01@3.5'	05/03/22	NA	5.02	NA	NA
BH01@5'	08/10/22	NA	0.604	NA	NA
BH02@3'	08/10/22	NA	2.54	NA	NA
BH02@5'	08/10/22	NA	4.37	NA	NA
BH03@3'	08/10/22	NA	2.61	NA	NA
BH03@5'	08/10/22	NA	8.84	NA	NA
BH04@3'	08/10/22	NA	5.54	NA	NA
BH04@5'	08/10/22	NA	7.41	NA	NA
BH05@3'	08/10/22	NA	2.13	NA	NA
BH05@5'	08/10/22	NA	1.63	NA	NA
BG02@3.5'	08/10/22	NA	4.03	NA	NA
BG02@5'	08/10/22	NA	10.0	NA	NA
BG03@3.5'	08/10/22	NA	4.67	NA	NA
BG03@5'	08/10/22	NA	8.61	NA	NA
BG04@3.5'	08/10/22	NA	5.60	NA	NA
BG04@5'	08/10/22	NA	7.52	NA	NA
BG05@3.5'	08/10/22	NA	2.97	NA	NA
BG05@5'	08/10/22	NA	5.52	NA	NA
BG06@3.5'	08/10/22	NA	4.58	NA	NA
BG06@5'	08/10/22	NA	6.63	NA	NA
BH06@6'	09/20/22	7.66	1.17	0.0991	0.130
BH06@10'	09/20/22	7.75	1.55	3.75	0.219
BH06@9-10'	11/04/22	8.05	7.57	1.72	0.120
BH06@14-15'	11/04/22	5.08	6.30	3.60	0.127
BH07@5-6'	11/04/22	8.27	10.2	1.44	0.217
BH07@10-11'	11/04/22	7.92	10.9	1.68	0.120
BH08@4-6'	11/04/22	8.17	6.82	1.58	0.107
BH08@9-10'	11/04/22	7.78	6.98	1.29	0.0898
BH09@4-6'	11/04/22	7.47	4.03	3.68	0.190
BH09@8-10'	11/04/22	8.26	9.32	2.28	0.127
BH10@4-6'	11/04/22	8.49	3.18	0.337	0.0497
BH10@8-10'	11/04/22	7.81	9.62	2.57	0.240
BH09R@19-20'	12/21/22	6.14	5.56	3.31	0.448
BH10R@24-25'	12/21/22	8.20	7.26	1.85	0.107
BH14@8-10'	12/21/22	7.67	5.89	4.39	1.11
BH14@24-25'	12/21/22	8.11	6.72	2.19	0.174
BH11@8-10'	01/09/23	7.28	9.12	6.68	0.489
BH11@13-15'	01/09/23	4.75	8.30	3.24	0.0972
BH11@19-20'	01/09/23	7.78	8.52	2.71	0.104
BH11@24-25'	01/09/23	7.69	9.28	2.32	0.0332
BH12@8-10'	01/09/23	8.23	12.9	2.02	0.480
BH12@13-15'	01/09/23	4.74	8.77	4.92	0.0786
BH12@19-20'	01/09/23	5.18	6.20	5.48	0.0587
BH12@24-25'	01/09/23	7.78	9.35	2.84	<0.0100
BH13@8-10'	01/09/23	8.38	14.3	1.61	0.418
BH13@13-15'	01/09/23	6.47	9.98	4.32	0.0929
BH13@19-20'	01/09/23	4.47	7.51	4.66	0.0825
BH13@24-25'	01/09/23	7.69	8.52	2.85	0.0316

Soil Sample ID	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)
Residential SSL <sup>2</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>2,3</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FS01@3.5'	05/03/22	4.10	252	<0.269	<0.30	7.29	13.7	5.41	1.02	0.0579	23.5
BG01@3.5'	05/03/22	3.26	192	<0.249	<0.30	7.20	12.8	5.70	0.971	0.0593	24.6
BG02@3.5'	08/10/22	2.49	183	NA	NA	NA	NA	NA	0.710	NA	NA
BG02@5'	08/10/22	3.84	269	NA	NA	NA	NA	NA	0.844	NA	NA
BG03@3.5'	08/10/22	3.14	262	NA	NA	NA	NA	NA	0.675	NA	NA
BG03@5'	08/10/22	3.38	218	NA	NA	NA	NA	NA	0.808	NA	NA
BG04@3.5'	08/10/22	2.95	312	NA	NA	NA	NA	NA	0.708	NA	NA
BG04@5'	08/10/22	3.36	258	NA	NA	NA	NA	NA	0.744	NA	NA
BG05@3.5'	08/10/22	2.62	217	NA	NA	NA	NA	NA	0.697	NA	NA
BG05@5'	08/10/22	3.08	247	NA	NA	NA	NA	NA	0.691	NA	NA
BG06@3.5'	08/10/22	3.02	558	NA	NA	NA	NA	NA	0.757	NA	NA
BG06@5'	08/10/22	2.80	248	NA	NA	NA	NA	NA	0.725	NA	NA
BH06@6'	09/20/22	4.30	241	<0.277	<0.30	15.7	23.7	8.88	1.30	0.0457	32.0
BH06@10'	09/20/22	6.69	43.3	<0.283	<0.30	11.1	19.0	3.15	1.56	0.0757	24.8
BH06@9-10'	11/04/22	4.39	35.2	<0.296	<0.30	4.87	10.8	1.25	<0.385	<0.0296	12.6
BH06@14-15'	11/04/22	9.14	26.5	<0.270	<0.30	12.5	12.9	2.16	0.911	0.136	9.44
BH07@5-6'	11/04/22	13.7	139	0.301	<0.30	6.63	18.7	2.33	<0.376	0.0636	15.8
BH07@10-11'	11/04/22	5.50	40.2	0.382	<0.30	5.29	48.9	2.32	<0.342	0.0368	16.9
BH08@4-6'	11/04/22	10.1	121	0.319	<0.30	7.33	20.1	2.03	<0.392	0.0549	20.1
BH08@9-10'	11/04/22	4.43	21.2	0.447	<0.30	5.13	16.7	1.63	<0.385	0.0551	17.5
BH09@4-6'	11/04/22	28.5	56.8	0.309	<0.30	8.64	20.4	1.77	<0.383	0.0612	19.0
BH09@8-10'	11/04/22	8.35	24.3	0.334	<0.30	5.99	24.0	1.65	<0.384	0.0425	17.0
BH10@4-6'	11/04/22	11.0	82.8	<0.290	<0.30	7.78	19.3	2.36	<0.377	0.0475	16.0
BH10@8-10'	11/04/22	9.43	14.6	0.362	<0.30	5.85	20.2	1.68	<0.349	0.0343	17.0
BH09R@19-20'	12/21/22	10.0	22.7	<0.267	<0.30	15.3	9.98	2.32	4.99	0.0661	15.8
BH10R@24-25'	12/21/22	<0.275	12.3	<0.275	<0.30	14.2	10.8	1.54	0.775	<0.0275	6.10
BH14@8-10'	12/21/22	3.27	19.9	<0.277	<0.30	8.11	14.6	1.70	1.89	0.130	19.6
BH14@24-25'	12/21/22	0.801	15.1	0.981	<0.30	15.7	16.8	3.04	1.34	0.107	7.81
BH11@8-10'	01/09/23	3.39	24.1	0.0590	<0.30	6.92	17.2	1.53	0.936	0.0517	16.9
BH11@13-15'	01/09/23	7.22	46.4	0.0257	<0.30	12.1	23.8	2.41	1.54	0.0396	16.1
BH11@19-20'	01/09/23	1.27	20.7	1.10	<0.30	13.4	16.4	13.1	0.806	0.0456	10.0
BH11@24-25'	01/09/23	<0.313	11.6	0.0316	<0.30	15.6	12.3	1.75	1.19	0.0720	6.26
BH12@8-10'	01/09/23	11.6	34.1	0.143	<0.30	8.31	18.6	3.05	0.674	0.0726	21.4
BH12@13-15'	01/09/23	9.38	20.6	0.0189	<0.30	8.86	23.5	2.10	1.81	0.0288	12.2
BH12@19-20'	01/09/23	2.19	17.0	0.0238	<0.30	10.8	4.69	1.87	0.620	0.0400	9.94
BH12@24-25'	01/09/23	0.512	11.5	0.270	<0.30	15.6	12.0	2.05	1.91	0.197	6.59
BH13@8-10'	01/09/23	4.58	25.4	0.133	<0.30	7.08	14.3	2.08	0.766	0.0603	19.7
BH13@13-15'	01/09/23	9.83	16.2	0.0280	<0.30	11.7	15.7	2.22	0.806	0.0345	14.4
BH13@19-20'	01/09/23	15.8	14.7	0.0278	<0.30	10.4	8.34	1.62	0.597	0.0519	14.1
BH13@19-20'	01/09/23	2.56	8.93	0.715	<0.30	18.0	13.8	11.4	3.44	0.0649	14.2

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.

2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.

3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission

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

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

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

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

Benz(a) = Benzanthracene

TPH-ORO = Total petroleum hydrocarbons - oil range organics

Benzo(b) = Benzofluoranthene

mg/kg = Milligrams per kilogram

Benzo(k) = Benzofluoranthene

SAR = Sodium Adsorption Ratio

Benzo(a) = Benzopyrene

EC = Electrical Conductivity

A,H = Dibenzoanthracene

mmhos/cm = Millimhos per centimeter

1,2,3-CD = Indenopyrene

mg/L = Milligrams per liter

1-M = 1-methylnaphthalene

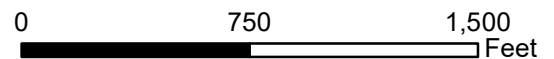
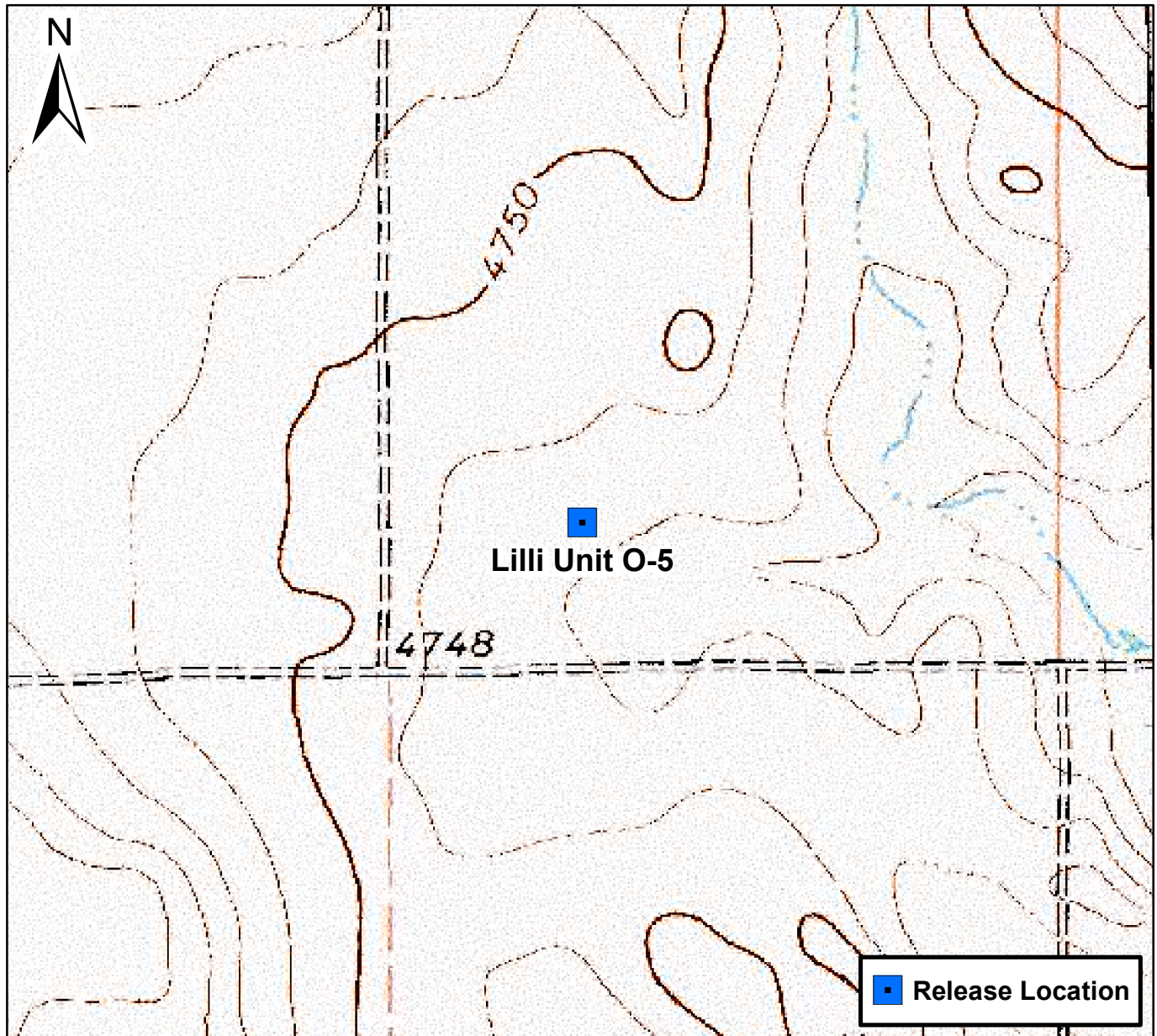
< = Analytical result is less than the indicated laboratory reporting limit

2-M = 2-methylnaphthalene

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

NA = Not Analyzed

## **FIGURES**

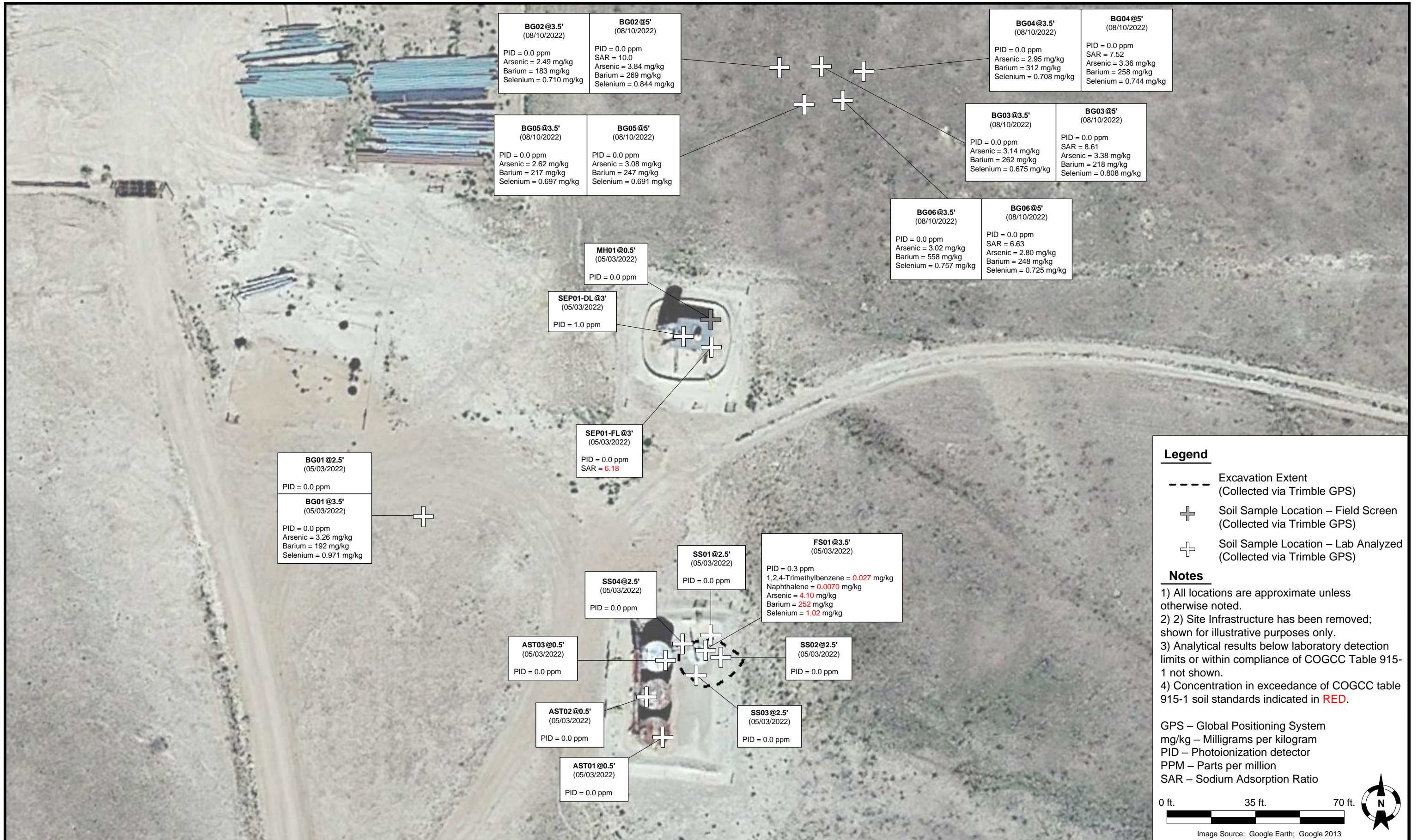


**Figure 1**

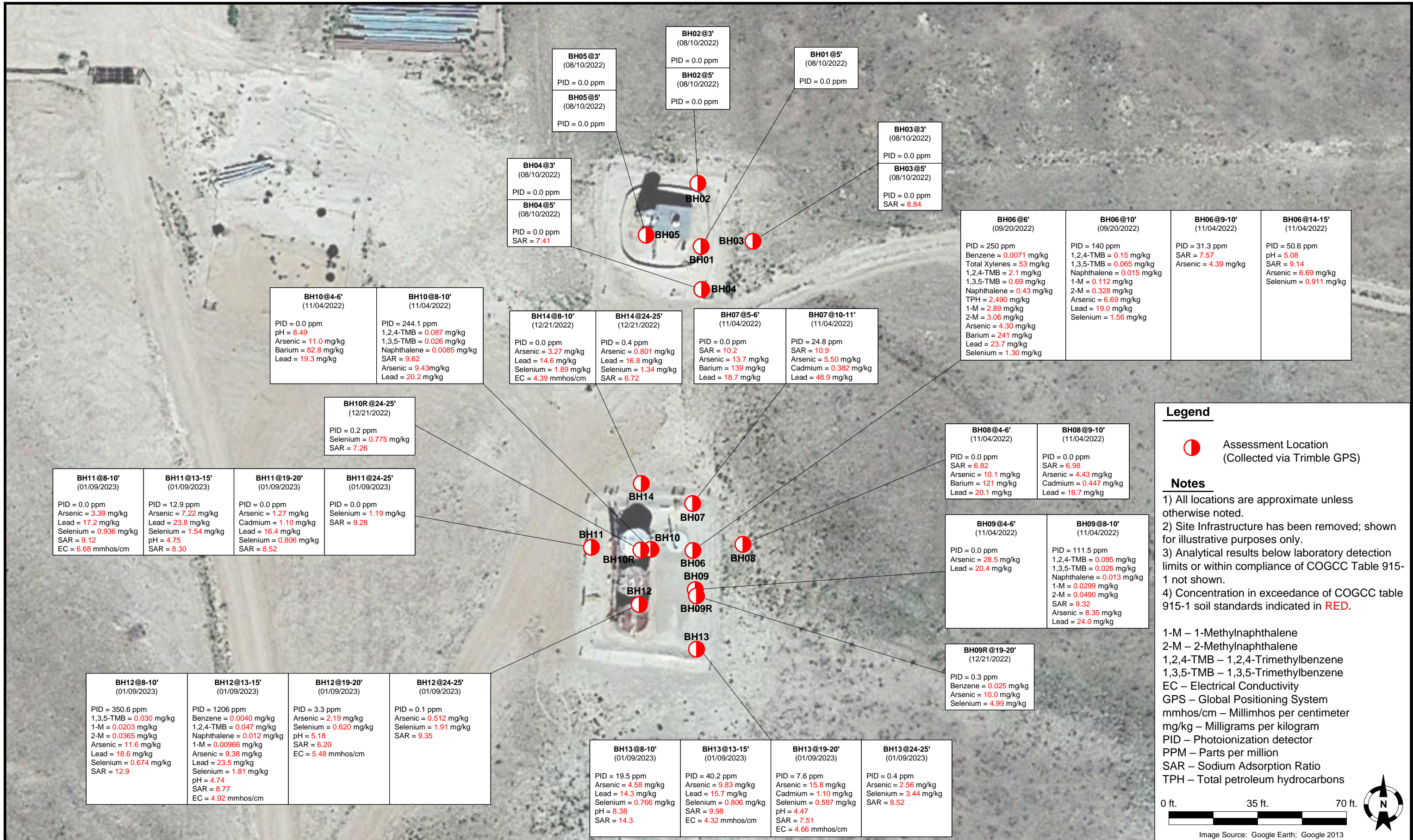
Site Location Map  
Lilli Unit O-5 Facility  
SWSE S5 T8N R58W  
Weld County, Colorado













**ATTACHMENT A**  
**LABORATORY SOIL ANALYTICAL DATA REPORTS**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 04, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 0-5 Fac

Work Order #2209396

Enclosed are the results of analyses for samples received by Summit Scientific on 09/20/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President





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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH06@6'	2209396-01	Soil	09/20/22 13:00	09/20/22 16:00
BH06@10'	2209396-02	Soil	09/20/22 13:10	09/20/22 16:00

Summit Scientific

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

# Summit Scientific

S<sub>2</sub>

2209396

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice: Evira Zuniga  
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com  
City/State/Zip: Broomfield, CO 80020  
Phone: 303-827-1511 Project Name: Little Unit 0-5  
Sampler Name: Hunter Merlo Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Metal - 915			
1	BH0606'	9/20/22	1300	3			X			X				X	X	X	X	X		X		pH, EC, SAR by saturated paste
2	BH0606'	9/20/22	1310	3			X			X				X	X	X	X	X		X		
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: <u>[Signature]</u>	Date/Time: 9/20/22 1600	Received by: <b>Tasman's Lock Box</b> <u>[Signature]</u>	Date/Time: 9/20/22 1600	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: <b>Tasman's Lock Box</b> <u>Summit</u>	Date/Time: 9/20/22 1600	Received by: <u>[Signature]</u>	Date/Time: 9/20/22 1600	Sample Integrity: Temperature Upon Receipt: <u>9.1</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order#

2209396

Client: Noble/HasmanClient Project ID: Will Unit 05Shipped 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)

9.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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? <sup>(1)</sup>	<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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):

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

Custodian Printed Name

Date/Time

9.20.2219:30



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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@6'**  
**2209396-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0071	0.0020	mg/kg	1	BF10537	09/21/22	09/22/22	EPA 8260B	
Toluene	0.013	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.21	0.0050	"	"	"	"	"	"	
Xylenes (total)	53	1.0	"	100	"	"	09/22/22	"	
1,2,4-Trimethylbenzene	2.1	0.0050	"	1	"	"	09/22/22	"	
1,3,5-Trimethylbenzene	0.69	0.0050	"	"	"	"	"	"	
Naphthalene	0.43	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1500	50	"	100	"	"	"	"	

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		309 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	990	50	mg/kg	1	BF10538	09/21/22	09/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		76.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@6'**  
**2209396-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10608	09/23/22	09/23/22	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0341</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.165</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0170</b>	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>2.89</b>	0.100	"	20	"	"	09/27/22	"	
<b>2-Methylnaphthalene</b>	<b>3.06</b>	0.100	"	"	"	"	"	"	

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.6 %	40-150		"	"	09/23/22	"	
Surrogate: Fluoranthene-d10		46.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.130</b>	0.0100	mg/L	1	BF10658	09/26/22	09/28/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **09/20/22 13:00**

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

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@6'**  
**2209396-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.30	0.277	mg/kg dry	1	BF10687	09/26/22	10/03/22	EPA 6020B
Barium	241	0.554	"	"	"	"	"	"
Cadmium	ND	0.277	"	"	"	"	"	"
Copper	15.7	0.554	"	"	"	"	"	"
Lead	23.7	0.277	"	"	"	"	"	"
Nickel	8.88	0.554	"	"	"	"	"	"
Selenium	1.30	0.360	"	"	"	"	"	"
Silver	0.0457	0.0277	"	"	"	"	"	"
Zinc	32.0	0.554	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0026	10/03/22	10/03/22	EPA 7196A	

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

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	89.7	0.0692	mg/L dry	1	BF10728	09/28/22	10/01/22	EPA 6020B	
Magnesium	20.2	0.0692	"	"	"	"	"	"	
Sodium	47.2	0.0692	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.17	0.00100	units	1	BFJ0003	10/02/22	10/02/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/20/22 13:00**

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

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@6'**  
**2209396-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	72.2	%	1	BF10684	09/26/22	09/28/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0991	0.0100	mmhos/cm	1	BF10747	09/28/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/20/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BF10746	09/28/22	09/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@10'**  
**2209396-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10537	09/21/22	09/22/22	EPA 8260B	
Toluene	0.011	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.019	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.61	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.15	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.065	0.0050	"	"	"	"	"	"	
Naphthalene	0.015	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6.0	0.50	"	"	"	"	"	"	

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10538	09/21/22	09/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		68.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@10'**  
**2209396-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10608	09/23/22	09/23/22	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0153</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.112</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.328</b>	0.0500	"	10	"	"	09/27/22	"	

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		41.7 %	40-150		"	"	09/23/22	"	
Surrogate: Fluoranthene-d10		46.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.219</b>	0.0100	mg/L	1	BF10658	09/26/22	09/28/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **09/20/22 13:10**

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: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@10'**  
**2209396-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	6.69	0.283	mg/kg dry	1	BF10687	09/26/22	10/04/22	EPA 6020B
Barium	43.3	0.567	"	"	"	"	"	"
Cadmium	ND	0.283	"	"	"	"	"	"
Copper	11.1	0.567	"	"	"	"	"	"
Lead	19.0	0.283	"	"	"	"	"	"
Nickel	3.15	0.567	"	"	"	"	"	"
Selenium	1.56	0.369	"	"	"	"	"	"
Silver	0.0757	0.0283	"	"	"	"	"	"
Zinc	24.8	0.567	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0026	10/03/22	10/03/22	EPA 7196A	

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

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	487	0.0709	mg/L dry	1	BF10728	09/28/22	10/01/22	EPA 6020B	
Magnesium	115	0.0709	"	"	"	"	"	"	
Sodium	146	0.0709	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.55	0.00100	units	1	BFJ0003	10/02/22	10/02/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **09/20/22 13:10**

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: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**BH06@10'**  
**2209396-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	70.6	%	1	BF10684	09/26/22	09/28/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.75	0.0100	mmhos/cm	1	BF10747	09/28/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/20/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BF10746	09/28/22	09/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

## 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 BFI0537 - EPA 5030 Soil MS

##### Blank (BFI0537-BLK1)

Prepared & Analyzed: 09/21/22

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	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0369		"	0.0400		92.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	50-150			

##### LCS (BFI0537-BS1)

Prepared & Analyzed: 09/21/22

Benzene	0.0601	0.0020	mg/kg	0.0750		80.1	70-130			
Toluene	0.0616	0.0050	"	0.0750		82.1	70-130			
Ethylbenzene	0.0612	0.0050	"	0.0750		81.6	70-130			
m,p-Xylene	0.122	0.010	"	0.150		81.3	70-130			
o-Xylene	0.0630	0.0050	"	0.0750		84.0	70-130			
1,2,4-Trimethylbenzene	0.0596	0.0050	"	0.0750		79.5	70-130			
1,3,5-Trimethylbenzene	0.0597	0.0050	"	0.0750		79.6	70-130			
Naphthalene	0.0570	0.0038	"	0.0750		76.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0310		"	0.0400		77.4	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0354		"	0.0400		88.5	50-150			

##### Matrix Spike (BFI0537-MS1)

Source: 2209227-06

Prepared & Analyzed: 09/21/22

Benzene	0.0562	0.0020	mg/kg	0.0750	ND	74.9	70-130			
Toluene	0.0595	0.0050	"	0.0750	ND	79.3	70-130			
Ethylbenzene	0.0595	0.0050	"	0.0750	ND	79.3	70-130			
m,p-Xylene	0.119	0.010	"	0.150	ND	79.3	70-130			
o-Xylene	0.0619	0.0050	"	0.0750	ND	82.5	70-130			
1,2,4-Trimethylbenzene	0.0587	0.0050	"	0.0750	ND	78.3	70-130			
1,3,5-Trimethylbenzene	0.0584	0.0050	"	0.0750	ND	77.8	70-130			
Naphthalene	0.0608	0.0038	"	0.0750	ND	81.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0291		"	0.0400		72.7	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0357		"	0.0400		89.3	50-150			

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

## 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 BFI0537 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFI0537-MSD1)

Source: 2209227-06

Prepared & Analyzed: 09/21/22

Benzene	0.0552	0.0020	mg/kg	0.0750	ND	73.6	70-130	1.78	30	
Toluene	0.0594	0.0050	"	0.0750	ND	79.2	70-130	0.0505	30	
Ethylbenzene	0.0541	0.0050	"	0.0750	ND	72.1	70-130	9.51	30	
m,p-Xylene	0.107	0.010	"	0.150	ND	71.6	70-130	10.2	30	
o-Xylene	0.0572	0.0050	"	0.0750	ND	76.2	70-130	7.96	30	
1,2,4-Trimethylbenzene	0.0536	0.0050	"	0.0750	ND	71.5	70-130	9.03	30	
1,3,5-Trimethylbenzene	0.0538	0.0050	"	0.0750	ND	71.8	70-130	8.07	30	
Naphthalene	0.0568	0.0038	"	0.0750	ND	75.8	70-130	6.68	30	
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		98.1	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.4	50-150			

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BFI0538 - EPA 3550A**

**Blank (BFI0538-BLK1)**

Prepared & Analyzed: 09/21/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

**LCS (BFI0538-BS1)**

Prepared & Analyzed: 09/21/22

C10-C28 (DRO)	555	50	mg/kg	500	111	70-130
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**Matrix Spike (BFI0538-MS1)**

Source: 2209227-06

Prepared & Analyzed: 09/21/22

C10-C28 (DRO)	627	50	mg/kg	500	120	101	70-130
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**Matrix Spike Dup (BFI0538-MSD1)**

Source: 2209227-06

Prepared & Analyzed: 09/21/22

C10-C28 (DRO)	679	50	mg/kg	500	120	112	70-130	7.96	20
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6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

## 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 BFI0608 - EPA 5030 Soil MS

##### Blank (BFI0608-BLK1)

Prepared & Analyzed: 09/23/22

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	0.0138		"	0.0333		41.5	40-150			
Surrogate: Fluoranthene-d10	0.0200		"	0.0333		59.9	40-150			

##### LCS (BFI0608-BS1)

Prepared & Analyzed: 09/23/22

Acenaphthene	0.0200	0.00500	mg/kg	0.0333	60.1	31-137
Anthracene	0.0221	0.00500	"	0.0333	66.3	30-120
Benzo (a) anthracene	0.0185	0.00500	"	0.0333	55.4	30-120
Benzo (a) pyrene	0.0151	0.00500	"	0.0333	45.4	30-120
Benzo (b) fluoranthene	0.0152	0.00500	"	0.0333	45.6	30-120
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	59.7	30-120
Chrysene	0.0186	0.00500	"	0.0333	55.9	30-120
Dibenz (a,h) anthracene	0.0134	0.00500	"	0.0333	40.2	30-120
Fluoranthene	0.0216	0.00500	"	0.0333	64.8	30-120
Fluorene	0.0209	0.00500	"	0.0333	62.8	30-120
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	43.5	30-120
Pyrene	0.0220	0.00500	"	0.0333	65.9	35-142
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	59.9	35-142
2-Methylnaphthalene	0.0174	0.00500	"	0.0333	52.2	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0202		"	0.0333	60.6	40-150
Surrogate: Fluoranthene-d10	0.0207		"	0.0333	62.0	40-150

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

## 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 BFI0608 - EPA 5030 Soil MS

##### Matrix Spike (BFI0608-MS1)

Source: 2209395-01

Prepared & Analyzed: 09/23/22

Acenaphthene	0.0138	0.00500	mg/kg	0.0333	ND	41.3	31-137				
Anthracene	0.0155	0.00500	"	0.0333	ND	46.4	30-120				
Benzo (a) anthracene	0.0146	0.00500	"	0.0333	ND	43.9	30-120				
Benzo (a) pyrene	0.0145	0.00500	"	0.0333	ND	43.6	30-120				
Benzo (b) fluoranthene	0.0173	0.00500	"	0.0333	ND	51.9	30-120				
Benzo (k) fluoranthene	0.0143	0.00500	"	0.0333	ND	42.9	30-120				
Chrysene	0.0134	0.00500	"	0.0333	ND	40.2	30-120				
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.4	30-120				
Fluoranthene	0.0151	0.00500	"	0.0333	ND	45.4	30-120				
Fluorene	0.0136	0.00500	"	0.0333	ND	40.7	30-120				
Indeno (1,2,3-cd) pyrene	0.0134	0.00500	"	0.0333	ND	40.1	30-120				
Pyrene	0.0152	0.00500	"	0.0333	ND	45.5	35-142				
1-Methylnaphthalene	0.0150	0.00500	"	0.0333	ND	45.1	15-130				
2-Methylnaphthalene	0.0141	0.00500	"	0.0333	ND	42.4	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0141		"	0.0333		42.3	40-150				
Surrogate: Fluoranthene-d10	0.0150		"	0.0333		45.1	40-150				

##### Matrix Spike Dup (BFI0608-MSD1)

Source: 2209395-01

Prepared & Analyzed: 09/23/22

Acenaphthene	0.0135	0.00500	mg/kg	0.0333	ND	40.4	31-137	2.30	30		
Anthracene	0.0158	0.00500	"	0.0333	ND	47.3	30-120	1.94	30		
Benzo (a) anthracene	0.0154	0.00500	"	0.0333	ND	46.2	30-120	5.12	30		
Benzo (a) pyrene	0.0161	0.00500	"	0.0333	ND	48.2	30-120	10.1	30		
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	10.3	30		
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120	12.0	30		
Chrysene	0.0143	0.00500	"	0.0333	ND	42.8	30-120	6.32	30		
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.1	30-120	5.50	30		
Fluoranthene	0.0159	0.00500	"	0.0333	ND	47.6	30-120	4.73	30		
Fluorene	0.0141	0.00500	"	0.0333	ND	42.3	30-120	3.75	30		
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.8	30-120	4.09	30		
Pyrene	0.0153	0.00500	"	0.0333	ND	46.0	35-142	0.995	30		
1-Methylnaphthalene	0.0155	0.00500	"	0.0333	ND	46.6	15-130	3.32	50		
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.6	15-130	11.7	50		
Surrogate: 2-Methylnaphthalene-d10	0.0145		"	0.0333		43.6	40-150				
Surrogate: Fluoranthene-d10	0.0157		"	0.0333		47.0	40-150				

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**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 BFI0658 - EPA 3050B**

**Blank (BFI0658-BLK1)**

Prepared: 09/26/22 Analyzed: 09/28/22

Boron ND 0.0100 mg/L

**LCS (BFI0658-BS1)**

Prepared: 09/26/22 Analyzed: 09/28/22

Boron 5.50 0.0100 mg/L 5.00 110 80-120

**Duplicate (BFI0658-DUP1)**

Source: 2209329-21

Prepared: 09/26/22 Analyzed: 09/28/22

Boron 0.235 0.0100 mg/L 0.231 1.50 20

**Matrix Spike (BFI0658-MS1)**

Source: 2209329-21

Prepared: 09/26/22 Analyzed: 09/28/22

Boron 5.59 0.0100 mg/L 5.00 0.231 107 75-125

**Matrix Spike Dup (BFI0658-MSD1)**

Source: 2209329-21

Prepared: 09/26/22 Analyzed: 09/28/22

Boron 5.56 0.0100 mg/L 5.00 0.231 107 75-125 0.462 25

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

### Total Metals by EPA 6020B - Quality Control

#### Summit Scientific

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

#### Batch BFI0687 - EPA 3050B

##### Blank (BFI0687-BLK1)

Prepared: 09/26/22 Analyzed: 10/03/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

##### LCS (BFI0687-BS1)

Prepared: 09/26/22 Analyzed: 10/03/22

Arsenic	44.8	0.200	mg/kg wet	40.0	112	80-120
Barium	44.4	0.400	"	40.0	111	80-120
Cadmium	2.36	0.200	"	2.00	118	80-120
Copper	42.8	0.400	"	40.0	107	80-120
Lead	23.1	0.200	"	20.0	116	80-120
Nickel	42.0	0.400	"	40.0	105	80-120
Selenium	4.62	0.260	"	4.00	116	80-120
Silver	2.28	0.0200	"	2.00	114	80-120
Zinc	45.1	0.400	"	40.0	113	80-120

##### Duplicate (BFI0687-DUP1)

Source: 2209244-01

Prepared: 09/26/22 Analyzed: 10/03/22

Arsenic	4.35	0.238	mg/kg dry	4.51	3.60	20
Barium	135	0.476	"	136	0.774	20
Cadmium	0.227	0.238	"	0.228	0.702	20
Copper	11.8	0.476	"	12.1	1.75	20
Lead	10.5	0.238	"	10.2	2.50	20
Nickel	11.2	0.476	"	11.6	3.52	20
Selenium	1.14	0.310	"	0.992	14.0	20
Silver	0.0569	0.0238	"	0.0567	0.357	20
Zinc	50.6	0.476	"	51.4	1.52	20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**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 BFI0687 - EPA 3050B**

Matrix Spike (BFI0687-MS1)		Source: 2209244-01			Prepared: 09/26/22 Analyzed: 10/03/22					
Arsenic	53.0	0.238	mg/kg dry	47.6	4.51	102	75-125			
Barium	160	0.476	"	47.6	136	50.3	75-125			QM-05
Cadmium	2.90	0.238	"	2.38	0.228	112	75-125			
Copper	57.4	0.476	"	47.6	12.1	95.3	75-125			
Lead	34.9	0.238	"	23.8	10.2	104	75-125			
Nickel	58.2	0.476	"	47.6	11.6	97.7	75-125			
Selenium	5.64	0.310	"	4.76	0.992	97.6	75-125			
Silver	2.62	0.0238	"	2.38	0.0567	108	75-125			
Zinc	103	0.476	"	47.6	51.4	108	75-125			

Matrix Spike Dup (BFI0687-MSD1)		Source: 2209244-01			Prepared: 09/26/22 Analyzed: 10/03/22					
Arsenic	52.8	0.238	mg/kg dry	47.6	4.51	101	75-125	0.370	25	
Barium	160	0.476	"	47.6	136	50.1	75-125	0.0495	25	QM-05
Cadmium	2.92	0.238	"	2.38	0.228	113	75-125	0.904	25	
Copper	56.9	0.476	"	47.6	12.1	94.2	75-125	0.847	25	
Lead	34.8	0.238	"	23.8	10.2	103	75-125	0.384	25	
Nickel	57.4	0.476	"	47.6	11.6	96.1	75-125	1.35	25	
Selenium	5.85	0.310	"	4.76	0.992	102	75-125	3.68	25	
Silver	2.65	0.0238	"	2.38	0.0567	109	75-125	0.927	25	
Zinc	102	0.476	"	47.6	51.4	107	75-125	0.699	25	

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Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**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 BFJ0026 - 3060A Mod**

**Blank (BFJ0026-BLK1)**

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFJ0026-BS1)**

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 100 80-120

**Duplicate (BFJ0026-DUP1)**

**Source: 2209335-01**

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFJ0026-MS1)**

**Source: 2209335-01**

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent 24.7 0.30 mg/kg dry 26.7 ND 92.6 75-125

**Matrix Spike Dup (BFJ0026-MSD1)**

**Source: 2209335-01**

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent 29.3 0.30 mg/kg dry 26.7 ND 110 75-125 16.8 20

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

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

**Summit Scientific**

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

**Batch BFI0728 - General Preparation**

**Blank (BFI0728-BLK1)**

Prepared: 09/28/22 Analyzed: 10/01/22

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

**LCS (BFI0728-BS1)**

Prepared: 09/28/22 Analyzed: 10/01/22

Calcium	5.83	0.0500	mg/L wet	5.00	117	70-130
Magnesium	5.57	0.0500	"	5.00	111	70-130
Sodium	5.36	0.0500	"	5.00	107	70-130

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

### 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 BFI0684 - General Preparation

Duplicate (BFI0684-DUP1)		Source: 2209141-15			Prepared: 09/26/22 Analyzed: 09/28/22					
% Solids	89.9		%		90.0			0.161	20	

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6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

**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 BFI0747 - General Preparation**

**Blank (BFI0747-BLK1)**

Prepared: 09/28/22 Analyzed: 09/30/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFI0747-BS1)**

Prepared: 09/28/22 Analyzed: 09/30/22

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

**Duplicate (BFI0747-DUP1)**

**Source: 2209350-01**

Prepared: 09/28/22 Analyzed: 09/30/22

Specific Conductance (EC) 25.1 0.0100 mmhos/cm 24.7 1.64 20

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

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

**Summit Scientific**

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

**Batch BFI0746 - General Preparation**

**LCS (BFI0746-BS1)**

Prepared: 09/28/22 Analyzed: 09/30/22

pH	9.11	pH Units	9.18	99.2	95-105
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**Duplicate (BFI0746-DUP1)**

Source: 2209350-01

Prepared: 09/28/22 Analyzed: 09/30/22

pH	7.10	pH Units	7.14	0.562	20
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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
10/04/22 14:22

### Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 11, 2022

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Lilli Unit 0-5  
Work Order #2211096

Enclosed are the results of analyses for samples received by Summit Scientific on 11/04/22 16:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell". The signature is fluid and cursive, with the first name "Mikayla" and the last name "Axtell" clearly distinguishable.

Mikayla Axtell For Paul Shrewsbury  
President



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH06@9-10'	2211096-01	Soil	11/04/22 10:15	11/04/22 16:05
BH06@14-15'	2211096-02	Soil	11/04/22 10:45	11/04/22 16:05
BH07@5-6'	2211096-03	Soil	11/04/22 11:10	11/04/22 16:05
BH07@10-11'	2211096-04	Soil	11/04/22 11:30	11/04/22 16:05
BH08@4-6'	2211096-05	Soil	11/04/22 12:15	11/04/22 16:05
BH08@9-10'	2211096-06	Soil	11/04/22 12:30	11/04/22 16:05
BH09@4-6'	2211096-07	Soil	11/04/22 12:50	11/04/22 16:05
BH09@8-10'	2211096-08	Soil	11/04/22 13:15	11/04/22 16:05
BH10@4-6'	2211096-09	Soil	11/04/22 13:30	11/04/22 16:05
BH10@9-10'	2211096-10	Soil	11/04/22 13:40	11/04/22 16:05

Summit Scientific

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

# Summit Scientific

S<sub>2</sub>

2211096

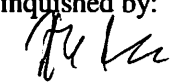
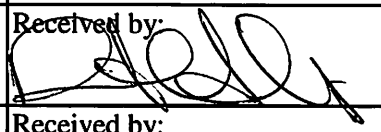
4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Erica Zuniga  
 Address: 6855 W. 119th Ave. E-Mail: jwhritenour@tasman-geo.com/ Noble Group  
 City/State/Zip: Broomfield / CO/ 80020  
 Phone: 303-827-1511 Project Name: Little Unit 0-5  
 Sampler Name: Hunter Merlo Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Methyl-915		
1	BH06@9-10'	11/4/22	1015	2			X			X				X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	BH06@14-15'		1045											X	X	X	X	X	X		
3	BH07@5-6'		1110																		
4	BH07@10-11'		1130																		
5	BH08@4-6'		1215																		
6	BH08@9-10'		1230																		
7	BH09@4-6'		1250																		
8	BH09@8-10'		1315																		
9	BH10@4-6'		1330																		
10	BH10@9-10'		1340																		

Relinquished by: 	Date/Time: 11/4/22 1605	Received by: Summit	Date/Time: 11/4/22 1605	<b>Turn Around Time</b> (Check) ___ Same Day 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours ___ <b>Sample Integrity:</b> Temperature Upon Receipt: 10.4 Samples Intact: <input checked="" type="checkbox"/> Yes No	<b>Notes:</b>
Relinquished by: Summit	Date/Time: 11/4/22 1605	Received by: 	Date/Time: 11/4/22 1605		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 221096Client: Noble/TasmanClient Project ID: Lillunit 0-5Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #: \_\_\_\_\_

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

10.4

Thermometer #

1

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

Custodian Printed Name

Date/Time

11.4.22





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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@9-10'**  
**2211096-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		96.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@9-10'**  
**2211096-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		77.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.120</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 10:15**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@9-10'**  
**2211096-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.39	0.296	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	35.2	0.592	"	"	"	"	"	"
Cadmium	ND	0.296	"	"	"	"	"	"
Copper	4.87	0.592	"	"	"	"	"	"
Lead	10.8	0.296	"	"	"	"	"	"
Nickel	1.25	0.592	"	"	"	"	"	"
Selenium	ND	0.385	"	"	"	"	"	"
Silver	ND	0.0296	"	"	"	"	"	"
Zinc	12.6	0.592	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	92.6	0.0740	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	38.7	0.0740	"	"	"	"	"	"	
Sodium	344	0.0740	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.57	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@9-10'**  
**2211096-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	67.6		%	1	BFK0218	11/08/22	11/09/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.72	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@14-15'**  
**2211096-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		71.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@14-15'**  
**2211096-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		85.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		65.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.127</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 10:45**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@14-15'**  
**2211096-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	9.14	0.270	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	26.5	0.540	"	"	"	"	"	"
Cadmium	ND	0.270	"	"	"	"	"	"
Copper	12.5	0.540	"	"	"	"	"	"
Lead	12.9	0.270	"	"	"	"	"	"
Nickel	2.16	0.540	"	"	"	"	"	"
Selenium	0.911	0.351	"	"	"	"	"	"
Silver	0.136	0.0270	"	"	"	"	"	"
Zinc	9.44	0.540	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	341	0.0676	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	132	0.0676	"	"	"	"	"	"	
Sodium	541	0.0676	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.30	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 10:45**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH06@14-15'**  
**2211096-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	74.0	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.60	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	5.08		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@5-6'**  
**2211096-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		83.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@5-6'**  
**2211096-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		76.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.217</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 11:10**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@5-6'**  
**2211096-03 (Soil)**

### Summit Scientific

#### Total Metals by EPA 6020B

Arsenic	13.7	0.289	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	139	0.578	"	"	"	"	"	"
Cadmium	0.301	0.289	"	"	"	"	"	"
Copper	6.63	0.578	"	"	"	"	"	"
Lead	18.7	0.289	"	"	"	"	"	"
Nickel	2.33	0.578	"	"	"	"	"	"
Selenium	ND	0.376	"	"	"	"	"	"
Silver	0.0636	0.0289	"	"	"	"	"	"
Zinc	15.8	0.578	"	"	"	"	"	"

#### Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/04/22 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: 11/04/22 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.9	0.0723	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	21.7	0.0723	"	"	"	"	"	"	
Sodium	335	0.0723	"	"	"	"	"	"	

#### Calculated Analysis

Date Sampled: 11/04/22 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.2	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

#### Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/04/22 11:10

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@5-6'**  
**2211096-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	69.1	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.44	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.27		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@10-11'**  
**2211096-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/09/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.0070</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		78.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@10-11'**  
**2211096-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		81.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		68.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.120</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 11:30**

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

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



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@10-11'**  
**2211096-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	5.50	0.263	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	40.2	0.526	"	"	"	"	"	"
Cadmium	0.382	0.263	"	"	"	"	"	"
Copper	5.29	0.526	"	"	"	"	"	"
Lead	48.9	0.263	"	"	"	"	"	"
Nickel	2.32	0.526	"	"	"	"	"	"
Selenium	ND	0.342	"	"	"	"	"	"
Silver	0.0368	0.0263	"	"	"	"	"	"
Zinc	16.9	0.526	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.1	0.0657	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	21.6	0.0657	"	"	"	"	"	"	
Sodium	365	0.0657	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.9	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 11:30**

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

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



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH07@10-11'**  
**2211096-04 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	76.1	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.68	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.92		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@4-6'**  
**2211096-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		88.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:15**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@4-6'**  
**2211096-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		90.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		64.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.107</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 12:15**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@4-6'**  
**2211096-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	10.1	0.302	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	121	0.604	"	"	"	"	"	"
Cadmium	0.319	0.302	"	"	"	"	"	"
Copper	7.33	0.604	"	"	"	"	"	"
Lead	20.1	0.302	"	"	"	"	"	"
Nickel	2.03	0.604	"	"	"	"	"	"
Selenium	ND	0.392	"	"	"	"	"	"
Silver	0.0549	0.0302	"	"	"	"	"	"
Zinc	20.1	0.604	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/04/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: 11/04/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	100	0.0755	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	34.4	0.0755	"	"	"	"	"	"	
Sodium	310	0.0755	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/04/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.82	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 11/04/22 12:15

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@4-6'**  
**2211096-05 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	66.3	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.58	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@9-10'**  
**2211096-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		90.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@9-10'**  
**2211096-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		81.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		60.3 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0898</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 12:30**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@9-10'**  
**2211096-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.43	0.296	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	21.2	0.593	"	"	"	"	"	"
Cadmium	0.447	0.296	"	"	"	"	"	"
Copper	5.13	0.593	"	"	"	"	"	"
Lead	16.7	0.296	"	"	"	"	"	"
Nickel	1.63	0.593	"	"	"	"	"	"
Selenium	ND	0.385	"	"	"	"	"	"
Silver	0.0551	0.0296	"	"	"	"	"	"
Zinc	17.5	0.593	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	67.1	0.0741	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	25.5	0.0741	"	"	"	"	"	"	
Sodium	265	0.0741	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.98	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 12:30**

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH08@9-10'**  
**2211096-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	67.5	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.29	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.78		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@4-6'**  
**2211096-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		91.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@4-6'**  
**2211096-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		91.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.190</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 12:50**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@4-6'**  
**2211096-07 (Soil)**

### Summit Scientific

#### Total Metals by EPA 6020B

Arsenic	28.5	0.294	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	56.8	0.589	"	"	"	"	"	"
Cadmium	0.309	0.294	"	"	"	"	"	"
Copper	8.64	0.589	"	"	"	"	"	"
Lead	20.4	0.294	"	"	"	"	"	"
Nickel	1.77	0.589	"	"	"	"	"	"
Selenium	ND	0.383	"	"	"	"	"	"
Silver	0.0612	0.0294	"	"	"	"	"	"
Zinc	19.0	0.589	"	"	"	"	"	"

#### Hexavalent Chromium by EPA Method 7196

Date Sampled: 11/04/22 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: 11/04/22 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	596	0.0736	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	192	0.0736	"	"	"	"	"	"	
Sodium	442	0.0736	"	"	"	"	"	"	

#### Calculated Analysis

Date Sampled: 11/04/22 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.03	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

#### Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 11/04/22 12:50

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@4-6'**  
**2211096-07 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	68.0	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.68	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.47		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@8-10'**  
**2211096-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/09/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.095</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.026</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.013</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.52</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		111 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:15**

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

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@8-10'**  
**2211096-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	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	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00586</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0299</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0490</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.127</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 13:15**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@8-10'**  
**2211096-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	8.35	0.295	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	24.3	0.591	"	"	"	"	"	"
Cadmium	0.334	0.295	"	"	"	"	"	"
Copper	5.99	0.591	"	"	"	"	"	"
Lead	24.0	0.295	"	"	"	"	"	"
Nickel	1.65	0.591	"	"	"	"	"	"
Selenium	ND	0.384	"	"	"	"	"	"
Silver	0.0425	0.0295	"	"	"	"	"	"
Zinc	17.0	0.591	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	147	0.0738	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	53.6	0.0738	"	"	"	"	"	"	
Sodium	519	0.0738	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.32	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 13:15**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH09@8-10'**  
**2211096-08 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	67.7	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.28	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@4-6'**  
**2211096-09 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		88.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:30**

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

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@4-6'**  
**2211096-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		86.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		65.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0497</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 13:30**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@4-6'**  
**2211096-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	11.0	0.290	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	82.8	0.579	"	"	"	"	"	"
Cadmium	ND	0.290	"	"	"	"	"	"
Copper	7.78	0.579	"	"	"	"	"	"
Lead	19.3	0.290	"	"	"	"	"	"
Nickel	2.36	0.579	"	"	"	"	"	"
Selenium	ND	0.377	"	"	"	"	"	"
Silver	0.0475	0.0290	"	"	"	"	"	"
Zinc	16.0	0.579	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.2	0.0724	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	8.10	0.0724	"	"	"	"	"	"	
Sodium	74.5	0.0724	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.18	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@4-6'**  
**2211096-09 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	69.0		%	1	BFK0218	11/08/22	11/09/22	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.337	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@9-10'**  
**2211096-10 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0208	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.087</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.026</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0085</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.91</b>	0.50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		90.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@9-10'**  
**2211096-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0227	11/09/22	11/10/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		67.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.4 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.240</b>	0.0100	mg/L	1	BFK0179	11/07/22	11/08/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/04/22 13:40**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@9-10'**  
**2211096-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	9.43	0.268	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	14.6	0.536	"	"	"	"	"	"
Cadmium	0.362	0.268	"	"	"	"	"	"
Copper	5.85	0.536	"	"	"	"	"	"
Lead	20.2	0.268	"	"	"	"	"	"
Nickel	1.68	0.536	"	"	"	"	"	"
Selenium	ND	0.349	"	"	"	"	"	"
Silver	0.0343	0.0268	"	"	"	"	"	"
Zinc	17.0	0.536	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0248	11/09/22	11/10/22	EPA 7196A	

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

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	153	0.0670	mg/L dry	1	BFK0198	11/08/22	11/09/22	EPA 6020B	
Magnesium	56.3	0.0670	"	"	"	"	"	"	
Sodium	548	0.0670	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.62	0.00100	units	1	BFK0268	11/10/22	11/10/22	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **11/04/22 13:40**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**BH10@9-10'**  
**2211096-10 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	74.6	%	1	BFK0218	11/08/22	11/09/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.57	0.0100	mmhos/cm	1	BFK0230	11/09/22	11/09/22	EPA 120.1	

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

Date Sampled: **11/04/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.81		pH Units	1	BFK0231	11/09/22	11/09/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

## 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 BFK0208 - EPA 5030 Soil MS

##### Blank (BFK0208-BLK1)

Prepared & Analyzed: 11/08/22

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	0.0372		"	0.0400		93.1	50-150			
Surrogate: Toluene-d8	0.0431		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

##### LCS (BFK0208-BS1)

Prepared & Analyzed: 11/08/22

Benzene	0.0778	0.0020	mg/kg	0.0750		104	70-130			
Toluene	0.0707	0.0050	"	0.0750		94.3	70-130			
Ethylbenzene	0.0719	0.0050	"	0.0750		95.9	70-130			
m,p-Xylene	0.145	0.010	"	0.150		97.0	70-130			
o-Xylene	0.0755	0.0050	"	0.0750		101	70-130			
1,2,4-Trimethylbenzene	0.0828	0.0050	"	0.0750		110	70-130			
1,3,5-Trimethylbenzene	0.0800	0.0050	"	0.0750		107	70-130			
Naphthalene	0.0944	0.0038	"	0.0750		126	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.8	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

##### Matrix Spike (BFK0208-MS1)

Source: 2211096-01

Prepared & Analyzed: 11/08/22

Benzene	0.0696	0.0020	mg/kg	0.0750	ND	92.8	70-130			
Toluene	0.0671	0.0050	"	0.0750	ND	89.4	70-130			
Ethylbenzene	0.0691	0.0050	"	0.0750	ND	92.2	70-130			
m,p-Xylene	0.141	0.010	"	0.150	ND	94.0	70-130			
o-Xylene	0.0741	0.0050	"	0.0750	ND	98.8	70-130			
1,2,4-Trimethylbenzene	0.0824	0.0050	"	0.0750	ND	110	70-130			
1,3,5-Trimethylbenzene	0.0783	0.0050	"	0.0750	ND	104	70-130			
Naphthalene	0.0933	0.0038	"	0.0750	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.5	50-150			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

## 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 BFK0208 - EPA 5030 Soil MS

Matrix Spike Dup (BFK0208-MSD1)	Source: 2211096-01			Prepared & Analyzed: 11/08/22						
Benzene	0.0711	0.0020	mg/kg	0.0750	ND	94.8	70-130	2.09	30	
Toluene	0.0709	0.0050	"	0.0750	ND	94.5	70-130	5.48	30	
Ethylbenzene	0.0712	0.0050	"	0.0750	ND	95.0	70-130	3.03	30	
m,p-Xylene	0.146	0.010	"	0.150	ND	97.3	70-130	3.51	30	
o-Xylene	0.0763	0.0050	"	0.0750	ND	102	70-130	2.91	30	
1,2,4-Trimethylbenzene	0.0847	0.0050	"	0.0750	ND	113	70-130	2.69	30	
1,3,5-Trimethylbenzene	0.0819	0.0050	"	0.0750	ND	109	70-130	4.53	30	
Naphthalene	0.0915	0.0038	"	0.0750	ND	122	70-130	1.98	30	
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.3	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

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Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0209 - EPA 3550A**

**Blank (BFK0209-BLK1)**

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.6		"	12.5	101	30-150				

**LCS (BFK0209-BS1)**

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	469	50	mg/kg	500	93.8	70-130				
Surrogate: o-Terphenyl	12.1		"	12.5	96.9	30-150				

**Matrix Spike (BFK0209-MS1)**

Source: 2211096-01

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	457	50	mg/kg	500	10.7	89.2	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5	93.3	30-150				

**Matrix Spike Dup (BFK0209-MSD1)**

Source: 2211096-01

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	455	50	mg/kg	500	10.7	88.9	70-130	0.372	20	
Surrogate: o-Terphenyl	10.9		"	12.5	87.1	30-150				

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFK0227 - EPA 5030 Soil MS

##### Blank (BFK0227-BLK1)

Prepared & Analyzed: 11/09/22

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	0.0382		"	0.0333		114	40-150			
Surrogate: Fluoranthene-d10	0.0259		"	0.0333		77.6	40-150			

##### LCS (BFK0227-BS1)

Prepared & Analyzed: 11/09/22

Acenaphthene	0.0357	0.00500	mg/kg	0.0333	107	31-137
Anthracene	0.0362	0.00500	"	0.0333	109	30-120
Benzo (a) anthracene	0.0310	0.00500	"	0.0333	93.0	30-120
Benzo (a) pyrene	0.0383	0.00500	"	0.0333	115	30-120
Benzo (b) fluoranthene	0.0380	0.00500	"	0.0333	114	30-120
Benzo (k) fluoranthene	0.0357	0.00500	"	0.0333	107	30-120
Chrysene	0.0313	0.00500	"	0.0333	93.9	30-120
Dibenz (a,h) anthracene	0.0387	0.00500	"	0.0333	116	30-120
Fluoranthene	0.0381	0.00500	"	0.0333	114	30-120
Fluorene	0.0384	0.00500	"	0.0333	115	30-120
Indeno (1,2,3-cd) pyrene	0.0360	0.00500	"	0.0333	108	30-120
Pyrene	0.0317	0.00500	"	0.0333	95.1	35-142
1-Methylnaphthalene	0.0346	0.00500	"	0.0333	104	35-142
2-Methylnaphthalene	0.0345	0.00500	"	0.0333	104	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0346		"	0.0333	104	40-150
Surrogate: Fluoranthene-d10	0.0362		"	0.0333	109	40-150

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

## 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 BFK0227 - EPA 5030 Soil MS

##### Matrix Spike (BFK0227-MS1)

Source: 2211133-02

Prepared & Analyzed: 11/09/22

Acenaphthene	0.0255	0.00500	mg/kg	0.0333	ND	76.5	31-137				
Anthracene	0.0250	0.00500	"	0.0333	ND	74.9	30-120				
Benzo (a) anthracene	0.0221	0.00500	"	0.0333	ND	66.4	30-120				
Benzo (a) pyrene	0.0259	0.00500	"	0.0333	ND	77.7	30-120				
Benzo (b) fluoranthene	0.0265	0.00500	"	0.0333	ND	79.6	30-120				
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.4	30-120				
Chrysene	0.0219	0.00500	"	0.0333	ND	65.7	30-120				
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333	ND	85.0	30-120				
Fluoranthene	0.0276	0.00500	"	0.0333	ND	82.8	30-120				
Fluorene	0.0253	0.00500	"	0.0333	ND	75.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0263	0.00500	"	0.0333	ND	79.0	30-120				
Pyrene	0.0228	0.00500	"	0.0333	ND	68.5	35-142				
1-Methylnaphthalene	0.0253	0.00500	"	0.0333	ND	75.8	15-130				
2-Methylnaphthalene	0.0251	0.00500	"	0.0333	ND	75.4	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0234		"	0.0333		70.1	40-150				
Surrogate: Fluoranthene-d10	0.0272		"	0.0333		81.7	40-150				

##### Matrix Spike Dup (BFK0227-MSD1)

Source: 2211133-02

Prepared & Analyzed: 11/09/22

Acenaphthene	0.0245	0.00500	mg/kg	0.0333	ND	73.4	31-137	4.09	30		
Anthracene	0.0230	0.00500	"	0.0333	ND	69.0	30-120	8.16	30		
Benzo (a) anthracene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	7.93	30		
Benzo (a) pyrene	0.0239	0.00500	"	0.0333	ND	71.8	30-120	7.98	30		
Benzo (b) fluoranthene	0.0245	0.00500	"	0.0333	ND	73.5	30-120	7.92	30		
Benzo (k) fluoranthene	0.0230	0.00500	"	0.0333	ND	68.9	30-120	10.2	30		
Chrysene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	8.56	30		
Dibenz (a,h) anthracene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	11.0	30		
Fluoranthene	0.0245	0.00500	"	0.0333	ND	73.6	30-120	11.8	30		
Fluorene	0.0224	0.00500	"	0.0333	ND	67.2	30-120	12.2	30		
Indeno (1,2,3-cd) pyrene	0.0233	0.00500	"	0.0333	ND	69.9	30-120	12.3	30		
Pyrene	0.0206	0.00500	"	0.0333	ND	61.9	35-142	10.1	30		
1-Methylnaphthalene	0.0242	0.00500	"	0.0333	ND	72.6	15-130	4.31	50		
2-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.7	15-130	1.76	50		
Surrogate: 2-Methylnaphthalene-d10	0.0249		"	0.0333		74.6	40-150				
Surrogate: Fluoranthene-d10	0.0248		"	0.0333		74.3	40-150				

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0179 - EPA 3050B**

**Blank (BFK0179-BLK1)**

Prepared: 11/07/22 Analyzed: 11/08/22

Boron ND 0.0100 mg/L

**LCS (BFK0179-BS1)**

Prepared: 11/07/22 Analyzed: 11/08/22

Boron 4.40 0.0100 mg/L 5.00 88.0 80-120

**Duplicate (BFK0179-DUP1)**

**Source: 2211067-26**

Prepared: 11/07/22 Analyzed: 11/08/22

Boron 0.389 0.0100 mg/L 0.427 9.27 20

**Matrix Spike (BFK0179-MS1)**

**Source: 2211067-26**

Prepared: 11/07/22 Analyzed: 11/08/22

Boron 4.82 0.0100 mg/L 5.00 0.427 88.0 75-125

**Matrix Spike Dup (BFK0179-MSD1)**

**Source: 2211067-26**

Prepared: 11/07/22 Analyzed: 11/08/22

Boron 4.55 0.0100 mg/L 5.00 0.427 82.5 75-125 5.76 25

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0223 - EPA 3050B**

**Blank (BFK0223-BLK1)**

Prepared: 11/08/22 Analyzed: 11/09/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BFK0223-BS1)**

Prepared: 11/08/22 Analyzed: 11/09/22

Arsenic	40.7	0.200	mg/kg wet	40.0	102	80-120
Barium	35.4	0.400	"	40.0	88.6	80-120
Cadmium	1.67	0.200	"	2.00	83.6	80-120
Copper	41.0	0.400	"	40.0	103	80-120
Lead	17.6	0.200	"	20.0	87.8	80-120
Nickel	40.6	0.400	"	40.0	101	80-120
Selenium	4.48	0.260	"	4.00	112	80-120
Silver	1.71	0.0200	"	2.00	85.4	80-120
Zinc	40.3	0.400	"	40.0	101	80-120

**Duplicate (BFK0223-DUP1)**

Source: 2210521-03

Prepared: 11/08/22 Analyzed: 11/09/22

Arsenic	3.84	0.239	mg/kg dry	3.74	2.77	20
Barium	98.5	0.477	"	97.1	1.48	20
Cadmium	1.18	0.239	"	1.14	4.07	20
Copper	4.21	0.477	"	3.90	7.75	20
Lead	10.4	0.239	"	10.3	1.24	20
Nickel	2.42	0.477	"	2.26	6.77	20
Selenium	ND	0.310	"	ND		20
Silver	0.0239	0.0239	"	0.0215	10.5	20
Zinc	6.21	0.477	"	5.76	7.45	20

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0223 - EPA 3050B**

Matrix Spike (BFK0223-MS1)	Source: 2210521-03			Prepared: 11/08/22 Analyzed: 11/09/22						
Arsenic	49.0	0.239	mg/kg dry	47.7	3.74	94.9	75-125			
Barium	86.9	0.477	"	47.7	97.1	NR	75-125			QM-05
Cadmium	3.48	0.239	"	2.39	1.14	98.2	75-125			
Copper	32.1	0.477	"	47.7	3.90	59.0	75-125			QM-05
Lead	25.8	0.239	"	23.9	10.3	65.0	75-125			QM-05
Nickel	30.8	0.477	"	47.7	2.26	59.7	75-125			QM-05
Selenium	5.65	0.310	"	4.77	ND	118	75-125			
Silver	1.94	0.0239	"	2.39	0.0215	80.2	75-125			
Zinc	34.5	0.477	"	47.7	5.76	60.2	75-125			QM-05

Matrix Spike Dup (BFK0223-MSD1)	Source: 2210521-03			Prepared: 11/08/22 Analyzed: 11/09/22						
Arsenic	50.8	0.239	mg/kg dry	47.7	3.74	98.5	75-125	3.48	25	
Barium	86.5	0.477	"	47.7	97.1	NR	75-125	0.487	25	QM-05
Cadmium	3.42	0.239	"	2.39	1.14	95.8	75-125	1.69	25	
Copper	31.7	0.477	"	47.7	3.90	58.2	75-125	1.18	25	QM-05
Lead	25.7	0.239	"	23.9	10.3	64.4	75-125	0.495	25	QM-05
Nickel	30.5	0.477	"	47.7	2.26	59.1	75-125	0.906	25	QM-05
Selenium	5.70	0.310	"	4.77	ND	119	75-125	0.841	25	
Silver	1.90	0.0239	"	2.39	0.0215	78.7	75-125	1.94	25	
Zinc	34.5	0.477	"	47.7	5.76	60.1	75-125	0.0900	25	QM-05

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0248 - 3060A Mod**

**Blank (BFK0248-BLK1)**

Prepared: 11/09/22 Analyzed: 11/10/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFK0248-BS1)**

Prepared: 11/09/22 Analyzed: 11/10/22

Chromium, Hexavalent 25.6 0.30 mg/kg wet 25.0 102 80-120

**Duplicate (BFK0248-DUP1)**

**Source: 2211096-01**

Prepared: 11/09/22 Analyzed: 11/10/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFK0248-MS1)**

**Source: 2211096-01**

Prepared: 11/09/22 Analyzed: 11/10/22

Chromium, Hexavalent 38.8 0.30 mg/kg dry 37.0 ND 105 75-125

**Matrix Spike Dup (BFK0248-MSD1)**

**Source: 2211096-01**

Prepared: 11/09/22 Analyzed: 11/10/22

Chromium, Hexavalent 38.7 0.30 mg/kg dry 37.0 ND 105 75-125 0.382 20

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0198 - General Preparation**

**Blank (BFK0198-BLK1)**

Prepared: 11/08/22 Analyzed: 11/09/22

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

**LCS (BFK0198-BS1)**

Prepared: 11/08/22 Analyzed: 11/09/22

Calcium	6.09	0.0500	mg/L wet	5.00	122	70-130
Magnesium	6.43	0.0500	"	5.00	129	70-130
Sodium	6.14	0.0500	"	5.00	123	70-130

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0218 - General Preparation**

Duplicate (BFK0218-DUP1)		Source: 2210572-01		Prepared: 11/08/22 Analyzed: 11/09/22	
% Solids	85.9		%	87.5	1.87 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

**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 BFK0230 - General Preparation**

**Blank (BFK0230-BLK1)**

Prepared & Analyzed: 11/09/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFK0230-BS1)**

Prepared & Analyzed: 11/09/22

Specific Conductance (EC) 0.146 0.0100 mmhos/cm 0.150 97.3 95-105

**Duplicate (BFK0230-DUP1)**

**Source: 2211096-01**

Prepared & Analyzed: 11/09/22

Specific Conductance (EC) 1.68 0.0100 mmhos/cm 1.72 2.18 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

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

**Summit Scientific**

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

**Batch BFK0231 - General Preparation**

**LCS (BFK0231-BS1)**

Prepared & Analyzed: 11/09/22

pH	9.02	pH Units	9.18	98.3	95-105
----	------	----------	------	------	--------

**Duplicate (BFK0231-DUP1)**

Source: 2210447-04

Prepared & Analyzed: 11/09/22

pH	8.15	pH Units	8.13	0.246	20
----	------	----------	------	-------	----

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/11/22 10:42

### Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 03, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 0-5

Work Order #2212480

Enclosed are the results of analyses for samples received by Summit Scientific on 12/21/22 18:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Sheely". The signature is fluid and cursive, with the first name "Scott" and last name "Sheely" clearly distinguishable.

Scott Sheely For Paul Shrewsbury  
President



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH09@19-20'	2212480-01	Soil	12/21/22 10:35	12/21/22 18:25
BH10R@24-25'	2212480-02	Soil	12/21/22 12:15	12/21/22 18:25
BH14@8-10'	2212480-03	Soil	12/21/22 13:10	12/21/22 18:25
BH14@24-25'	2212480-04	Soil	12/21/22 13:40	12/21/22 18:25

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

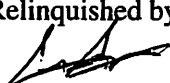
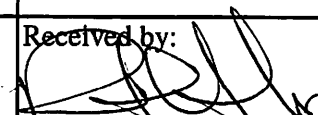
2212480

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice: Dan Peterson  
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com  
City/State/Zip: Broomfield, CO 80020  
Phone: 970-691-7338 Project Name: L-11: Unit 0-5  
Sampler Name: Chris Chapman Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Metals - 915	
1	BH09@19-20'	12-21-22	1035	2			X			X			X	X	X	X	X		X	pH, EC, SAR by saturated paste
2	BH10R@24-25'	12-21-22	1215	1			↓			↓			↓	↓	↓	↓	↓		↓	
3	BH14@8-10'	12-21-22	1310	↓			↓			↓			↓	↓	↓	↓	↓		↓	
4	BH14@24-25'	12-21-22	1340	↓			↓			↓			↓	↓	↓	↓	↓		↓	
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 12-21-22/1630	Received by: Tasman's Lock Box	Date/Time: 12-21-22/1630	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 122122 1825	Received by: 	Date/Time: 122122 1825	Sample Integrity: Temperature Upon Receipt: 7.2 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 22/2480Client: Noble Frisman Client Project ID: L111 unit 0-SShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☐ ☒ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 7.2 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> 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? <sup>(1)</sup>	<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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<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)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name

Date/Time

12-21-22 1825



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH09@19-20'**  
**2212480-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>0.025</b>	0.0020		mg/kg	1	BFL0590	12/22/22	12/23/22	EPA 8260B	
<b>Toluene</b>	<b>0.027</b>	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: **12/21/22 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0360	90.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BFL0594	12/22/22	12/23/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.6	117 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH09@19-20'**  
**2212480-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFL0632	12/27/22	12/27/22	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: **12/21/22 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0268	80.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0253	75.8 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.448</b>	0.0100	mg/L	1	BFL0697	12/28/22	12/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/21/22 10:35**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH09@19-20'**  
**2212480-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	10.0	0.267	mg/kg dry	1	BFL0652	12/27/22	12/29/22	EPA 6020B
Barium	22.7	0.535	"	"	"	"	"	"
Cadmium	0.0247	0.267	"	"	"	"	"	"
Copper	15.3	0.535	"	"	"	"	"	"
Lead	9.98	0.267	"	"	"	"	"	"
Nickel	2.32	0.535	"	"	"	"	"	"
Selenium	4.99	0.348	"	"	"	"	"	"
Silver	0.0661	0.0267	"	"	"	"	"	"
Zinc	15.8	0.535	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/21/22 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFL0748	12/30/22	12/30/22	EPA 7196A	

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

Date Sampled: 12/21/22 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	251	0.0668	mg/L dry	1	BFL0722	12/29/22	12/31/22	EPA 6020B	
Magnesium	95.7	0.0668	"	"	"	"	"	"	
Sodium	408	0.0668	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/21/22 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.56	0.00100	units	1	BGA0021	01/03/23	01/03/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/21/22 10:35

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/03/23 15:55

**BH09@19-20'**

**2212480-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	74.8	%	1	BFL0696	12/28/22	12/29/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.31	0.0100	mmhos/cm	1	BFL0754	12/30/22	12/30/22	EPA 120.1	

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

Date Sampled: **12/21/22 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.14		pH Units	1	BFL0755	12/30/22	12/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH10R@24-25'**  
**2212480-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0590	12/22/22	12/23/22	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: **12/21/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0359	89.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0383	95.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0594	12/22/22	12/23/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.8	119 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH10R@24-25'**  
**2212480-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0632	12/27/22	12/27/22	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: **12/21/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0247	74.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.0 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.107</b>	0.0100	mg/L	1	BFL0697	12/28/22	12/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/21/22 12:15**

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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH10R@24-25'**  
**2212480-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	ND	0.275	mg/kg dry	1	BFL0652	12/27/22	12/29/22	EPA 6020B
Barium	12.3	0.550	"	"	"	"	"	"
Cadmium	0.0506	0.275	"	"	"	"	"	"
Copper	14.2	0.550	"	"	"	"	"	"
Lead	10.8	0.275	"	"	"	"	"	"
Nickel	1.54	0.550	"	"	"	"	"	"
Selenium	0.775	0.357	"	"	"	"	"	"
Silver	0.0268	0.0275	"	"	"	"	"	"
Zinc	6.10	0.550	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/21/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFL0748	12/30/22	12/30/22	EPA 7196A	

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

Date Sampled: 12/21/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	69.7	0.0687	mg/L dry	1	BFL0722	12/29/22	12/31/22	EPA 6020B	
Magnesium	29.6	0.0687	"	"	"	"	"	"	
Sodium	287	0.0687	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/21/22 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.26	0.00100	units	1	BGA0021	01/03/23	01/03/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/21/22 12:15

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH10R@24-25'**  
**2212480-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	72.8	%	1	BFL0696	12/28/22	12/29/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.85	0.0100	mmhos/cm	1	BFL0754	12/30/22	12/30/22	EPA 120.1	

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

Date Sampled: **12/21/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.20		pH Units	1	BFL0755	12/30/22	12/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

01/03/23 15:55

**BH14@8-10'**  
**2212480-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0590	12/22/22	12/23/22	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: **12/21/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0317	79.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0370	92.5 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0594	12/22/22	12/23/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.7	117 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@8-10'**  
**2212480-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFL0632	12/27/22	12/27/22	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: **12/21/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0227	68.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0237	71.1 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>1.11</b>	0.0100	mg/L	1	BFL0697	12/28/22	12/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/21/22 13:10**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@8-10'**  
**2212480-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.27	0.277	mg/kg dry	1	BFL0652	12/27/22	12/29/22	EPA 6020B
Barium	19.9	0.554	"	"	"	"	"	"
Cadmium	0.0762	0.277	"	"	"	"	"	"
Copper	8.11	0.554	"	"	"	"	"	"
Lead	14.6	0.277	"	"	"	"	"	"
Nickel	1.70	0.554	"	"	"	"	"	"
Selenium	1.89	0.360	"	"	"	"	"	"
Silver	0.130	0.0277	"	"	"	"	"	"
Zinc	19.6	0.554	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/21/22 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFL0748	12/30/22	12/30/22	EPA 7196A	

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

Date Sampled: 12/21/22 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	415	0.0692	mg/L dry	1	BFL0722	12/29/22	12/31/22	EPA 6020B	
Magnesium	141	0.0692	"	"	"	"	"	"	
Sodium	544	0.0692	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/21/22 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.89	0.00100	units	1	BGA0021	01/03/23	01/03/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/21/22 13:10

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/03/23 15:55

**BH14@8-10'**  
**2212480-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	72.2	%	1	BFL0696	12/28/22	12/29/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.39	0.0100	mmhos/cm	1	BFL0754	12/30/22	12/30/22	EPA 120.1	

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

Date Sampled: **12/21/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.67		pH Units	1	BFL0755	12/30/22	12/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@24-25'**  
**2212480-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFL0590	12/22/22	12/23/22	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: **12/21/22 13:40**

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	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0377	94.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFL0594	12/22/22	12/23/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.7	125 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@24-25'**  
**2212480-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFL0632	12/27/22	12/27/22	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: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0227	68.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0233	69.9 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.174</b>	0.0100	mg/L	1	BFL0697	12/28/22	12/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@24-25'**  
**2212480-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.801	0.270	mg/kg dry	1	BFL0652	12/27/22	12/29/22	EPA 6020B
Barium	15.1	0.540	"	"	"	"	"	"
Cadmium	0.981	0.270	"	"	"	"	"	"
Copper	15.7	0.540	"	"	"	"	"	"
Lead	16.8	0.270	"	"	"	"	"	"
Nickel	3.04	0.540	"	"	"	"	"	"
Selenium	1.34	0.351	"	"	"	"	"	"
Silver	0.107	0.0270	"	"	"	"	"	"
Zinc	7.81	0.540	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 12/21/22 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFL0748	12/30/22	12/30/22	EPA 7196A	

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

Date Sampled: 12/21/22 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	102	0.0675	mg/L dry	1	BFL0722	12/29/22	12/31/22	EPA 6020B	
Magnesium	45.0	0.0675	"	"	"	"	"	"	
Sodium	324	0.0675	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 12/21/22 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.72	0.00100	units	1	BGA0021	01/03/23	01/03/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 12/21/22 13:40

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: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**BH14@24-25'**  
**2212480-04 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	74.0	%	1	BFL0696	12/28/22	12/29/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.19	0.0100	mmhos/cm	1	BFL0754	12/30/22	12/30/22	EPA 120.1	

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

Date Sampled: **12/21/22 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.11		pH Units	1	BFL0755	12/30/22	12/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

## 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 BFL0590 - EPA 5030 Soil MS

##### Blank (BFL0590-BLK1)

Prepared: 12/22/22 Analyzed: 12/23/22

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	0.0322		"	0.0400		80.5	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.4	50-150			

##### LCS (BFL0590-BS1)

Prepared: 12/22/22 Analyzed: 12/23/22

Benzene	0.0532	0.0020	mg/kg	0.0750		70.9	70-130			
Toluene	0.0558	0.0050	"	0.0750		74.4	70-130			
Ethylbenzene	0.0648	0.0050	"	0.0750		86.4	70-130			
m,p-Xylene	0.130	0.010	"	0.150		86.9	70-130			
o-Xylene	0.0596	0.0050	"	0.0750		79.4	70-130			
1,2,4-Trimethylbenzene	0.0611	0.0050	"	0.0750		81.4	70-130			
1,3,5-Trimethylbenzene	0.0654	0.0050	"	0.0750		87.2	70-130			
Naphthalene	0.0598	0.0038	"	0.0750		79.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0255		"	0.0400		63.7	50-150			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0357		"	0.0400		89.3	50-150			

##### Matrix Spike (BFL0590-MS1)

Source: 2212381-05

Prepared: 12/22/22 Analyzed: 12/23/22

Benzene	0.0695	0.0020	mg/kg	0.0750	ND	92.7	70-130			
Toluene	0.0553	0.0050	"	0.0750	ND	73.7	70-130			
Ethylbenzene	0.0635	0.0050	"	0.0750	ND	84.6	70-130			
m,p-Xylene	0.128	0.010	"	0.150	ND	85.3	70-130			
o-Xylene	0.0587	0.0050	"	0.0750	ND	78.2	70-130			
1,2,4-Trimethylbenzene	0.0610	0.0050	"	0.0750	ND	81.3	70-130			
1,3,5-Trimethylbenzene	0.0643	0.0050	"	0.0750	ND	85.8	70-130			
Naphthalene	0.0655	0.0038	"	0.0750	ND	87.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0260		"	0.0400		65.1	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0354		"	0.0400		88.4	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0590 - EPA 5030 Soil MS**

Matrix Spike Dup (BFL0590-MSD1)	Source: 2212381-05			Prepared: 12/22/22 Analyzed: 12/23/22						
Benzene	0.0785	0.0020	mg/kg	0.0750	ND	105	70-130	12.1	30	
Toluene	0.0553	0.0050	"	0.0750	ND	73.7	70-130	0.00	30	
Ethylbenzene	0.0647	0.0050	"	0.0750	ND	86.3	70-130	1.92	30	
m,p-Xylene	0.131	0.010	"	0.150	ND	87.6	70-130	2.71	30	
o-Xylene	0.0600	0.0050	"	0.0750	ND	80.0	70-130	2.22	30	
1,2,4-Trimethylbenzene	0.0623	0.0050	"	0.0750	ND	83.1	70-130	2.14	30	
1,3,5-Trimethylbenzene	0.0668	0.0050	"	0.0750	ND	89.1	70-130	3.80	30	
Naphthalene	0.0677	0.0038	"	0.0750	ND	90.3	70-130	3.38	30	
Surrogate: 1,2-Dichloroethane-d4	0.0262		"	0.0400		65.6	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0358		"	0.0400		89.5	50-150			

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Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0594 - EPA 3550A**

**Blank (BFL0594-BLK1)**

Prepared: 12/22/22 Analyzed: 12/23/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	14.1		"	12.5		113	30-150			

**LCS (BFL0594-BS1)**

Prepared: 12/22/22 Analyzed: 12/23/22

C10-C28 (DRO)	409	50	mg/kg	500		81.7	70-130			
Surrogate: o-Terphenyl	14.8		"	12.5		119	30-150			

**Matrix Spike (BFL0594-MS1)**

Source: 2212381-05

Prepared: 12/22/22 Analyzed: 12/23/22

C10-C28 (DRO)	399	50	mg/kg	500	18.9	76.1	70-130			
Surrogate: o-Terphenyl	13.6		"	12.5		109	30-150			

**Matrix Spike Dup (BFL0594-MSD1)**

Source: 2212381-05

Prepared: 12/22/22 Analyzed: 12/23/22

C10-C28 (DRO)	396	50	mg/kg	500	18.9	75.5	70-130	0.785	20	
Surrogate: o-Terphenyl	13.3		"	12.5		106	30-150			

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFL0632 - EPA 5030 Soil MS

##### Blank (BFL0632-BLK1)

Prepared & Analyzed: 12/27/22

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	0.0341		"	0.0333		102	40-150			
Surrogate: Fluoranthene-d10	0.0358		"	0.0333		108	40-150			

##### LCS (BFL0632-BS1)

Prepared & Analyzed: 12/27/22

Acenaphthene	0.0356	0.00500	mg/kg	0.0333		107	31-137			
Anthracene	0.0346	0.00500	"	0.0333		104	30-120			
Benzo (a) anthracene	0.0334	0.00500	"	0.0333		100	30-120			
Benzo (a) pyrene	0.0340	0.00500	"	0.0333		102	30-120			
Benzo (b) fluoranthene	0.0346	0.00500	"	0.0333		104	30-120			
Benzo (k) fluoranthene	0.0349	0.00500	"	0.0333		105	30-120			
Chrysene	0.0349	0.00500	"	0.0333		105	30-120			
Dibenz (a,h) anthracene	0.0311	0.00500	"	0.0333		93.2	30-120			
Fluoranthene	0.0350	0.00500	"	0.0333		105	30-120			
Fluorene	0.0356	0.00500	"	0.0333		107	30-120			
Indeno (1,2,3-cd) pyrene	0.0365	0.00500	"	0.0333		109	30-120			
Pyrene	0.0362	0.00500	"	0.0333		109	35-142			
1-Methylnaphthalene	0.0378	0.00500	"	0.0333		113	35-142			
2-Methylnaphthalene	0.0325	0.00500	"	0.0333		97.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0375		"	0.0333		113	40-150			
Surrogate: Fluoranthene-d10	0.0374		"	0.0333		112	40-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

## 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 BFL0632 - EPA 5030 Soil MS

##### Matrix Spike (BFL0632-MS1)

Source: 2212328-01

Prepared & Analyzed: 12/27/22

Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.6	31-137				
Anthracene	0.0208	0.00500	"	0.0333	ND	62.3	30-120				
Benzo (a) anthracene	0.0229	0.00500	"	0.0333	ND	68.7	30-120				
Benzo (a) pyrene	0.0213	0.00500	"	0.0333	ND	63.9	30-120				
Benzo (b) fluoranthene	0.0228	0.00500	"	0.0333	ND	68.5	30-120				
Benzo (k) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.6	30-120				
Chrysene	0.0230	0.00500	"	0.0333	ND	68.9	30-120				
Dibenz (a,h) anthracene	0.0198	0.00500	"	0.0333	ND	59.5	30-120				
Fluoranthene	0.0227	0.00500	"	0.0333	ND	68.1	30-120				
Fluorene	0.0224	0.00500	"	0.0333	ND	67.1	30-120				
Indeno (1,2,3-cd) pyrene	0.0237	0.00500	"	0.0333	ND	71.1	30-120				
Pyrene	0.0229	0.00500	"	0.0333	ND	68.6	35-142				
1-Methylnaphthalene	0.0260	0.00500	"	0.0333	ND	77.9	15-130				
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	64.0	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0237		"	0.0333		71.1	40-150				
Surrogate: Fluoranthene-d10	0.0236		"	0.0333		70.7	40-150				

##### Matrix Spike Dup (BFL0632-MSD1)

Source: 2212328-01

Prepared & Analyzed: 12/27/22

Acenaphthene	0.0213	0.00500	mg/kg	0.0333	ND	63.8	31-137	2.76	30		
Anthracene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	1.57	30		
Benzo (a) anthracene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	4.17	30		
Benzo (a) pyrene	0.0198	0.00500	"	0.0333	ND	59.4	30-120	7.30	30		
Benzo (b) fluoranthene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	4.23	30		
Benzo (k) fluoranthene	0.0212	0.00500	"	0.0333	ND	63.6	30-120	4.65	30		
Chrysene	0.0227	0.00500	"	0.0333	ND	68.0	30-120	1.32	30		
Dibenz (a,h) anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	3.62	30		
Fluoranthene	0.0221	0.00500	"	0.0333	ND	66.3	30-120	2.66	30		
Fluorene	0.0222	0.00500	"	0.0333	ND	66.7	30-120	0.595	30		
Indeno (1,2,3-cd) pyrene	0.0226	0.00500	"	0.0333	ND	67.8	30-120	4.64	30		
Pyrene	0.0236	0.00500	"	0.0333	ND	70.8	35-142	3.05	30		
1-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.4	15-130	17.4	50		
2-Methylnaphthalene	0.0193	0.00500	"	0.0333	ND	57.9	15-130	10.1	50		
Surrogate: 2-Methylnaphthalene-d10	0.0212		"	0.0333		63.7	40-150				
Surrogate: Fluoranthene-d10	0.0221		"	0.0333		66.2	40-150				

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0697 - EPA 3050B**

**Blank (BFL0697-BLK1)**

Prepared: 12/28/22 Analyzed: 12/29/22

Boron ND 0.0100 mg/L

**LCS (BFL0697-BS1)**

Prepared: 12/28/22 Analyzed: 12/29/22

Boron 5.17 0.0100 mg/L 5.00 103 80-120

**Duplicate (BFL0697-DUP1)**

Source: 2212455-02

Prepared: 12/28/22 Analyzed: 12/29/22

Boron 0.388 0.0100 mg/L 0.375 3.48 20

**Matrix Spike (BFL0697-MS1)**

Source: 2212455-02

Prepared: 12/28/22 Analyzed: 12/29/22

Boron 5.16 0.0100 mg/L 5.00 0.375 95.7 75-125

**Matrix Spike Dup (BFL0697-MSD1)**

Source: 2212455-02

Prepared: 12/28/22 Analyzed: 12/29/22

Boron 5.21 0.0100 mg/L 5.00 0.375 96.7 75-125 1.01 25

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0652 - EPA 3050B**

**Blank (BFL0652-BLK1)**

Prepared: 12/27/22 Analyzed: 12/29/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	0.344	0.400	"

**LCS (BFL0652-BS1)**

Prepared: 12/27/22 Analyzed: 12/29/22

Arsenic	44.5	0.200	mg/kg wet	40.0	111	80-120
Barium	47.4	0.400	"	40.0	119	80-120
Cadmium	2.23	0.200	"	2.00	111	80-120
Copper	46.8	0.400	"	40.0	117	80-120
Lead	21.8	0.200	"	20.0	109	80-120
Nickel	44.6	0.400	"	40.0	112	80-120
Selenium	4.64	0.260	"	4.00	116	80-120
Silver	2.13	0.0200	"	2.00	106	80-120
Zinc	44.7	0.400	"	40.0	112	80-120

**Duplicate (BFL0652-DUP1)**

Source: 2212435-01

Prepared: 12/27/22 Analyzed: 12/29/22

Arsenic	4.03	0.216	mg/kg dry	3.47	14.9	20
Barium	47.3	0.432	"	39.6	17.9	20
Cadmium	0.113	0.216	"	0.0884	24.7	20
Copper	8.40	0.432	"	8.65	2.93	20
Lead	6.19	0.216	"	6.31	1.94	20
Nickel	6.16	0.432	"	6.66	7.80	20
Selenium	0.490	0.281	"	0.401	19.9	20
Silver	0.0225	0.0216	"	0.0226	0.554	20
Zinc	28.9	0.432	"	29.7	2.82	20

QR-03

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0652 - EPA 3050B**

Matrix Spike (BFL0652-MS1)		Source: 2212435-01			Prepared: 12/27/22 Analyzed: 12/29/22					
Arsenic	53.4	0.216	mg/kg dry	43.2	3.47	116	75-125			
Barium	97.4	0.432	"	43.2	39.6	134	75-125			QM-05
Cadmium	2.41	0.216	"	2.16	0.0884	108	75-125			
Copper	54.9	0.432	"	43.2	8.65	107	75-125			
Lead	26.3	0.216	"	21.6	6.31	92.6	75-125			
Nickel	51.5	0.432	"	43.2	6.66	104	75-125			
Selenium	5.07	0.281	"	4.32	0.401	108	75-125			
Silver	2.19	0.0216	"	2.16	0.0226	101	75-125			
Zinc	77.7	0.432	"	43.2	29.7	111	75-125			

Matrix Spike Dup (BFL0652-MSD1)		Source: 2212435-01			Prepared: 12/27/22 Analyzed: 12/29/22					
Arsenic	49.2	0.216	mg/kg dry	43.2	3.47	106	75-125	8.26	25	
Barium	95.3	0.432	"	43.2	39.6	129	75-125	2.12	25	QM-05
Cadmium	2.20	0.216	"	2.16	0.0884	97.7	75-125	9.23	25	
Copper	51.3	0.432	"	43.2	8.65	98.8	75-125	6.79	25	
Lead	25.5	0.216	"	21.6	6.31	89.0	75-125	3.04	25	
Nickel	46.9	0.432	"	43.2	6.66	93.3	75-125	9.22	25	
Selenium	4.45	0.281	"	4.32	0.401	93.8	75-125	13.0	25	
Silver	2.06	0.0216	"	2.16	0.0226	94.3	75-125	6.29	25	
Zinc	77.9	0.432	"	43.2	29.7	111	75-125	0.267	25	

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6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

**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 BFL0748 - 3060A Mod**

**Blank (BFL0748-BLK1)**

Prepared & Analyzed: 12/30/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFL0748-BS1)**

Prepared & Analyzed: 12/30/22

Chromium, Hexavalent 25.7 0.30 mg/kg wet 25.0 103 80-120

**Duplicate (BFL0748-DUP1)**

Source: 2212421-01

Prepared & Analyzed: 12/30/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFL0748-MS1)**

Source: 2212421-01

Prepared & Analyzed: 12/30/22

Chromium, Hexavalent 29.0 0.30 mg/kg dry 25.8 ND 113 75-125

**Matrix Spike Dup (BFL0748-MSD1)**

Source: 2212421-01

Prepared & Analyzed: 12/30/22

Chromium, Hexavalent 27.2 0.30 mg/kg dry 25.8 ND 106 75-125 6.59 20

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/03/23 15:55

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

**Summit Scientific**

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

**Batch BFL0722 - General Preparation**

**Blank (BFL0722-BLK1)**

Prepared: 12/29/22 Analyzed: 12/31/22

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

**LCS (BFL0722-BS1)**

Prepared: 12/29/22 Analyzed: 12/31/22

Calcium	6.03	0.0500	mg/L wet	5.00	121	70-130
Magnesium	5.62	0.0500	"	5.00	112	70-130
Sodium	5.46	0.0500	"	5.00	109	70-130

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/03/23 15:55

### 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 BFL0696 - General Preparation

Duplicate (BFL0696-DUP1)

Source: 2212454-01

Prepared: 12/28/22 Analyzed: 12/29/22

% Solids	93.9	%	93.5	0.416	20
----------	------	---	------	-------	----

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/03/23 15:55

**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 BFL0754 - General Preparation**

**Blank (BFL0754-BLK1)**

Prepared & Analyzed: 12/30/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFL0754-BS1)**

Prepared & Analyzed: 12/30/22

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.8 95-105

**Duplicate (BFL0754-DUP1)**

**Source: 2212480-01**

Prepared & Analyzed: 12/30/22

Specific Conductance (EC) 3.30 0.0100 mmhos/cm 3.31 0.333 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

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

**Summit Scientific**

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

**Batch BFL0755 - General Preparation**

**LCS (BFL0755-BS1)**

Prepared & Analyzed: 12/30/22

pH	9.01	pH Units	9.18	98.1	95-105
----	------	----------	------	------	--------

**Duplicate (BFL0755-DUP1)**

Source: 2212480-01

Prepared & Analyzed: 12/30/22

pH	6.17	pH Units	6.14	0.487	20
----	------	----------	------	-------	----

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/03/23 15:55

### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

January 23, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 0-5

Work Order # 2301169

Enclosed are the results of analyses for samples received by Summit Scientific on 01/10/23 18:12. 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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH11@8-10'	2301169-01	Soil	01/09/23 10:10	01/10/23 18:12
BH11@13-15'	2301169-02	Soil	01/09/23 10:18	01/10/23 18:12
BH11@19-20'	2301169-03	Soil	01/09/23 10:30	01/10/23 18:12
BH11@24-25'	2301169-04	Soil	01/09/23 10:40	01/10/23 18:12
BH12@8-10'	2301169-05	Soil	01/09/23 11:45	01/10/23 18:12
BH12@13-15'	2301169-06	Soil	01/09/23 12:05	01/10/23 18:12
BH12@19-20'	2301169-07	Soil	01/09/23 12:15	01/10/23 18:12
BH12@24-25'	2301169-08	Soil	01/09/23 12:25	01/10/23 18:12
BH13@8-10'	2301169-09	Soil	01/09/23 13:50	01/10/23 18:12
BH13@13-15'	2301169-10	Soil	01/09/23 14:05	01/10/23 18:12
BH13@19-20'	2301169-11	Soil	01/09/23 14:20	01/10/23 18:12
BH13@24-25'	2301169-12	Soil	01/09/23 14:30	01/10/23 18:12

Summit Scientific

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

# Summit Scientific

S<sub>2</sub>

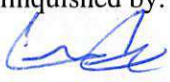
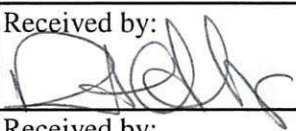
2301169.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 2

Client:	Noble / Tasman	Project Manager:	Jake Whritenour	Invoice:	Dan Peterson
Address:	6855 W. 119th Ave	E-Mail:	jwhritenour@tasman-geo.com		
City/State/Zip:	Broomfield, CO 80020				
Phone:	970-691-7338	Project Name:	L11: Unit 0-5		
Sampler Name:	Chris Chapman	Project Number:			

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Metals - 915	
1	BH11@ 8-10'	1-9-23	1010	2			X			X			X	X	X	X	X		X	pH, EC, SAR by saturated paste
2	BH11@ 13-15'		1018	1																
3	BH11@ 19-20'		1030	1																
4	BH11@ 24-25'		1040	1																
5	BH12@ 8-10'		1145	1																
6	BH12@ 13-15'		1205	1																
7	BH12@ 19-20'		1215	1																
8	BH12@ 24-25'		1225	1																
9	BH13@ 8-10'		1350	1																
10	BH13@ 13-15'		1405	1																

Relinquished by: 	Date/Time: 1-10-23 / 1400	Received by: Tasman's Lock Box	Date/Time: 1-10-23 / 1400	<b>Turn Around Time</b> (Check) Same Day — 72 hours — 24 hours — Standard <input checked="" type="checkbox"/> 48 hours — <b>Sample Integrity:</b> Temperature Upon Receipt: 8.1 Samples Intact: Yes No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box	Date/Time: 11023 1812	Received by: 	Date/Time: 11023 1812		
Relinquished by:	Date/Time:	Received by:	Date/Time:		



# Summit Scientific

S<sub>2</sub>

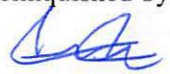
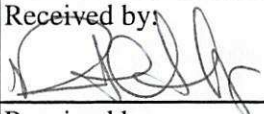
2301169.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 2 of 2

Client:	Noble / Tasman	Project Manager:	Jake Whritenour	Invoice:	Dan Peterson
Address:	6855 W. 119th Ave	E-Mail:	jwhritenour@tasman-geo.com		
City/State/Zip:	Broomfield, CO 80020	Project Name:	L11: Unit 0-5		
Phone:	970-691-7338	Project Number:			
Sampler Name:	Chris Chapman				

					Preservative				Matrix				Analysis Requested							Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Metals - 915		pH, EC, SAR by saturated paste
1	BA13 @ 19-20'	1-9-23	1420	2			X			X			X	X	X	X	X		X		
2	BA13 @ 24-25'	↓	1430	↓			↓			↓			↓	↓	↓	↓	↓		↓		
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: 	Date/Time: 1-10-23 / 1400	Received by: Tasman's Lock Box	Date/Time: 1-10-23 / 1400	Turn Around Time (Check)	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 11023 1812	Received by: 	Date/Time: 11023 1812	Same Day — 72 hours 24 hours — Standard <input checked="" type="checkbox"/> 48 hours —	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: 8.1 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	



S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2301169Client: Noble / Tasman Client Project ID: Lilli Unit 0-5Shipped 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)

8.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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? <sup>(1)</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				

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

JS  
Custodian Printed Name

1/10/23 1812  
Date/Time



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@8-10'**  
**2301169-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		78.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		99.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.9 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		107 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@8-10'**  
**2301169-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		41.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.8 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.489</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@8-10'**  
**2301169-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.39	0.275	0.232	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B	
Barium	24.1	0.551	0.435	"	"	"	"	"	"	
Cadmium	0.0590	0.275	0.00991	"	"	"	"	"	"	
Copper	6.92	0.551	0.0288	"	"	"	"	"	"	
Lead	17.2	0.275	0.0757	"	"	"	"	"	"	
Nickel	1.53	0.551	0.0840	"	"	"	"	"	"	
Selenium	0.936	0.358	0.241	"	"	"	"	"	"	
Silver	0.0517	0.0275	0.00368	"	"	"	"	"	"	
Zinc	16.9	0.551	0.366	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	426	0.0688		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	178	0.0688		"	"	"	"	"	"	
Sodium	888	0.0688		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.12	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@8-10'**  
**2301169-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.6			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	6.68	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.28			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@13-15'**  
**2301169-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		82.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.9 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		112 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@13-15'**  
**2301169-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		41.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.9 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0972	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@13-15'**  
**2301169-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	7.22	0.264	0.222	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	46.4	0.528	0.417	"	"	"	"	"	"
Cadmium	0.0257	0.264	0.00950	"	"	"	"	"	"
Copper	12.1	0.528	0.0276	"	"	"	"	"	"
Lead	23.8	0.264	0.0725	"	"	"	"	"	"
Nickel	2.41	0.528	0.0805	"	"	"	"	"	"
Selenium	1.54	0.343	0.231	"	"	"	"	"	"
Silver	0.0396	0.0264	0.00352	"	"	"	"	"	"
Zinc	16.1	0.528	0.351	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	140	0.0659		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	70.9	0.0659		"	"	"	"	"	"	
Sodium	483	0.0659		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.30	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@13-15'**  
**2301169-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	75.8			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.24	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 10:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	4.75			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@19-20'**  
**2301169-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		94.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		109 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@19-20'**  
**2301169-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		86.3 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.104</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	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: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@19-20'**  
**2301169-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	1.27	0.276	0.233	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	20.7	0.552	0.436	"	"	"	"	"	"
Cadmium	1.10	0.276	0.00994	"	"	"	"	"	"
Copper	13.4	0.552	0.0289	"	"	"	"	"	"
Lead	16.4	0.276	0.0759	"	"	"	"	"	"
Nickel	13.1	0.552	0.0842	"	"	"	"	"	"
Selenium	0.806	0.359	0.242	"	"	"	"	"	"
Silver	0.0456	0.0276	0.00369	"	"	"	"	"	"
Zinc	10.0	0.552	0.367	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	106	0.0690		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	50.1	0.0690		"	"	"	"	"	"	
Sodium	425	0.0690		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.52	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@19-20'**  
**2301169-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.4			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.71	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.78			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@24-25'**  
**2301169-04 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		86.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		108 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@24-25'**  
**2301169-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Acenaphthene	ND	0.00500			mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 10:40**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Surrogate: 2-Methylnaphthalene-d10		52.0 %			40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		87.9 %			40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit									
Boron	0.0332	0.0100			mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 10:40**

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

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@24-25'**  
**2301169-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.313	0.264	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B	
Barium	11.6	0.627	0.495	"	"	"	"	"	"	
Cadmium	0.0316	0.313	0.0113	"	"	"	"	"	"	
Copper	15.6	0.627	0.0327	"	"	"	"	"	"	
Lead	12.3	0.313	0.0861	"	"	"	"	"	"	
Nickel	1.75	0.627	0.0956	"	"	"	"	"	"	
Selenium	1.19	0.407	0.274	"	"	"	"	"	"	
Silver	0.0720	0.0313	0.00418	"	"	"	"	"	"	
Zinc	6.26	0.627	0.417	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 10:40**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	84.9	0.0783		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	44.6	0.0783		"	"	"	"	"	"	
Sodium	424	0.0783		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.28	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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





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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH11@24-25'**  
**2301169-04 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	63.8			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.32	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.69			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@8-10'**  
**2301169-05 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.030</b>	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		81.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		99.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.9 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		107 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@8-10'**  
**2301169-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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		"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.00652</b>	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0203</b>	0.00500		"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0365</b>	0.00500		"	"	"	"	"	"	

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.4 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		84.5 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.480</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 11:45**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@8-10'**  
**2301169-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	11.6	0.281	0.237	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B	
Barium	34.1	0.563	0.445	"	"	"	"	"	"	
Cadmium	0.143	0.281	0.0101	"	"	"	"	"	"	
Copper	8.31	0.563	0.0294	"	"	"	"	"	"	
Lead	18.6	0.281	0.0773	"	"	"	"	"	"	
Nickel	3.05	0.563	0.0858	"	"	"	"	"	"	
Selenium	0.674	0.366	0.246	"	"	"	"	"	"	
Silver	0.0726	0.0281	0.00376	"	"	"	"	"	"	
Zinc	21.4	0.563	0.374	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 11:45**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	39.7	0.0704		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	22.0	0.0704		"	"	"	"	"	"	
Sodium	407	0.0704		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.9	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@8-10'**  
**2301169-05 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	71.1			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.02	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.23			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@13-15'**  
**2301169-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.040</b>	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.013</b>	0.0050		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.074</b>	0.010		"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.047</b>	0.0050		"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.0085</b>	0.0050		"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.012</b>	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		99.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.8 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		106 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@13-15'**  
**2301169-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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		"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.00966</b>	0.00500		"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0142</b>	0.00500		"	"	"	"	"	"	

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		61.0 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		78.0 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0786</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 12:05**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@13-15'**  
**2301169-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	9.38	0.267	0.225	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	20.6	0.534	0.422	"	"	"	"	"	"
Cadmium	0.0189	0.267	0.00961	"	"	"	"	"	"
Copper	8.86	0.534	0.0279	"	"	"	"	"	"
Lead	23.5	0.267	0.0733	"	"	"	"	"	"
Nickel	2.10	0.534	0.0814	"	"	"	"	"	"
Selenium	1.81	0.347	0.233	"	"	"	"	"	"
Silver	0.0288	0.0267	0.00356	"	"	"	"	"	"
Zinc	12.2	0.534	0.355	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	277	0.0667		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	142	0.0667		"	"	"	"	"	"	
Sodium	720	0.0667		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.77	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@13-15'**  
**2301169-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	74.9			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	4.92	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	4.74			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@19-20'**  
**2301169-07 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		79.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		94.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		131 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@19-20'**  
**2301169-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		81.5 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0587</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 12:15**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@19-20'**  
**2301169-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.19	0.289	0.243	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	17.0	0.577	0.456	"	"	"	"	"	"
Cadmium	0.0238	0.289	0.0104	"	"	"	"	"	"
Copper	10.8	0.577	0.0302	"	"	"	"	"	"
Lead	4.69	0.289	0.0793	"	"	"	"	"	"
Nickel	1.87	0.577	0.0881	"	"	"	"	"	"
Selenium	0.620	0.375	0.253	"	"	"	"	"	"
Silver	0.0400	0.0289	0.00385	"	"	"	"	"	"
Zinc	9.94	0.577	0.384	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	491	0.0722		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	179	0.0722		"	"	"	"	"	"	
Sodium	631	0.0722		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.20	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@19-20'**  
**2301169-07 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	69.3			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	5.48	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 12:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	5.18			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@24-25'**  
**2301169-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/12/23	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: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		77.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.5 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		101 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@24-25'**  
**2301169-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.8 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 12:25**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@24-25'**  
**2301169-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	0.512	0.277	0.234	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	11.5	0.555	0.438	"	"	"	"	"	"
Cadmium	0.270	0.277	0.00998	"	"	"	"	"	"
Copper	15.6	0.555	0.0290	"	"	"	"	"	"
Lead	12.0	0.277	0.0762	"	"	"	"	"	"
Nickel	2.05	0.555	0.0846	"	"	"	"	"	"
Selenium	1.91	0.360	0.243	"	"	"	"	"	"
Silver	0.197	0.0277	0.00370	"	"	"	"	"	"
Zinc	6.59	0.555	0.369	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	94.3	0.0693		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	52.1	0.0693		"	"	"	"	"	"	
Sodium	456	0.0693		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.35	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH12@24-25'**  
**2301169-08 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.1			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.84	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 12:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.78			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@8-10'**  
**2301169-09 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	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: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		94.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		83.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@8-10'**  
**2301169-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		49.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		73.7 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.418</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 13:50**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@8-10'**  
**2301169-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	4.58	0.274	0.231	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	25.4	0.549	0.434	"	"	"	"	"	"
Cadmium	0.133	0.274	0.00988	"	"	"	"	"	"
Copper	7.08	0.549	0.0287	"	"	"	"	"	"
Lead	14.3	0.274	0.0754	"	"	"	"	"	"
Nickel	2.08	0.549	0.0837	"	"	"	"	"	"
Selenium	0.766	0.357	0.240	"	"	"	"	"	"
Silver	0.0603	0.0274	0.00366	"	"	"	"	"	"
Zinc	19.7	0.549	0.365	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.8	0.0686		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	13.3	0.0686		"	"	"	"	"	"	
Sodium	343	0.0686		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	14.3	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@8-10'**  
**2301169-09 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.9			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.61	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.38			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@13-15'**  
**2301169-10 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	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		"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.66</b>	0.50		"	"	"	"	"	"	

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		93.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		107 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@13-15'**  
**2301169-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		46.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		77.6 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0929</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 14:05**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@13-15'**  
**2301169-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	9.83	0.280	0.236	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	16.2	0.560	0.442	"	"	"	"	"	"
Cadmium	0.0280	0.280	0.0101	"	"	"	"	"	"
Copper	11.7	0.560	0.0293	"	"	"	"	"	"
Lead	15.7	0.280	0.0769	"	"	"	"	"	"
Nickel	2.22	0.560	0.0854	"	"	"	"	"	"
Selenium	0.806	0.364	0.245	"	"	"	"	"	"
Silver	0.0345	0.0280	0.00374	"	"	"	"	"	"
Zinc	14.4	0.560	0.372	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	182	0.0700		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	93.8	0.0700		"	"	"	"	"	"	
Sodium	665	0.0700		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.98	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@13-15'**  
**2301169-10 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	71.4			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	4.32	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 14:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	6.47			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@19-20'**  
**2301169-11 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	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: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		99.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		98.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		112 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@19-20'**  
**2301169-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.8 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0825</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 14:20**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@19-20'**  
**2301169-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	15.8	0.277	0.234	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	14.7	0.554	0.438	"	"	"	"	"	"
Cadmium	0.0278	0.277	0.00998	"	"	"	"	"	"
Copper	10.4	0.554	0.0290	"	"	"	"	"	"
Lead	8.34	0.277	0.0762	"	"	"	"	"	"
Nickel	1.62	0.554	0.0845	"	"	"	"	"	"
Selenium	0.597	0.360	0.243	"	"	"	"	"	"
Silver	0.0519	0.0277	0.00370	"	"	"	"	"	"
Zinc	14.1	0.554	0.369	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	289	0.0693		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	128	0.0693		"	"	"	"	"	"	
Sodium	610	0.0693		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.51	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@19-20'**  
**2301169-11 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.2			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	4.66	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	4.47			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@24-25'**  
**2301169-12 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGA0223	01/11/23	01/13/23	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: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		80.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79.4 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGA0224	01/11/23	01/12/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		96.7 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@24-25'**  
**2301169-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGA0299	01/13/23	01/14/23	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: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		96.3 %		40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0316</b>	0.0100		mg/L	1	BGA0335	01/15/23	01/17/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **01/09/23 14:30**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@24-25'**  
**2301169-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.56	0.281	0.236	mg/kg dry	1	BGA0305	01/13/23	01/14/23	EPA 6020B
Barium	8.93	0.561	0.443	"	"	"	"	"	"
Cadmium	0.715	0.281	0.0101	"	"	"	"	"	"
Copper	18.0	0.561	0.0293	"	"	"	"	"	"
Lead	13.8	0.281	0.0771	"	"	"	"	"	"
Nickel	11.4	0.561	0.0856	"	"	"	"	"	"
Selenium	3.44	0.365	0.245	"	"	"	"	"	"
Silver	0.0649	0.0281	0.00374	"	"	"	"	"	"
Zinc	14.2	0.561	0.373	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGA0284	01/12/23	01/12/23	EPA 7196A	

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

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	108	0.0701		mg/L dry	1	BGA0366	01/16/23	01/18/23	EPA 6020B	
Magnesium	52.6	0.0701		"	"	"	"	"	"	
Sodium	432	0.0701		"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.52	0.00100		units	1	BGA0483	01/19/23	01/19/23	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**BH13@24-25'**  
**2301169-12 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	71.3			%	1	BGA0413	01/17/23	01/18/23	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.85	0.0100		mmhos/cm	1	BGA0399	01/17/23	01/17/23	EPA 120.1	

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

Date Sampled: **01/09/23 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.69			pH Units	1	BGA0400	01/17/23	01/17/23	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

## 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 BGA0223 - EPA 5030 Soil MS

##### Blank (BGA0223-BLK1)

Prepared: 01/11/23 Analyzed: 01/12/23

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	0.0380		"	0.0400		95.1	50-150			
Surrogate: Toluene-d8	0.0373		"	0.0400		93.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	50-150			

##### LCS (BGA0223-BS1)

Prepared: 01/11/23 Analyzed: 01/12/23

Benzene	0.0678	0.0020	mg/kg	0.0750		90.4	70-130			
Toluene	0.0713	0.0050	"	0.0750		95.1	70-130			
Ethylbenzene	0.0908	0.0050	"	0.0750		121	70-130			
m,p-Xylene	0.185	0.010	"	0.150		123	70-130			
o-Xylene	0.0862	0.0050	"	0.0750		115	70-130			
1,2,4-Trimethylbenzene	0.0938	0.0050	"	0.0750		125	70-130			
1,3,5-Trimethylbenzene	0.0910	0.0050	"	0.0750		121	70-130			
Naphthalene	0.0597	0.0038	"	0.0750		79.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0317		"	0.0400		79.2	50-150			
Surrogate: Toluene-d8	0.0378		"	0.0400		94.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0359		"	0.0400		89.7	50-150			

##### Matrix Spike (BGA0223-MS1)

Source: 2301157-02

Prepared: 01/11/23 Analyzed: 01/12/23

Benzene	0.0662	0.0020	mg/kg	0.0750	ND	88.2	70-130			
Toluene	0.0707	0.0050	"	0.0750	ND	94.2	70-130			
Ethylbenzene	0.0898	0.0050	"	0.0750	ND	120	70-130			
m,p-Xylene	0.184	0.010	"	0.150	ND	123	70-130			
o-Xylene	0.0882	0.0050	"	0.0750	ND	118	70-130			
1,2,4-Trimethylbenzene	0.0934	0.0050	"	0.0750	ND	125	70-130			
1,3,5-Trimethylbenzene	0.0922	0.0050	"	0.0750	ND	123	70-130			
Naphthalene	0.0720	0.0038	"	0.0750	ND	96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0351		"	0.0400		87.8	50-150			
Surrogate: Toluene-d8	0.0376		"	0.0400		94.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0223 - EPA 5030 Soil MS**

Matrix Spike Dup (BGA0223-MSD1)	Source: 2301157-02			Prepared: 01/11/23 Analyzed: 01/12/23						
Benzene	0.0640	0.0020	mg/kg	0.0750	ND	85.3	70-130	3.37	30	
Toluene	0.0678	0.0050	"	0.0750	ND	90.4	70-130	4.16	30	
Ethylbenzene	0.0901	0.0050	"	0.0750	ND	120	70-130	0.300	30	
m,p-Xylene	0.187	0.010	"	0.150	ND	124	70-130	1.29	30	
o-Xylene	0.0881	0.0050	"	0.0750	ND	117	70-130	0.136	30	
1,2,4-Trimethylbenzene	0.0932	0.0050	"	0.0750	ND	124	70-130	0.289	30	
1,3,5-Trimethylbenzene	0.0904	0.0050	"	0.0750	ND	120	70-130	2.04	30	
Naphthalene	0.0718	0.0038	"	0.0750	ND	95.7	70-130	0.292	30	
Surrogate: 1,2-Dichloroethane-d4	0.0332		"	0.0400		83.0	50-150			
Surrogate: Toluene-d8	0.0362		"	0.0400		90.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	50-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0224 - EPA 3550A**

**Blank (BGA0224-BLK1)**

Prepared & Analyzed: 01/11/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	14.5		"	12.5		116	30-150			

**LCS (BGA0224-BS1)**

Prepared & Analyzed: 01/11/23

C10-C28 (DRO)	420	50	mg/kg	500		84.1	70-130			
Surrogate: o-Terphenyl	14.4		"	12.5		115	30-150			

**Matrix Spike (BGA0224-MS1)**

Source: 2301157-01

Prepared & Analyzed: 01/11/23

C10-C28 (DRO)	1190	50	mg/kg	500	1050	28.8	70-130			QM-05
Surrogate: o-Terphenyl	13.7		"	12.5		110	30-150			

**Matrix Spike Dup (BGA0224-MSD1)**

Source: 2301157-01

Prepared & Analyzed: 01/11/23

C10-C28 (DRO)	965	50	mg/kg	500	1050	NR	70-130	21.1	20	QM-05
Surrogate: o-Terphenyl	13.9		"	12.5		111	30-150			

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

## 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 BGA0299 - EPA 5030 Soil MS

##### Blank (BGA0299-BLK1)

Prepared: 01/13/23 Analyzed: 01/14/23

Acenaphthene	ND	0.00500	mg/kg								
Anthracene	ND	0.00500	"								
Benzo (a) anthracene	ND	0.00500	"								
Benzo (a) pyrene	ND	0.00500	"								
Benzo (b) fluoranthene	ND	0.00500	"								
Benzo (k) fluoranthene	ND	0.00500	"								
Chrysene	ND	0.00500	"								
Dibenz (a,h) anthracene	ND	0.00500	"								
Fluoranthene	ND	0.00500	"								
Fluorene	ND	0.00500	"								
Indeno (1,2,3-cd) pyrene	ND	0.00500	"								
Pyrene	ND	0.00500	"								
1-Methylnaphthalene	ND	0.00500	"								
2-Methylnaphthalene	ND	0.00500	"								
Surrogate: 2-Methylnaphthalene-d10	0.0338		"	0.0333		101		40-150			
Surrogate: Fluoranthene-d10	0.0309		"	0.0333		92.8		40-150			

##### LCS (BGA0299-BS1)

Prepared: 01/13/23 Analyzed: 01/14/23

Acenaphthene	0.0336	0.00500	mg/kg	0.0333		101		31-137			
Anthracene	0.0372	0.00500	"	0.0333		112		30-120			
Benzo (a) anthracene	0.0304	0.00500	"	0.0333		91.2		30-120			
Benzo (a) pyrene	0.0317	0.00500	"	0.0333		95.0		30-120			
Benzo (b) fluoranthene	0.0327	0.00500	"	0.0333		98.2		30-120			
Benzo (k) fluoranthene	0.0346	0.00500	"	0.0333		104		30-120			
Chrysene	0.0319	0.00500	"	0.0333		95.7		30-120			
Dibenz (a,h) anthracene	0.0342	0.00500	"	0.0333		103		30-120			
Fluoranthene	0.0359	0.00500	"	0.0333		108		30-120			
Fluorene	0.0376	0.00500	"	0.0333		113		30-120			
Indeno (1,2,3-cd) pyrene	0.0320	0.00500	"	0.0333		96.1		30-120			
Pyrene	0.0371	0.00500	"	0.0333		111		35-142			
1-Methylnaphthalene	0.0329	0.00500	"	0.0333		98.7		35-142			
2-Methylnaphthalene	0.0319	0.00500	"	0.0333		95.6		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0336		"	0.0333		101		40-150			
Surrogate: Fluoranthene-d10	0.0380		"	0.0333		114		40-150			

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

## 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 BGA0299 - EPA 5030 Soil MS

##### Matrix Spike (BGA0299-MS1)

Source: 2301161-01

Prepared: 01/13/23 Analyzed: 01/14/23

Acenaphthene	0.0317	0.00500	mg/kg	0.0333	ND	95.0	31-137		
Anthracene	0.0306	0.00500	"	0.0333	ND	91.7	30-120		
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120		
Benzo (a) pyrene	0.0225	0.00500	"	0.0333	ND	67.4	30-120		
Benzo (b) fluoranthene	0.0239	0.00500	"	0.0333	ND	71.6	30-120		
Benzo (k) fluoranthene	0.0250	0.00500	"	0.0333	ND	75.1	30-120		
Chrysene	0.0263	0.00500	"	0.0333	ND	79.0	30-120		
Dibenz (a,h) anthracene	0.0369	0.00500	"	0.0333	ND	111	30-120		
Fluoranthene	0.0244	0.00500	"	0.0333	ND	73.3	30-120		
Fluorene	0.0329	0.00500	"	0.0333	ND	98.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0341	0.00500	"	0.0333	ND	102	30-120		
Pyrene	0.0364	0.00500	"	0.0333	ND	109	35-142		
1-Methylnaphthalene	0.0300	0.00500	"	0.0333	ND	90.1	15-130		
2-Methylnaphthalene	0.0265	0.00500	"	0.0333	ND	79.4	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0283		"	0.0333		85.0	40-150		
Surrogate: Fluoranthene-d10	0.0204		"	0.0333		61.2	40-150		

##### Matrix Spike Dup (BGA0299-MSD1)

Source: 2301161-01

Prepared: 01/13/23 Analyzed: 01/14/23

Acenaphthene	0.0317	0.00500	mg/kg	0.0333	ND	95.1	31-137	0.104	30	
Anthracene	0.0263	0.00500	"	0.0333	ND	78.9	30-120	15.0	30	
Benzo (a) anthracene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	3.02	30	
Benzo (a) pyrene	0.0240	0.00500	"	0.0333	ND	72.0	30-120	6.69	30	
Benzo (b) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.5	30-120	3.97	30	
Benzo (k) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.6	30-120	0.657	30	
Chrysene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	17.1	30	
Dibenz (a,h) anthracene	0.0273	0.00500	"	0.0333	ND	82.0	30-120	29.7	30	
Fluoranthene	0.0269	0.00500	"	0.0333	ND	80.6	30-120	9.42	30	
Fluorene	0.0270	0.00500	"	0.0333	ND	80.9	30-120	19.8	30	
Indeno (1,2,3-cd) pyrene	0.0250	0.00500	"	0.0333	ND	75.0	30-120	30.9	30	QR-02
Pyrene	0.0274	0.00500	"	0.0333	ND	82.1	35-142	28.2	30	
1-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.5	15-130	18.9	50	
2-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.7	15-130	3.44	50	
Surrogate: 2-Methylnaphthalene-d10	0.0256		"	0.0333		76.8	40-150			
Surrogate: Fluoranthene-d10	0.0279		"	0.0333		83.6	40-150			

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0335 - EPA 3050B**

**Blank (BGA0335-BLK1)**

Prepared: 01/15/23 Analyzed: 01/17/23

Boron ND 0.0100 mg/L

**LCS (BGA0335-BS1)**

Prepared: 01/15/23 Analyzed: 01/17/23

Boron 4.98 0.0100 mg/L 5.00 99.6 80-120

**Duplicate (BGA0335-DUP1)**

Source: 2301169-01

Prepared: 01/15/23 Analyzed: 01/17/23

Boron 0.471 0.0100 mg/L 0.489 3.87 20

**Matrix Spike (BGA0335-MS1)**

Source: 2301169-01

Prepared: 01/15/23 Analyzed: 01/17/23

Boron 5.61 0.0100 mg/L 5.00 0.489 102 75-125

**Matrix Spike Dup (BGA0335-MSD1)**

Source: 2301169-01

Prepared: 01/15/23 Analyzed: 01/17/23

Boron 5.41 0.0100 mg/L 5.00 0.489 98.4 75-125 3.64 25

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0305 - EPA 3050B**

**Blank (BGA0305-BLK1)**

Prepared: 01/13/23 Analyzed: 01/16/23

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

**LCS (BGA0305-BS1)**

Prepared: 01/13/23 Analyzed: 01/16/23

Arsenic	94.3	0.200	mg/kg wet	80.0	118	80-120
Barium	82.0	0.400	"	80.0	103	80-120
Cadmium	4.09	0.200	"	4.00	102	80-120
Copper	87.6	0.400	"	80.0	109	80-120
Lead	46.7	0.200	"	40.0	117	80-120
Nickel	83.8	0.400	"	80.0	105	80-120
Selenium	8.75	0.260	"	8.00	109	80-120
Silver	4.76	0.0200	"	4.00	119	80-120
Zinc	91.5	0.400	"	80.0	114	80-120

**Duplicate (BGA0305-DUP1)**

Source: 2301169-01

Prepared: 01/13/23 Analyzed: 01/16/23

Arsenic	3.16	0.275	mg/kg dry	3.39	6.93	20
Barium	25.8	0.551	"	24.1	6.89	20
Cadmium	0.0683	0.275	"	0.0590	14.7	20
Copper	6.19	0.551	"	6.92	11.1	20
Lead	19.7	0.275	"	17.2	13.6	20
Nickel	1.42	0.551	"	1.53	6.93	20
Selenium	0.947	0.358	"	0.936	1.19	20
Silver	0.0515	0.0275	"	0.0517	0.451	20
Zinc	16.4	0.551	"	16.9	2.63	20

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0305 - EPA 3050B**

Matrix Spike (BGA0305-MS1)		Source: 2301169-01			Prepared: 01/13/23 Analyzed: 01/16/23					
Arsenic	64.0	0.275	mg/kg dry	55.1	3.39	110	75-125			
Barium	91.1	0.551	"	55.1	24.1	122	75-125			
Cadmium	2.98	0.275	"	2.75	0.0590	106	75-125			
Copper	68.3	0.551	"	55.1	6.92	111	75-125			
Lead	45.6	0.275	"	27.5	17.2	103	75-125			
Nickel	63.2	0.551	"	55.1	1.53	112	75-125			
Selenium	6.39	0.358	"	5.51	0.936	99.1	75-125			
Silver	3.48	0.0275	"	2.75	0.0517	124	75-125			
Zinc	71.6	0.551	"	55.1	16.9	99.4	75-125			

Matrix Spike Dup (BGA0305-MSD1)		Source: 2301169-01			Prepared: 01/13/23 Analyzed: 01/16/23					
Arsenic	67.2	0.275	mg/kg dry	55.1	3.39	116	75-125	4.80	25	
Barium	79.9	0.551	"	55.1	24.1	101	75-125	13.1	25	
Cadmium	3.27	0.275	"	2.75	0.0590	117	75-125	9.15	25	
Copper	69.8	0.551	"	55.1	6.92	114	75-125	2.12	25	
Lead	46.7	0.275	"	27.5	17.2	107	75-125	2.39	25	
Nickel	67.0	0.551	"	55.1	1.53	119	75-125	5.83	25	
Selenium	6.22	0.358	"	5.51	0.936	95.9	75-125	2.76	25	
Silver	3.07	0.0275	"	2.75	0.0517	110	75-125	12.2	25	
Zinc	73.1	0.551	"	55.1	16.9	102	75-125	2.15	25	

Summit Scientific

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



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

**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 BGA0284 - 3060A Mod**

**Blank (BGA0284-BLK1)**

Prepared & Analyzed: 01/12/23

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BGA0284-BS1)**

Prepared & Analyzed: 01/12/23

Chromium, Hexavalent 24.2 0.30 mg/kg wet 25.0 97.0 80-120

**Duplicate (BGA0284-DUP1)**

**Source: 2301029-10**

Prepared & Analyzed: 01/12/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BGA0284-MS1)**

**Source: 2301029-10**

Prepared & Analyzed: 01/12/23

Chromium, Hexavalent 29.7 0.30 mg/kg dry 30.0 ND 99.0 75-125

**Matrix Spike Dup (BGA0284-MSD1)**

**Source: 2301029-10**

Prepared & Analyzed: 01/12/23

Chromium, Hexavalent 30.0 0.30 mg/kg dry 30.0 ND 99.8 75-125 0.805 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/23/23 15:51

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

### Summit Scientific

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

#### Batch BGA0366 - General Preparation

##### Blank (BGA0366-BLK1)

Prepared: 01/16/23 Analyzed: 01/18/23

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

##### LCS (BGA0366-BS1)

Prepared: 01/16/23 Analyzed: 01/18/23

Calcium	5.57	0.0500	mg/L wet	5.00	111	70-130
Magnesium	5.34	0.0500	"	5.00	107	70-130
Sodium	5.11	0.0500	"	5.00	102	70-130

Summit Scientific

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



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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

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

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

**Batch BGA0413 - General Preparation**

Duplicate (BGA0413-DUP1)		Source: 2301034-01			Prepared: 01/17/23		Analyzed: 01/18/23	
% Solids	83.6		%		83.4		0.236	20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/23/23 15:51

### 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 BGA0399 - General Preparation

##### Blank (BGA0399-BLK1)

Prepared & Analyzed: 01/17/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

##### LCS (BGA0399-BS1)

Prepared & Analyzed: 01/17/23

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

##### Duplicate (BGA0399-DUP1)

Source: 2301156-01

Prepared & Analyzed: 01/17/23

Specific Conductance (EC) 0.906 0.0100 mmhos/cm 0.901 0.564 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

01/23/23 15:51

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

**Summit Scientific**

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

**Batch BGA0400 - General Preparation**

**LCS (BGA0400-BS1)**

Prepared & Analyzed: 01/17/23

pH	9.07	pH Units	9.18	98.8	95-105
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**Duplicate (BGA0400-DUP1)**

**Source: 2301156-01**

Prepared & Analyzed: 01/17/23

pH	7.83	pH Units	7.89	0.763	20
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Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
01/23/23 15:51

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

**ATTACHMENT B**  
**BORING LOGS**





# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Hand Auger

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 9/20/22 - 9/20/22

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH06

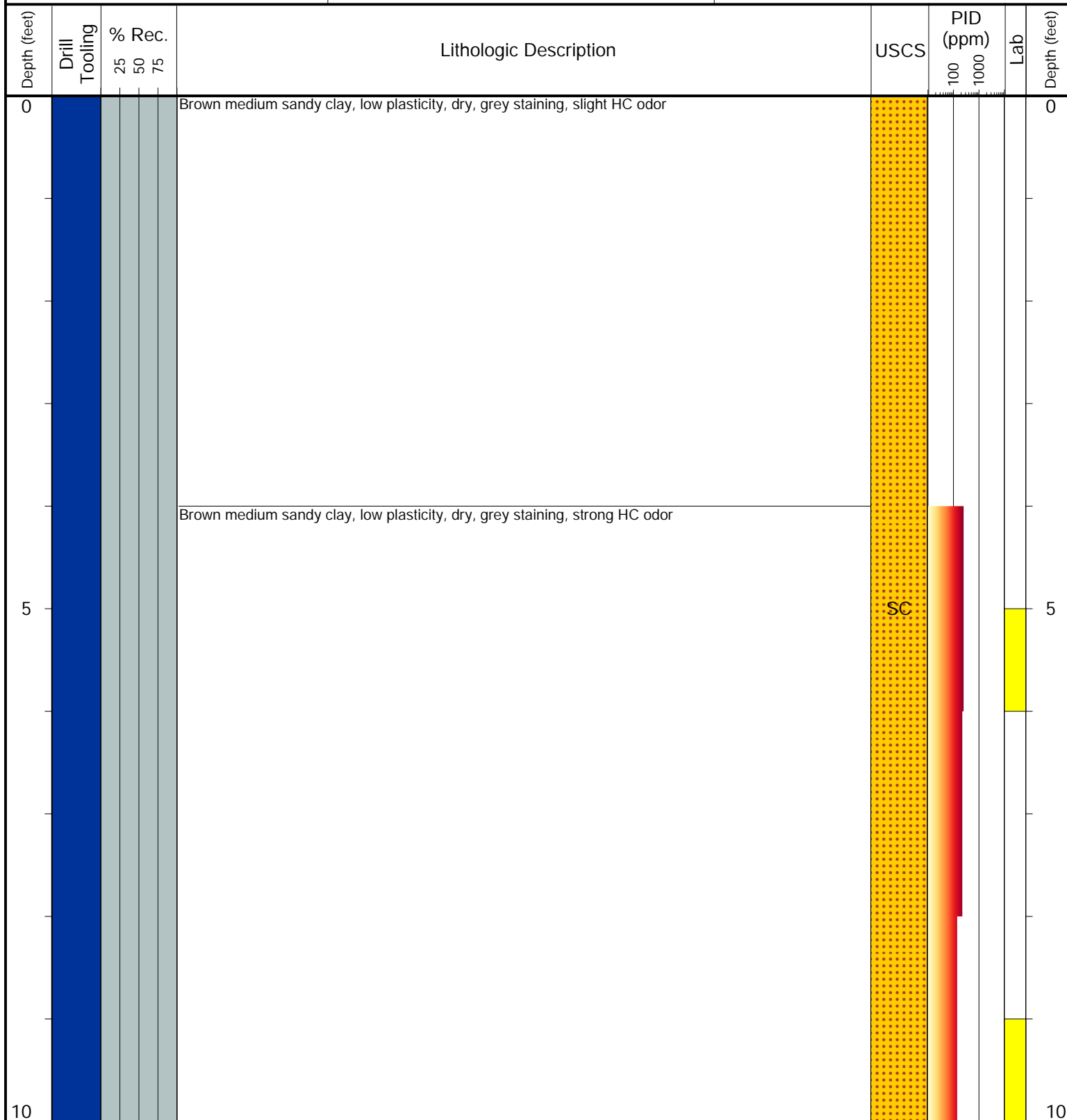
LOCATION: Weld County

LATITUDE (NAD 83): 40.68552181

LONGITUDE (NAD 83): -103.8835101

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip



Perforated Injection Tool



Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 11/4/22 - 11/4/22

TOTAL WELL DEPTH (FT. BGS): 15

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH06R

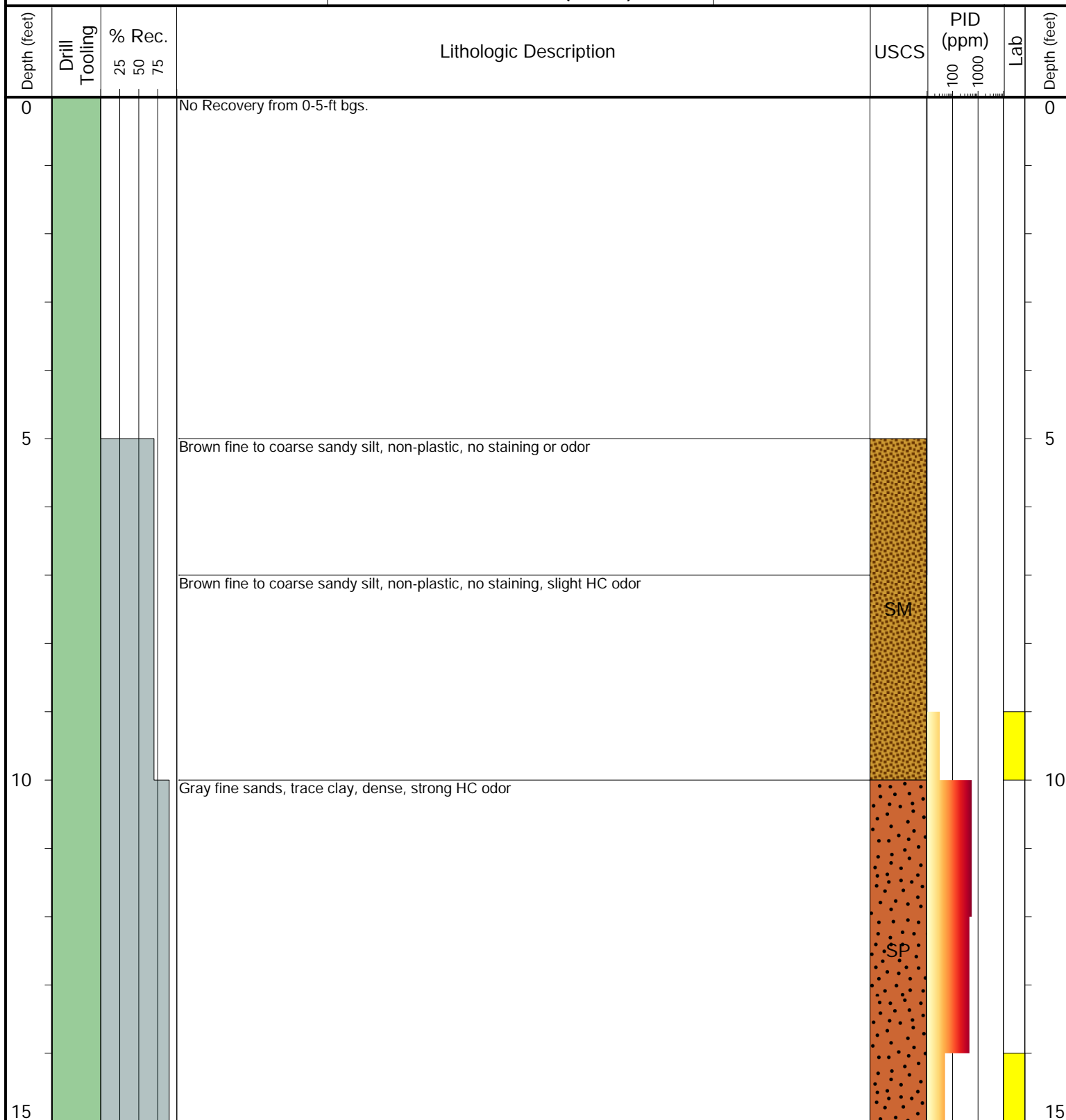
LOCATION: Weld County

LATITUDE (NAD 83): 40.68552181

LONGITUDE (NAD 83): -103.8835101

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 11/4/22 - 11/4/22

TOTAL WELL DEPTH (FT. BGS): 11

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH07

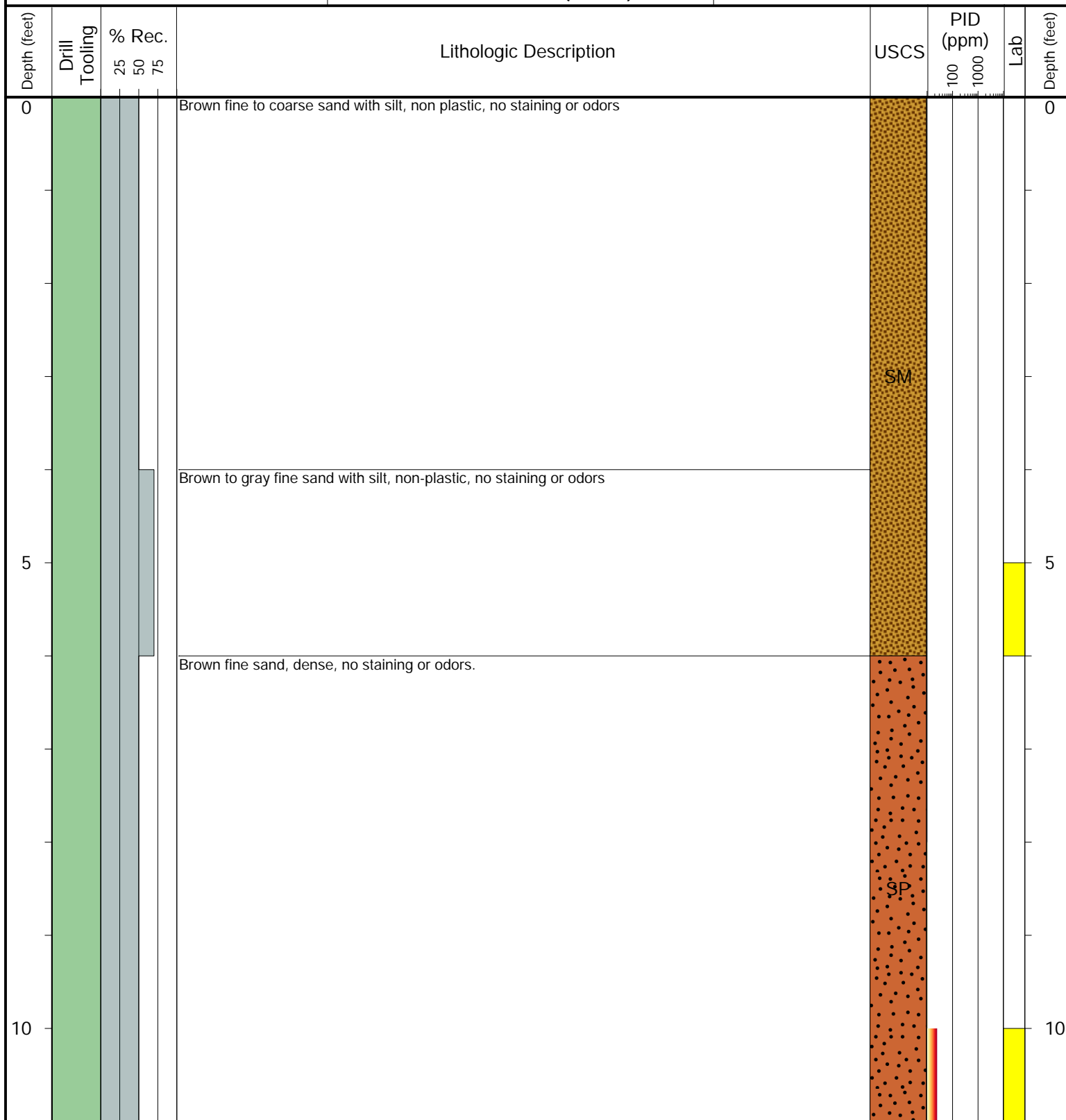
LOCATION: Weld County

LATITUDE (NAD 83): 40.68557736

LONGITUDE (NAD 83): -103.8835104

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 11/4/22 - 11/4/22

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH08

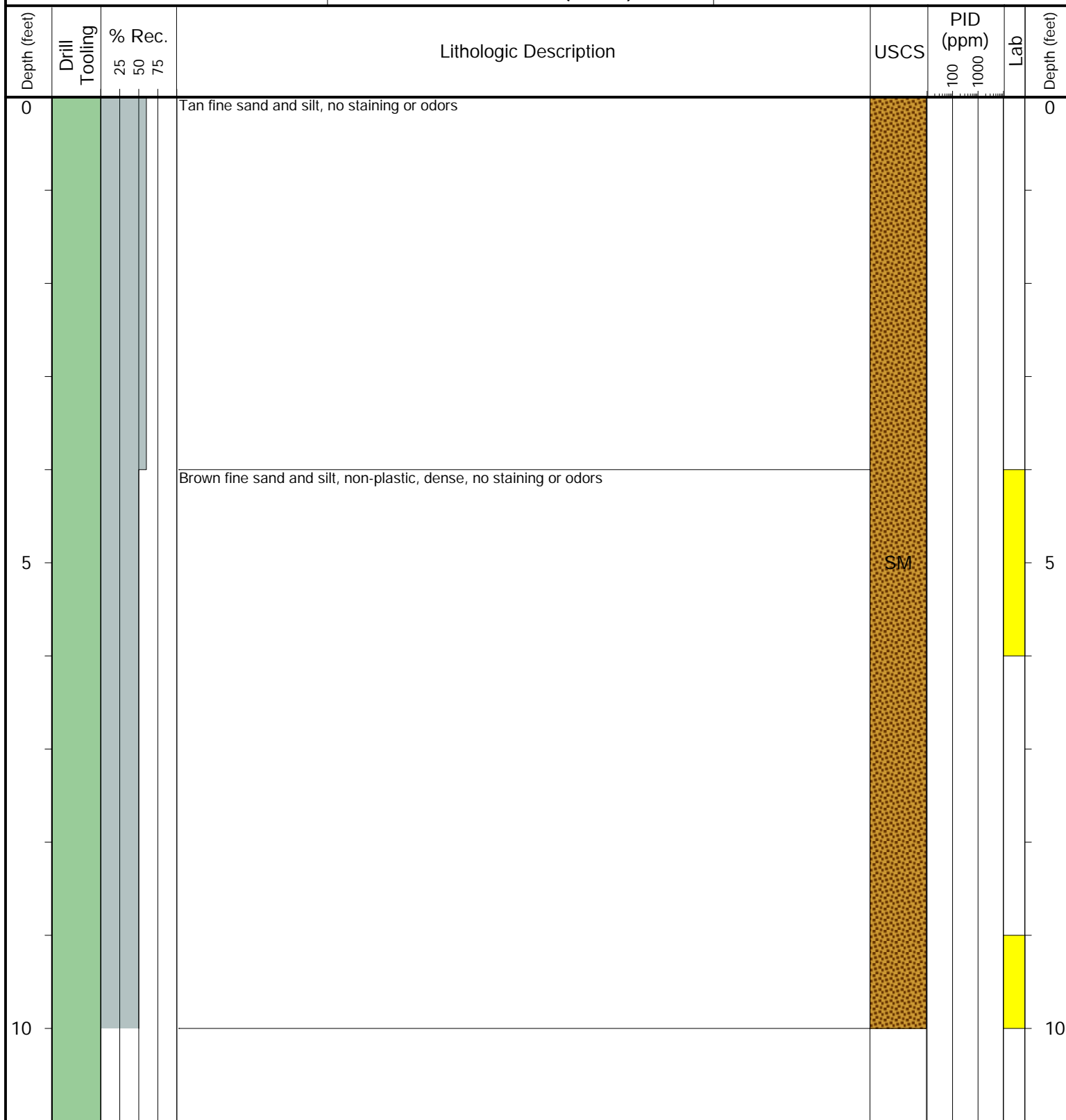
LOCATION: Weld County

LATITUDE (NAD 83): 40.68552479

LONGITUDE (NAD 83): -103.8834376

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip



Perforated Injection Tool



Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 11/4/22 - 11/4/22

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH09

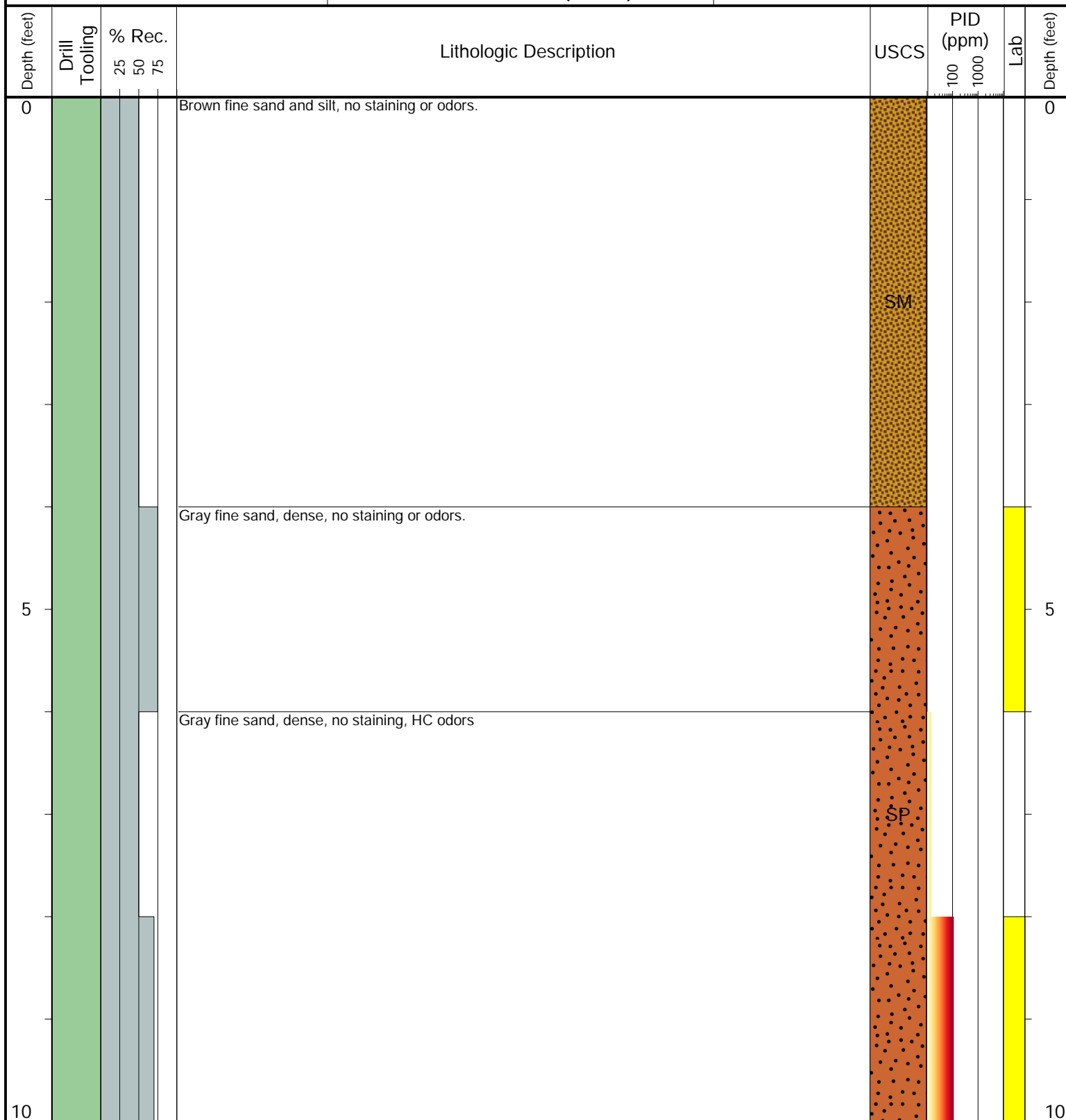
LOCATION: Weld County

LATITUDE (NAD 83): 40.68548284

LONGITUDE (NAD 83): -103.8835048

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 3.25"

DATE STARTED - COMPLETED: 12/21/22 - 12/21/22

TOTAL WELL DEPTH (FT. BGS): 20

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH09R

LOCATION: Weld County

LATITUDE (NAD 83): 40.68548284

LONGITUDE (NAD 83): -103.8835048

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite

Depth (feet)	Drill Tooling	% Rec. 25 50 75	Lithologic Description	USCS	PID (ppm)		Lab	Depth (feet)
					100	1000		
0			Brown silty fine sand, dry, loose, no staining or odors					0
5			Grey fine grain sand with silt, non-plastic fines, no staining or odors					5
10			Grey fine grain sand with silt, non-plastic fines, no staining, slight HC odors	SM				10
15			Grey fine grain sand with silt, non-plastic fines, no staining or odors					15
20								20

Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 11/4/22 - 11/4/22

TOTAL WELL DEPTH (FT. BGS): 10

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH10

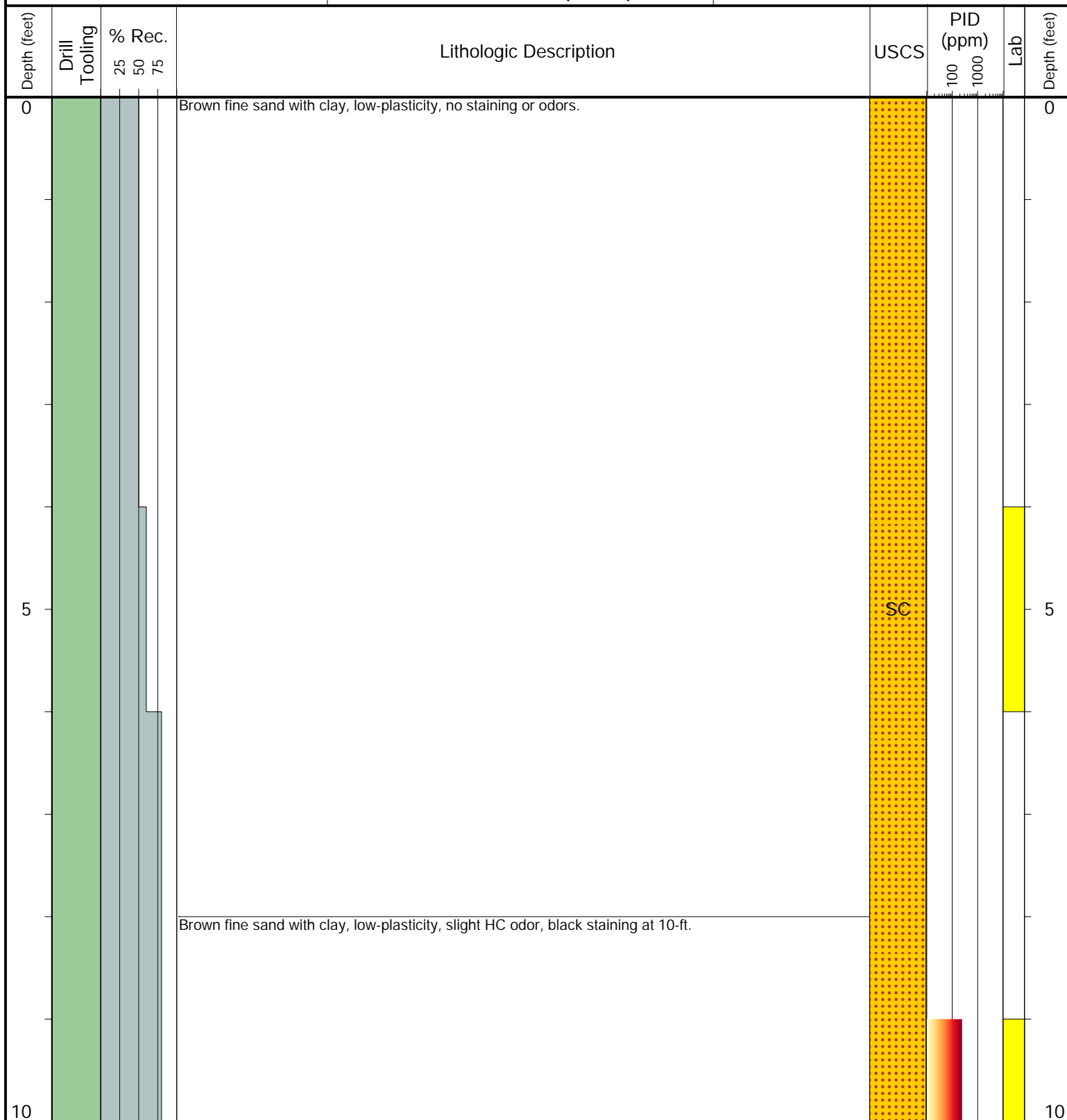
LOCATION: Weld County

LATITUDE (NAD 83): 40.68553516

LONGITUDE (NAD 83): -103.883584

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip



Perforated Injection Tool



Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 12/21/22 - 12/21/22

TOTAL WELL DEPTH (FT. BGS): 25

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH10R

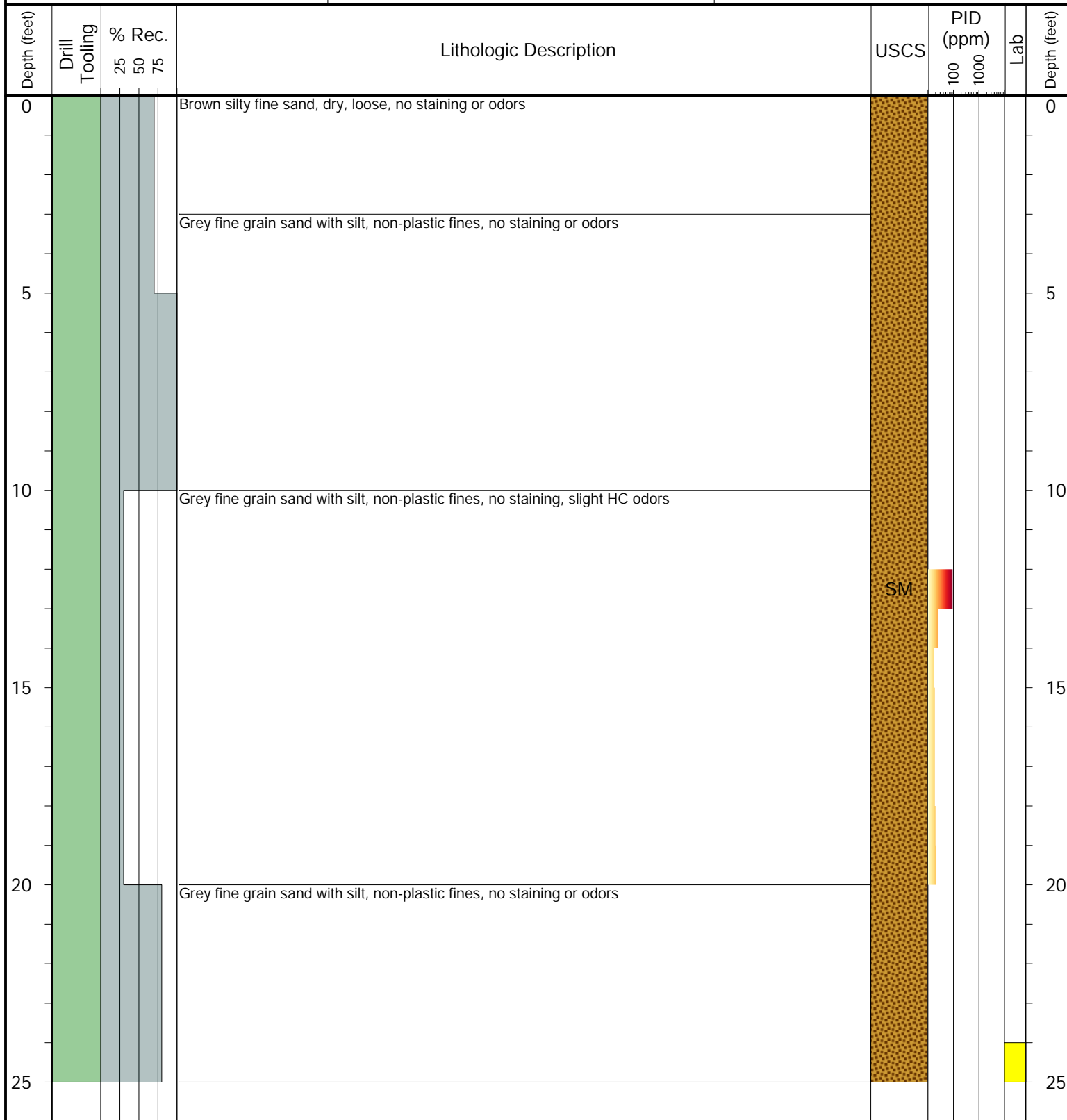
LOCATION: Weld County

LATITUDE (NAD 83): 40.68553516

LONGITUDE (NAD 83): -103.883584

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



#### Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

#### Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab





# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 1/9/23 - 1/9/23

TOTAL WELL DEPTH (FT. BGS): 25

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH11

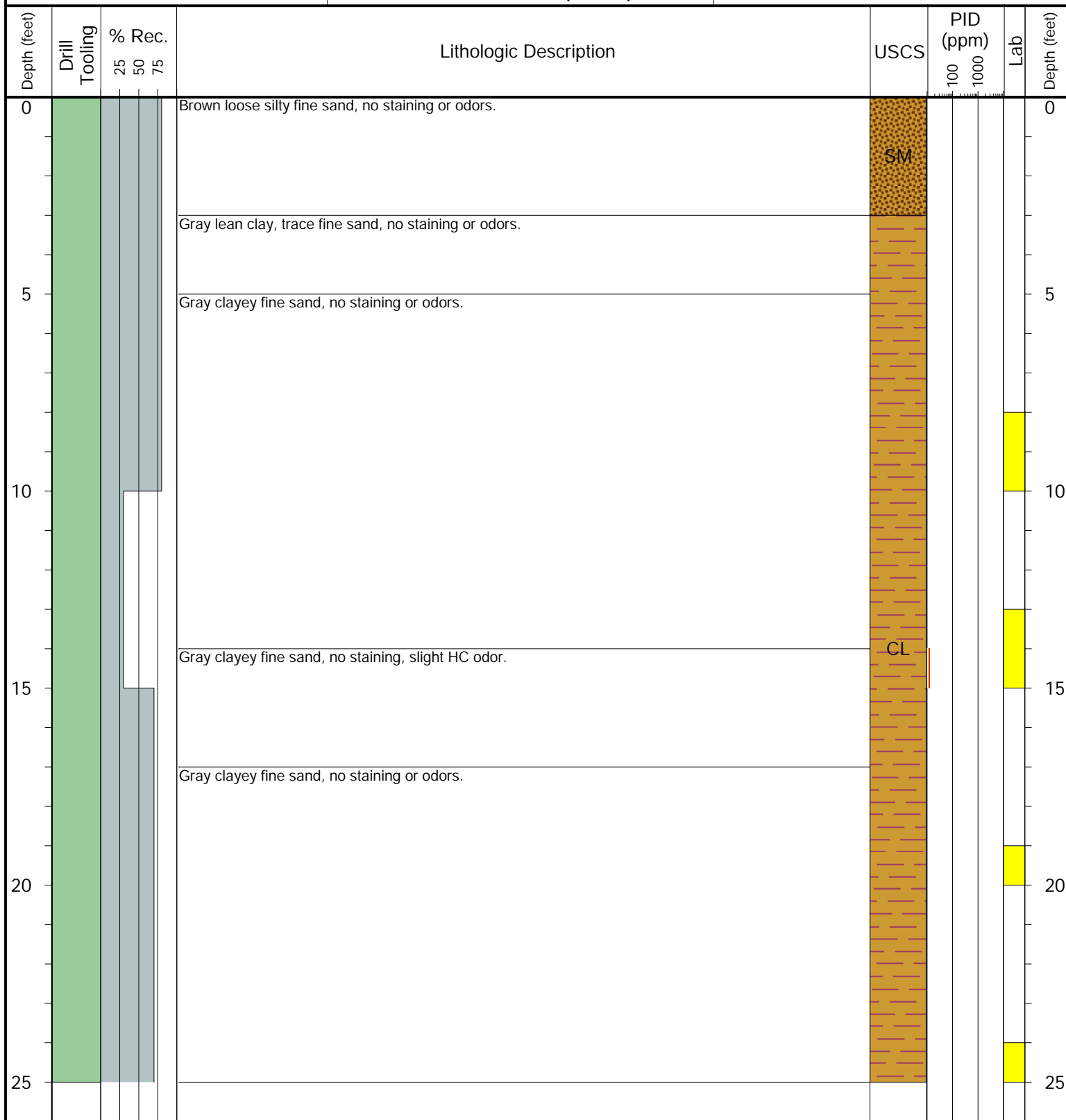
LOCATION: Weld County

LATITUDE (NAD 83): 40.685526437

LONGITUDE (NAD 83): -103.883657564

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 1/9/23 - 1/9/23

TOTAL WELL DEPTH (FT. BGS): 25

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH12

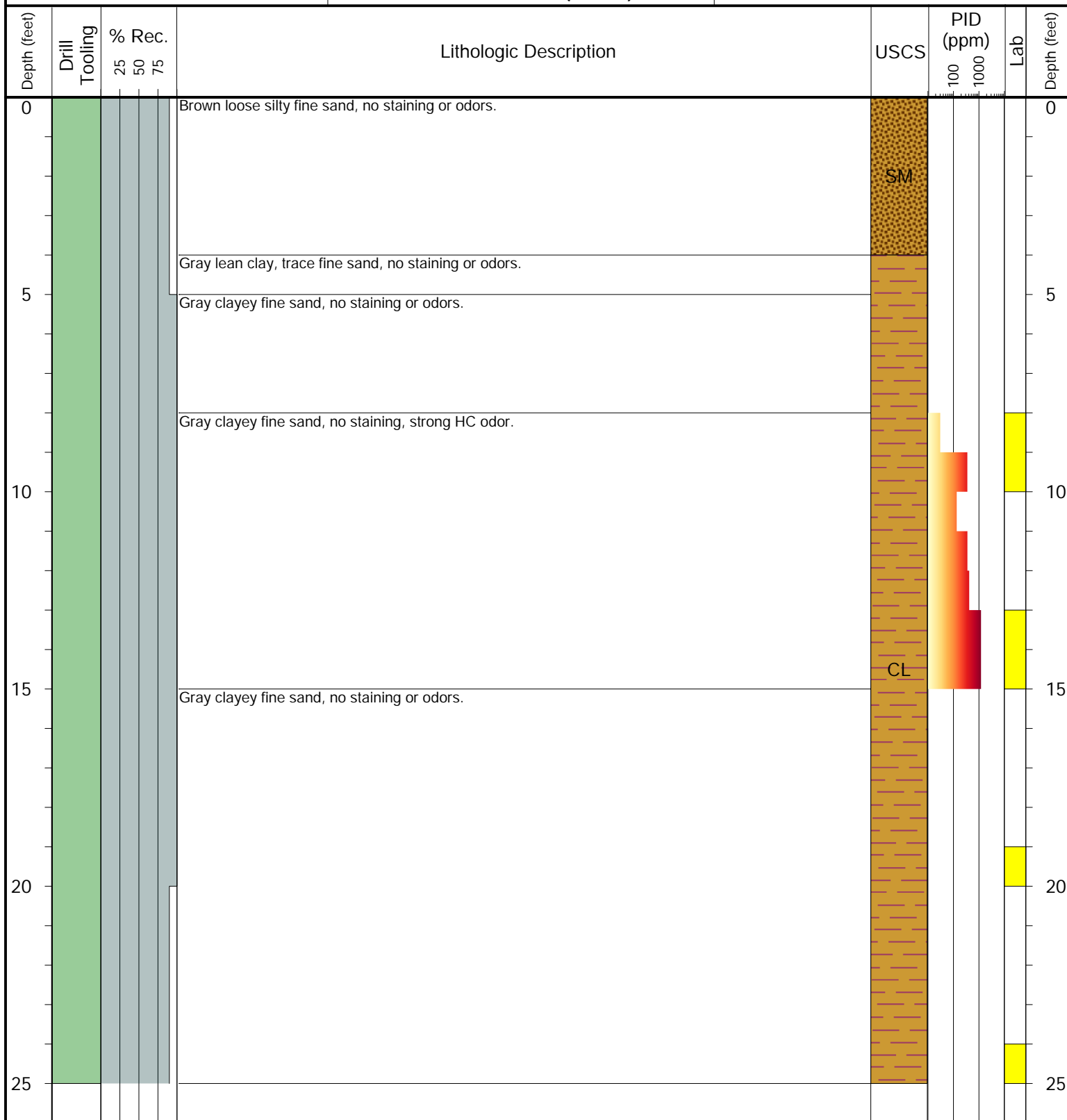
LOCATION: Weld County

LATITUDE (NAD 83): 40.685463865

LONGITUDE (NAD 83): -103.883590103

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



#### Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

#### Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 1/9/23 - 1/9/23

TOTAL WELL DEPTH (FT. BGS): 25

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH13

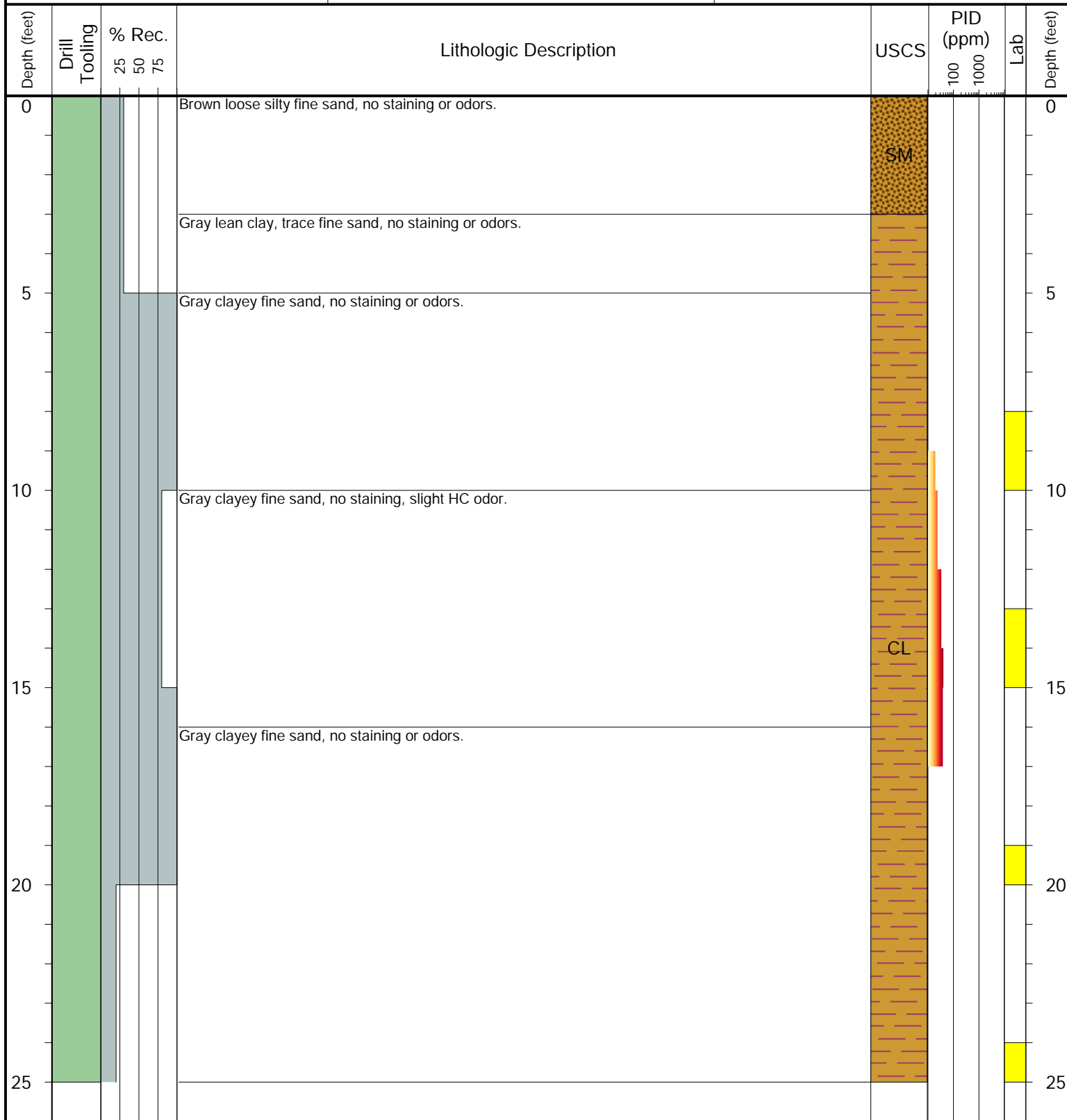
LOCATION: Weld County

LATITUDE (NAD 83): 40.685416174

LONGITUDE (NAD 83): -103.883509541

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



#### Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

#### Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Chevron

LOGGED BY: Chris Chapman

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Tasman

DRILLING EQUIPMENT: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 12/21/22 - 12/21/22

TOTAL WELL DEPTH (FT. BGS): 25

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit O-5

BORING ID: BH14

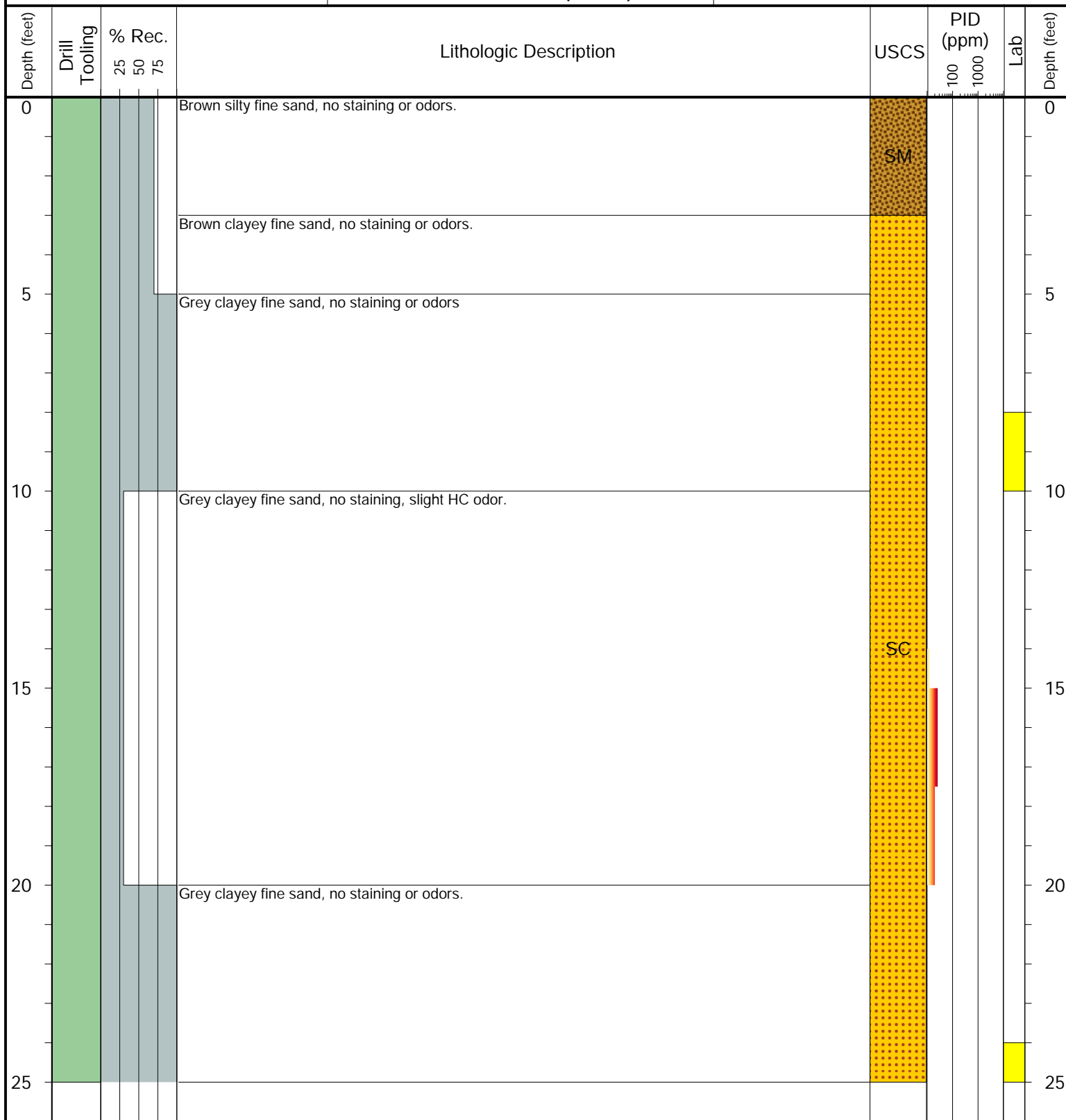
LOCATION: Weld County

LATITUDE (NAD 83): 40.685595293

LONGITUDE (NAD 83): -103.883585181

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Hollow Stem Auger

Expendable Well Tip

Perforated Injection Tool

Hand Auger

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab