

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - LILLI UNIT N-5 (FAC)

Soil Sample ID	Date	¹ 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 ²		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 ^{2,3}		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'	03/31/22	<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	<0.00500
FS01@4'	03/31/22	<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	<0.00500
AST01@0.5'	03/31/22	<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	<0.00500
AST02@0.5'	03/31/22	<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	<0.00500
SEP01-DL01@3'	03/31/22	<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	<0.00500
SEP01-DL02@4'	04/01/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	490	400	<0.00500	<0.00500	<0.00500	0.0645	<0.00500	<0.00500	0.0488	<0.00500	<0.00500	<0.00500	0.00703	<0.00500	<0.00500	<0.00500
SEP01-DL03@3'	04/01/22	<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	<0.00500
BH01@4.5'	05/24/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.0087	<0.50	4,100	2,600	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	0.669	<0.0500	<0.0500	0.658	<0.0500	<0.0500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@7.5-8.5'	05/24/22	0.68	<0.0050	5.2	66	41	12	6.4	1,200	8,700	2,700	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	<0.0500	<0.0500	<0.0500	0.942	<0.0500	<0.0500	<5 ⁽⁴⁾	<0.0500	0.735	9.47	18.1
BH01@15-17.5'	05/24/22	25	0.0057	42	220	0.97	0.58	0.59	6,400	13,000	1,900	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	0.410	0.186	<0.0500	0.928	<0.0500	0.186	6.81	<0.0500	0.764	12.0	42.3
BH01@23-24'	05/24/22	0.025	<0.0050	0.25	3.5	0.62	0.12	0.18	17	1,000	520	<0.00500	<0.00500	<0.00500	0.0153	<0.00500	<0.00500	0.0307	<0.00500	<0.00500	0.0827	<0.00500	0.0206	0.358	0.588
BH02@4.5'	05/24/22	<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	<0.00500
BH02@7.5-8.5'	05/24/22	<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	<0.00500
BH02@22-24'	05/24/22	<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	<0.00500
BH03@4.5'	05/24/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	0.0306	<0.00500	<0.00500	0.0353	<0.00500	<0.00500	<0.00500	0.0264	<0.00500	<0.00500	<0.00500
BH03@7.5-8.5'	05/24/22	<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	<0.00500
BH03@15-17.5'	05/24/22	<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	<0.00500
BH03@17.5-19'	05/24/22	<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	<0.00500
BH04@4.5'	05/24/22	<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	<0.00500
BH04@7.5-8.5'	05/24/22	<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	<0.00500
BH04@15-17.5'	05/24/22	<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	<0.00500
BH04@20-22'	05/24/22	<0.0020	<0.0050	0.066	0.23	0.40	0.097	0.13	11	320	52	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0162	<0.00500	<0.00500	0.0552	<0.00500	<0.00500	0.107	0.188
BH04@23-24'	05/24/22	<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	<0.00500
BH05@4.5'	05/24/22	<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	<0.00500
BH05@7.5-8.5'	05/24/22	<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	<0.00500
BH05@15-17'	05/24/22	<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	<0.00500
BH05@23-24'	05/24/22	0.037	<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	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	03/31/22	8.15	0.153	0.180	0.0379
FS01@4'	03/31/22	7.92	0.141	0.222	0.0353
AST01@0.5'	03/31/22	6.96	0.0507	1.36	0.0468
AST02@0.5'	03/31/22	7.80	0.0733	0.207	0.0400
SEP01-DL01@3'	03/31/22	8.02	0.0750	0.187	0.0212
SEP01-DL02@4'	04/01/22	7.85	0.425	0.902	0.0543
SEP01-DL03@3'	04/01/22	7.88	0.588	0.488	0.0798
BH01@4.5'	05/24/22	7.50	0.709	1.13	0.0902
BH01@7.5-8.5'	05/24/22	8.53	0.991	0.315	0.134
BH01@15-17.5'	05/24/22	8.37	2.95	1.07	0.131
BH01@23-24'	05/24/22	8.22	2.98	1.46	0.0436
BH02@4.5'	05/24/22	7.85	0.245	0.669	0.101
BH02@7.5-8.5'	05/24/22	8.41	0.416	0.415	0.0716
BH02@22-24'	05/24/22	8.48	0.526	0.444	0.0518
BH03@4.5'	05/24/22	8.35	0.694	0.779	0.117
BH03@7.5-8.5'	05/24/22	8.26	2.72	0.992	0.310
BH03@15-17.5'	05/24/22	7.82	3.07	1.73	0.300
BH03@17.5-19'	05/24/22	7.67	5.47	2.39	0.172
BH04@4.5'	05/24/22	8.14	1.12	1.04	0.179
BH04@7.5-8.5'	05/24/22	8.53	1.46	0.800	0.202
BH04@15-17.5'	05/24/22	8.02	1.93	1.33	0.443
BH04@20-22'	05/24/22	8.65	1.95	0.328	0.0604
BH04@23-24'	05/24/22	7.38	2.09	1.92	0.0457
BH05@4.5'	05/24/22	8.28	0.370	0.522	0.0971
BH05@7.5-8.5'	05/24/22	8.54	0.907	0.412	0.230
BH05@15-17'	05/24/22	8.66	2.65	0.662	0.380
BH05@23-24'	05/24/22	6.21	1.72	1.75	0.0501

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 ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SEP01-DL02@4'	04/01/22	2.85	248	0.255	<0.30	7.48	10.2	7.19	1.08	0.128	30.8
BG01@4'	03/31/22	3.77	379	0.252	<0.30	6.54	10.6	8.26	1.06	0.0812	30.9
BH01@4.5'	05/24/22	3.13	244	<0.251	<0.30	8.85	11.7	7.67	1.00	0.0459	30.1
BH01@7.5-8.5'	05/24/22	3.06	232	0.227	<0.30	4.32	10.5	4.35	0.820	<0.0221	16.7
BH01@15-17.5'	05/24/22	4.89	150	0.364	<0.30	8.44	13.6	5.73	1.88	0.0557	25.9
BH01@23-24'	05/24/22	0.514	52.2	<0.258	<0.30	15.1	14.7	4.24	1.22	<0.0258	9.79
BH02@4.5'	05/24/22	2.13	235	0.304	<0.30	8.78	13.1	7.23	1.16	0.0461	33.1
BH02@7.5-8.5'	05/24/22	3.82	158	0.272	<0.30	5.59	12.4	5.54	0.983	<0.0233	21.6
BH02@22-24'	05/24/22	3.02	234	0.233	<0.30	5.11	9.08	4.91	0.763	<0.0221	17.6
BH03@4.5'	05/24/22	2.72	308	<0.226	<0.30	4.99	9.25	4.73	0.889	0.0247	19.0
BH03@7.5-8.5'	05/24/22	3.61	166	<0.232	<0.30	5.39	11.4	5.03	0.898	<0.0232	18.7
BH03@15-17.5'	05/24/22	8.05	195	<0.281	<0.30	9.20	11.9	7.44	1.11	0.0361	29.8
BH03@17.5-19'	05/24/22	2.70	164	<0.302	<0.30	9.90	16.5	2.27	1.55	0.0612	20.3
BH04@4.5'	05/24/22	3.01	373	0.275	<0.30	6.40	12.1	6.32	0.910	0.0322	25.0
BH04@7.5-8.5'	05/24/22	3.07	167	0.234	<0.30	4.62	10.8	4.36	0.777	<0.0226	18.6
BH04@15-17.5'	05/24/22	9.01	282	<0.262	<0.30	9.43	11.4	8.37	1.19	0.0360	30.5
BH04@20-22'	05/24/22	5.92	111	<0.270	<0.30	8.92	8.42	3.60	2.46	0.109	21.0
BH04@23-24'	05/24/22	8.04	42.4	<0.256	<0.30	10.8	18.7	3.24	2.78	0.0428	9.20
BH05@4.5'	05/24/22	2.97	198	0.257	<0.30	5.76	10.9	5.57	0.973	0.0277	21.5
BH05@7.5-8.5'	05/24/22	2.91	223	0.260	<0.30	4.40	11.7	4.40	0.900	<0.0226	17.6
BH05@15-17'	05/24/22	3.48	75.5	<0.288	<0.30	7.92	14.1	4.19	1.46	0.0459	24.0
BH05@23-24'	05/24/22	16.3	26.8	<0.256	<0.30	9.08	14.5	2.43	0.771	0.0260	10.1

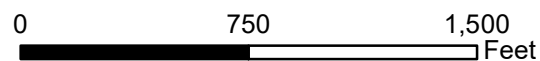
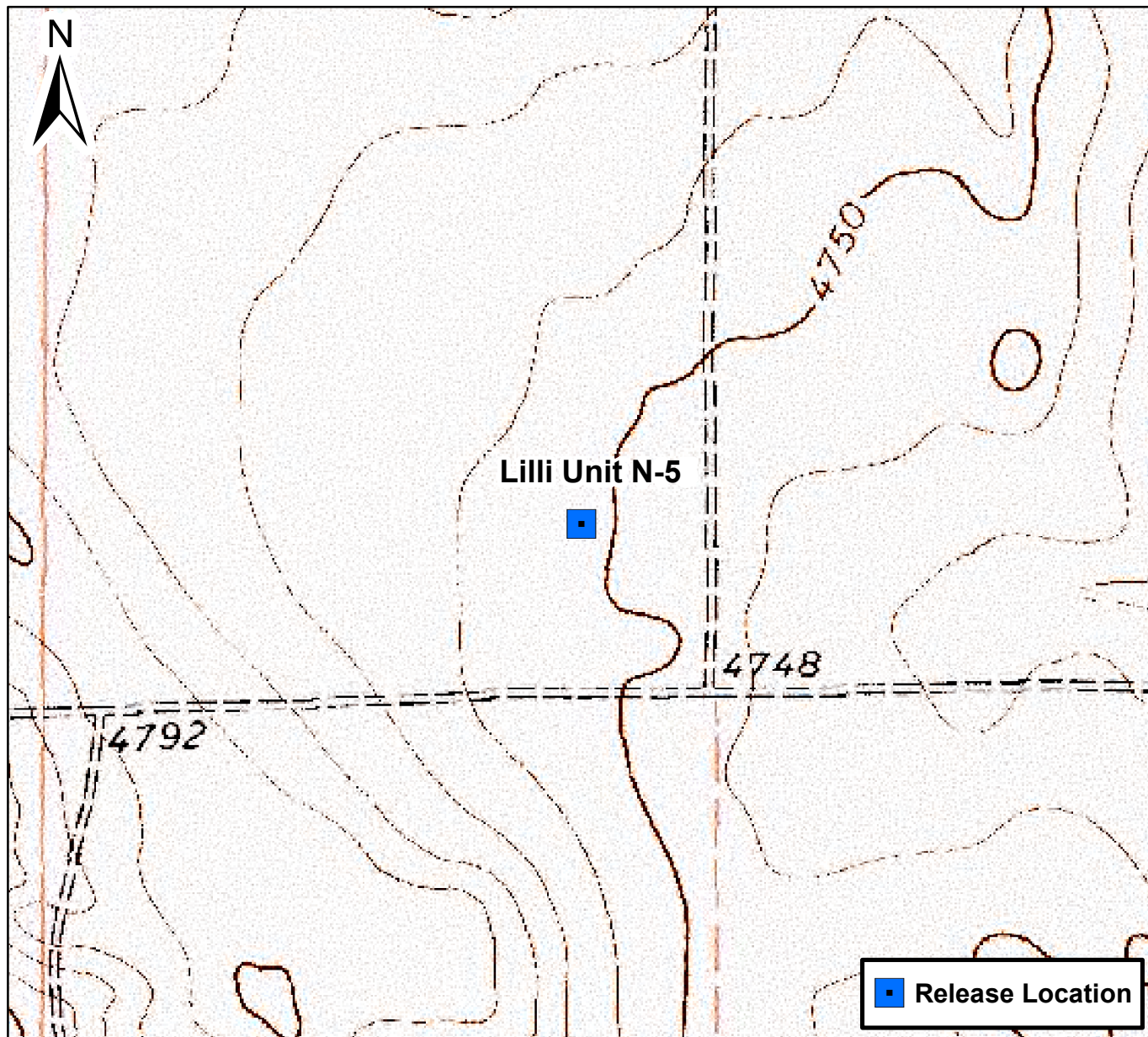
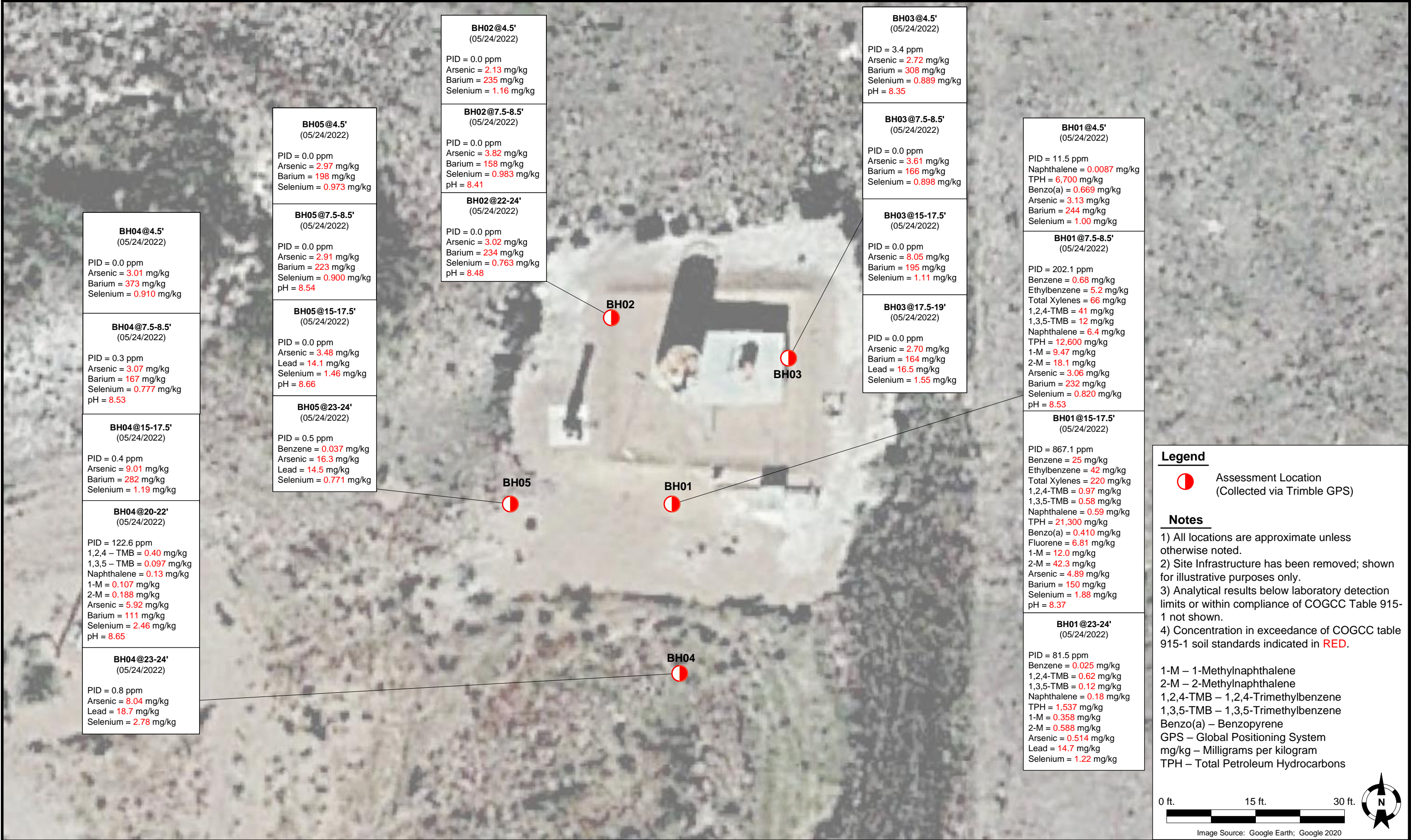


Figure 1

Site Location Map
Lilli Unit N-5 Facility
SESW S5 T8N R58W
Weld County, Colorado







Boring/Well ID #: <u>BH01</u>		SITE NAME: <u>Lilli Unit 14-5</u>		CLIENT NAME: <u>Noble</u>	
Date Started: <u>5/24/22</u>		Location: <u>New Raymer, CO</u>			
Date Completed: <u>5/24/22</u>		TOC Elevation: <u>N/A</u>		DTW: <u>N/A</u>	
Type of Drill: <u>Geoprobe 7822DT</u>		Geologist: <u>Sarah Quattrochi</u>			
Bit Size: <u>2-375"</u>		Project Manager: <u>Jack Whittenour</u>			
Drilling Company: <u>Site Services</u>					

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description	
1	no well installed	HA	100	0.5		SC	clayey SAND, brn, moist, fgy sand, soft, no odor/no staining	
2								
3								
4								
5				20.1	BH01 @ 4.5' 945		@ 5.5 - 24' Strong HC odor, grey/blue staining	
6				182.5			@ 20-24' compacted, hard	
7		DP						
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

Borehole Logging Form

Boring/Well ID #: <u>BH02</u>		SITE NAME: <u>Lilli Unit 14-5</u>		CLIENT NAME: <u>Noble</u>	
Date Started: <u>5/24/22</u>		Location: <u>New Raymer</u>			
Date Completed: <u>5/24/22</u>		TOC Elevation: <u>N/A</u>		DTW: <u>N/A</u>	
Type of Drill: <u>Geoprobe 7822DT</u>		Geologist: <u>Sarah Quattrochi</u>			
Bit Size: <u>2.375"</u>		Project Manager: <u>Jack Whittenour</u>			
Drilling Company: <u>Site Services</u>					

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	<u>no wells installed</u>	<u>HA</u>	<u>100</u>	<u>0.0</u>		<u>SC</u>	<u>clayey SAND, brn, moist, soft, fg sand, no odor / no staining</u>
2							
3				<u>0.0</u>			
4				<u>0.0</u>	<u>BH02 @ 4.5'</u>		
5				<u>0.0</u>	<u>1016</u>		
6							
7				<u>0.0</u>			
8		<u>DP</u>		<u>0.0</u>	<u>BH02 @ 7.5-8.5'</u>	<u>1344</u>	
9							
10			<u>0.0</u>			<u>SP</u>	<u>SAND, coarse, dry, brn, loose, no odor / no staining</u>
11			<u>0.0</u>				
12							
13			<u>0.0</u>			<u>SC</u>	<u>clayey SAND, brn, firm, fg sand, dry, no odor / no staining</u>
14							
15							
16			<u>no recovery</u>				<u>@15-20' no recovery, crushed liner</u>
17							
18							
19							
20							
21				<u>0.0</u>			
22							
23				<u>0.0</u>	<u>BH02 @ 22-24'</u>		<u>Refusal @ 24'</u>
24					<u>1443</u>		<u>no well installed</u>
25							

Borehole Logging Form

Boring/Well ID #: BH03		SITE NAME: Lilli Unit 14-5		CLIENT NAME: Noble	
Date Started: 5/24/22		Location: New Raymer, CO			
Date Completed: 5/24/22		TOC Elevation: N/A		DTW: N/A	
Type of Drill: GeoProbe 2822 DT		Geologist: Sarah Quattrochi			
Bit Size: 2.375"		Project Manager: Jake Whitenour			
Drilling Company: Site Services					

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description	
1	NO well installed	HA	100	0.1		SC	Clayey SAND, brn, moist, soft, fgy sand, no odor/no staining	
2								
3								
4				3.4	BH03@4.5' 1000			
5				0.0				
6				0.0				
7				0.0				
8		DP		0.0	BH03@7.5-8.5' 14.58			
9				0.0				
10								
11			0.0		SP	SAND, dry, brn, loose, coarse, no odor/no staining		
12								
13			0.0					
14								
15						@ 17-19 hard, compacted		
16			0.0	BH03@15-17.5' 1515	CL	Silty CLAY, brn, dry, hard, no plast, no odor/no staining claystone?		
17								
18		0.0	BH03@17.5-19' 1520					
19								
20							Refusal @ 19.5' no well installed	
21								
22								
23								
24								
25								

Borehole Logging Form

Boring/Well ID #: BH04		SITE NAME: Lilli Unit 14-5		CLIENT NAME: Noble				
Date Started: 5/24/22		Location: New Raymer, CO						
Date Completed: 5/24/22		TOC Elevation: N/A		DTW: N/A				
Type of Drill: GeoProbe 7822 DT		Geologist: Sarah Cvatthochi						
Bit Size: 2.375"		Project Manager: Jake Whitenour						
Drilling Company: Site Services								
Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description	
1	No well installed	HA	100	0.0		SC	clayey SAND, brn, moist, fg sand, soft, no odor / no staining	
2				0.0				
3				0.0				
4				0.0	BH04@5' 1045			
5				0.0				
6				0.2				
7		DP			0.3	BH04@7.5' 1210	8.5'	
8					0.5			
9					0.0			
10					0.0			
11				0.0				
12				0.0				
13				0.0				CL silty CLAY, brn / gray, soft, high plast, some fg sand, no odor / no staining
14				0.4	BH04@ 15-17.5' 1223			
15				0.2				
16				0.2				
17							@20-22' black streaked staining	
18							@20-24' compacted dry clay, hard	
19								
20								
21				122.6	BH04@ 20-22' 1237			
22				2.5				
23				0.8	BH04@ 23-24' 1237		Refusal @ 24' no well installed	
24								
25								

Borehole Logging Form

Boring/Well ID #: BH05		SITE NAME: Lilli Unit 14-5		CLIENT NAME: Noble	
Date Started: 5/24/22		Location: New Raymer			
Date Completed: 5/24/22		TOC Elevation: N/A		DTW: N/A Not Encountered	
Type of Drill: Geoprobe 7822 DT		Geologist: Sarah Cosattrochi			
Bit Size: 2.375"		Project Manager: Jake Whritenour			
Drilling Company: Site Services					

Depth (feet)	Well Completion	Sample Type	% Recovery	PID (ppm)	Laboratory Sample	USCS	Description
1	No well installed	HA	100	0.0		SC	clayey SAND, brn, moist, fgy sand, soft, no odor / no staining
2				0.0			
3				0.0			
4				0.0	BH05 @ 4.5' 934		
5				0.0			
6				0.0			
7				0.0			
8				0.0	BH05 @ 7.5-8.5' 1252		
9		DP		0.0			
10				0.0			
11			0.0				
12			0.0				
13					CL	Silty CLAY, brn, soft, mod plast., no odor / no staining	
14	0.0						
15							
16			0.0	BH05 @ 15-17.5' 1312			
17							
18			0.0				
19							
20							
21		0.0					
22							
23							Refusal @ 24' well not installed
24		0.5	BH05 @ 23-24' 1325				
25							

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 13, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 14-5

Work Order #2205382

Enclosed are the results of analyses for samples received by Summit Scientific on 05/25/22 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@4.5'	2205382-01	Soil	05/24/22 09:45	05/25/22 15:00
BH01@7.5-8.5'	2205382-02	Soil	05/24/22 11:07	05/25/22 15:00
BH01@15-17.5'	2205382-03	Soil	05/24/22 11:27	05/25/22 15:00
BH01@23-24'	2205382-04	Soil	05/24/22 11:40	05/25/22 15:00
BH02@4.5'	2205382-05	Soil	05/24/22 10:16	05/25/22 15:00
BH02@7.5-8.5'	2205382-06	Soil	05/24/22 13:44	05/25/22 15:00
BH02@22-24'	2205382-07	Soil	05/24/22 14:43	05/25/22 15:00
BH03@4.5'	2205382-08	Soil	05/24/22 10:00	05/25/22 15:00
BH03@7.5-8.5'	2205382-09	Soil	05/24/22 14:58	05/25/22 15:00
BH03@15-17.5'	2205382-10	Soil	05/24/22 15:15	05/25/22 15:00
BH03@17.5-19'	2205382-11	Soil	05/24/22 15:20	05/25/22 15:00
BH04@4.5'	2205382-12	Soil	05/24/22 10:45	05/25/22 15:00
BH04@7.5-8.5'	2205382-13	Soil	05/24/22 12:10	05/25/22 15:00
BH04@15-17.5'	2205382-14	Soil	05/24/22 12:23	05/25/22 15:00
BH04@23-24'	2205382-15	Soil	05/24/22 12:37	05/25/22 15:00
BH05@4.5'	2205382-16	Soil	05/24/22 09:34	05/25/22 15:00
BH05@7.5-8.5'	2205382-17	Soil	05/24/22 12:52	05/25/22 15:00
BH05@15-17.5'	2205382-18	Soil	05/24/22 13:12	05/25/22 15:00
BH05@23-24'	2205382-19	Soil	05/24/22 13:25	05/25/22 15:00
BH04@20-22'	2205382-20	Soil	05/24/22 13:25	05/25/22 15:00

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

2205382.1

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: Noble / Tasman

Project Manager: Jake Whritenour

Address: 6855 W 119th Ave

E-Mail: jwhritenour@tasman-geo.com

City/State/Zip: Broomfield, CO 80020

Phone: 303-487-1228

Project Name: Lilli Unit 14-5

Sampler Name: Sarah Cwatroch

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	Metals-915	EC, pH, SAR	Boron			
1	BH01 @ 4.5'	5/24/22	945	2			X			X				X	X	X	X	X	X		
2	BH01 @ 7.5-8.5'		1107																		
3	BH01 @ 15-17.5'		1127																		
4	BH01 @ 23-24'		1140																		
5	BH02 @ 4.5'		1016																		
6	BH02 @ 7.5-8.5'		1344																		
7	BH02 @ 22-24'		1443																		
8	BH03 @ 4.5'		1000																		
9	BH03 @ 7.5-8.5'		1458																		
10	BH03 @ 15-17.5'		1515																		

Relinquished by: <u>S. Cwatroch</u>	Date/Time: <u>5/24/22 @ 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/25/22 1500</u>	Turn Around Time (Check)	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/>
				24 hours <input type="checkbox"/>	Standard <input checked="" type="checkbox"/>
				48 hours <input type="checkbox"/>	
Temperature Upon Receipt: <u>8.1</u>	Corrected Temperature <u>8.1</u>	HNO3 lot #	Sample Integrity:	Samples Intact: <u>Yes</u>	No <input type="checkbox"/>
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

Summit Scientific

2205382.2

S₂

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

Page 2 of 2

Client: Noble / Tasmán
Address: 6855 W 119th Ave
City/State/Zip: Broomfield, CO 80020
Phone: 303-487-1228
Sampler Name: Sarah Quattrochi

Project Manager: Jake Whritenour
E-Mail: jwhritenour@tasmán-geo.com
Project Name: Lilli Unit 14-5
Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC-q15	TPH-q15	PAH-q15	metals-q15	EL, PH, SAR	Boron			
1	BH03 @ 12.5-19'	5/24/22	1520	2			X			X				X	X	X	X	X	X		
2	BH04 @ 4.5'		1045																		
3	BH04 @ 7.5-8.5'		1210																		
4	BH04 @ 15-17.5'		1223																		
5	BH04 @ 23-24'		1237																		
6	BH05 @ 4.5'		934																		
7	BH05 @ 7.5-8.5'		1252																		
8	BH05 @ 15-17.5'		1312																		
9	BH05 @ 23-24'		1325																		
10																					

Relinquished by: <u>S. Quattrochi</u>	Date/Time: <u>5/24/22 @ 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/25/22 1500</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Temperature Upon Receipt: <u>8.1</u>	Corrected Temperature <u>8.1</u>	HNO ₃ lot #			
IR gun correction: <u>0</u>		IR gun #: <u>1</u>			

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2205382

Client: Noble FrismanClient Project ID: Lilli Unit 14-5

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

	-			
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature $< 6^{\circ}\text{C}$ ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe^{2+}), Hexavalent Chromium (Cr^{6+} , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H_2SO_4 , NaOH, HNO_3 , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

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



Custodian Printed Name

S2522

Date/Time



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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	0.0087	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0325	81.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	4100	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	2600	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	18.5	148 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

R-01

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFE0695	05/31/22	06/05/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) pyrene	0.669	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Chrysene	0.658	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	ND	0.0500	"	"	"	"	"	"	
Fluorene	ND	0.0500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	"	"	"	"	"	
Pyrene	0.102	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00	%	40-150		"	"	"	"	S-02
Surrogate: Fluoranthene-d10	0.00	%	40-150		"	"	"	"	S-02

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0902	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 09:45**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.13	0.251	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	244	0.502	"	"	"	"	"	"
Cadmium	ND	0.251	"	"	"	"	"	"
Copper	8.85	0.502	"	"	"	"	"	"
Lead	11.7	0.251	"	"	"	"	"	"
Nickel	7.67	0.502	"	"	"	"	"	"
Selenium	1.00	0.326	"	"	"	"	"	"
Silver	0.0459	0.0251	"	"	"	"	"	"
Zinc	30.1	0.502	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	709	0.0627	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	197	0.0627	"	"	"	"	"	"	
Sodium	82.9	0.0627	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.709	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 09:45**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.8	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.13	0.0100		mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 09:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.50			pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@7.5-8.5'
2205382-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	0.68	0.20	mg/kg	100	BFE0642	05/27/22	05/29/22	EPA 8260B	
Toluene	ND	0.0050	"	1	"	"	05/29/22	"	
Ethylbenzene	5.2	0.50	"	100	"	"	05/29/22	"	
Xylenes (total)	66	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	41	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	12	0.50	"	"	"	"	"	"	
Naphthalene	6.4	0.38	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1200	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0322	80.6 %	50-150		"	"	05/29/22	"	
<i>Surrogate: Toluene-d8</i>	0.0384	96.0 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0352	88.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	8700	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	2700	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>	6.84	54.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

R-01

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@7.5-8.5'
2205382-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFE0695	05/31/22	06/05/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Chrysene	0.942	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	ND	0.0500	"	"	"	"	"	"	
Fluorene	ND	5.00	"	1000	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	"	"	
Pyrene	0.735	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	9.47	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	18.1	5.00	"	1000	"	"	"	"	

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.00	%	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0338	101 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.134	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 11:07**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@7.5-8.5'
2205382-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.06	0.221	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	232	0.443	"	"	"	"	"	"
Cadmium	0.227	0.221	"	"	"	"	"	"
Copper	4.32	0.443	"	"	"	"	"	"
Lead	10.5	0.221	"	"	"	"	"	"
Nickel	4.35	0.443	"	"	"	"	"	"
Selenium	0.820	0.288	"	"	"	"	"	"
Silver	ND	0.0221	"	"	"	"	"	"
Zinc	16.7	0.443	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	418	0.0553	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	101	0.0553	"	"	"	"	"	"	
Sodium	87.1	0.0553	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.991	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 11:07**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@7.5-8.5'
2205382-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.4	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.315	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.53		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@15-17.5'
2205382-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	25	0.20	mg/kg	100	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	0.0057	0.0050	"	1	"	"	05/28/22	"	
Ethylbenzene	42	0.50	"	100	"	"	05/28/22	"	
Xylenes (total)	220	1.0	"	"	"	"	"	"	E
1,2,4-Trimethylbenzene	0.97	0.0050	"	1	"	"	05/28/22	"	
1,3,5-Trimethylbenzene	0.58	0.0050	"	"	"	"	"	"	
Naphthalene	0.59	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	6400	50	"	100	"	"	05/28/22	"	

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0284	70.9 %	50-150		"	"	05/28/22	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.152	379 %	50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	13000	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	1900	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	22.4	179 %	30-150		"	"	"	"	S-02

PAH by EPA Method 8270D SIM

R-01

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@15-17.5'
2205382-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFE0695	05/31/22	06/05/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) pyrene	0.410	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.186	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Chrysene	0.928	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	0.186	0.0500	"	"	"	"	"	"	
Fluorene	6.81	5.00	"	1000	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	"	"	
Pyrene	0.764	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	12.0	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	42.3	5.00	"	1000	"	"	"	"	

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.196	588 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.00	%	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.131	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 11:27**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@15-17.5'
2205382-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	4.89	0.260	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	150	0.520	"	"	"	"	"	"
Cadmium	0.364	0.260	"	"	"	"	"	"
Copper	8.44	0.520	"	"	"	"	"	"
Lead	13.6	0.260	"	"	"	"	"	"
Nickel	5.73	0.520	"	"	"	"	"	"
Selenium	1.88	0.338	"	"	"	"	"	"
Silver	0.0557	0.0260	"	"	"	"	"	"
Zinc	25.9	0.520	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: 05/24/22 11:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: 05/24/22 11:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1440	0.0650	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	261	0.0650	"	"	"	"	"	"	
Sodium	463	0.0650	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 05/24/22 11:27

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.95	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 05/24/22 11:27

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@15-17.5'
2205382-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.9	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.07	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 11:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@23-24'
2205382-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.025	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.25	0.0050	"	"	"	"	"	"	
Xylenes (total)	3.5	0.10	"	10	"	"	05/28/22	"	
1,2,4-Trimethylbenzene	0.62	0.0050	"	1	"	"	05/28/22	"	
1,3,5-Trimethylbenzene	0.12	0.0050	"	"	"	"	"	"	
Naphthalene	0.18	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	17	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0379	94.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0313	78.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0638	160 %	50-150		"	"	"	"	S-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1000	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	520	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.7	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@23-24'
2205382-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/05/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0153	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0307	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0827	0.0500	"	10	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	"	"	
Pyrene	0.0206	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.358	0.0500	"	10	"	"	"	"	
2-Methylnaphthalene	0.588	0.0500	"	"	"	"	"	"	

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0269	80.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0436	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 11:40**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@23-24'
2205382-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.514	0.258	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	52.2	0.516	"	"	"	"	"	"
Cadmium	ND	0.258	"	"	"	"	"	"
Copper	15.1	0.516	"	"	"	"	"	"
Lead	14.7	0.258	"	"	"	"	"	"
Nickel	4.24	0.516	"	"	"	"	"	"
Selenium	1.22	0.336	"	"	"	"	"	"
Silver	ND	0.0258	"	"	"	"	"	"
Zinc	9.79	0.516	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	312	0.0645	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	130	0.0645	"	"	"	"	"	"	
Sodium	248	0.0645	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.98	0.00100	units	1	BFF0198	06/08/22	06/08/22	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 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH01@23-24'

2205382-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.5		%	1	BFE0745	05/31/22	05/31/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.46	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/29/22	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: **05/24/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0332	82.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0361	90.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.0	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 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/05/22	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: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0250	75.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0216	64.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.101	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 10:16**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.13	0.252	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	235	0.504	"	"	"	"	"	"
Cadmium	0.304	0.252	"	"	"	"	"	"
Copper	8.78	0.504	"	"	"	"	"	"
Lead	13.1	0.252	"	"	"	"	"	"
Nickel	7.23	0.504	"	"	"	"	"	"
Selenium	1.16	0.328	"	"	"	"	"	"
Silver	0.0461	0.0252	"	"	"	"	"	"
Zinc	33.1	0.504	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1350	0.0630	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	202	0.0630	"	"	"	"	"	"	
Sodium	36.5	0.0630	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.245	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 10:16**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.669	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 10:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.85		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH02@7.5-8.5'

2205382-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0345	86.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0372	93.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.2	122 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@7.5-8.5'
2205382-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	72.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.0716	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 13:44**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@7.5-8.5'
2205382-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.82	0.233	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	158	0.467	"	"	"	"	"	"
Cadmium	0.272	0.233	"	"	"	"	"	"
Copper	5.59	0.467	"	"	"	"	"	"
Lead	12.4	0.233	"	"	"	"	"	"
Nickel	5.54	0.467	"	"	"	"	"	"
Selenium	0.983	0.303	"	"	"	"	"	"
Silver	ND	0.0233	"	"	"	"	"	"
Zinc	21.6	0.467	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	667	0.0583	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	185	0.0583	"	"	"	"	"	"	
Sodium	47.1	0.0583	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.416	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 13:44**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@7.5-8.5'
2205382-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.7	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.415	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH02@22-24'

2205382-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 14:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0354	88.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0362	90.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.4	115 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@22-24'
2205382-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0272	81.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0271	81.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0518	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 14:43**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@22-24'
2205382-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.02	0.221	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	234	0.441	"	"	"	"	"	"
Cadmium	0.233	0.221	"	"	"	"	"	"
Copper	5.11	0.441	"	"	"	"	"	"
Lead	9.08	0.221	"	"	"	"	"	"
Nickel	4.91	0.441	"	"	"	"	"	"
Selenium	0.763	0.287	"	"	"	"	"	"
Silver	ND	0.0221	"	"	"	"	"	"
Zinc	17.6	0.441	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	579	0.0551	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	157	0.0551	"	"	"	"	"	"	
Sodium	55.4	0.0551	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.526	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 14:43**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@22-24'
2205382-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	90.7	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.444	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 14:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.48		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0331	82.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0371	92.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.6	125 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0306	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0353	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.0264	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0223	66.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.117	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 10:00**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.72	0.226	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	308	0.452	"	"	"	"	"	"
Cadmium	ND	0.226	"	"	"	"	"	"
Copper	4.99	0.452	"	"	"	"	"	"
Lead	9.25	0.226	"	"	"	"	"	"
Nickel	4.73	0.452	"	"	"	"	"	"
Selenium	0.889	0.294	"	"	"	"	"	"
Silver	0.0247	0.0226	"	"	"	"	"	"
Zinc	19.0	0.452	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	832	0.0565	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	186	0.0565	"	"	"	"	"	"	
Sodium	85.0	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.694	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 10:00**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.6	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.779	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH03@7.5-8.5'

2205382-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0315	78.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0380	95.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0359	89.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.1	121 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@7.5-8.5'
2205382-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0223	67.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0196	58.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.310	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 14:58**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@7.5-8.5'
2205382-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.61	0.232	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	166	0.463	"	"	"	"	"	"
Cadmium	ND	0.232	"	"	"	"	"	"
Copper	5.39	0.463	"	"	"	"	"	"
Lead	11.4	0.232	"	"	"	"	"	"
Nickel	5.03	0.463	"	"	"	"	"	"
Selenium	0.898	0.301	"	"	"	"	"	"
Silver	ND	0.0232	"	"	"	"	"	"
Zinc	18.7	0.463	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	514	0.0579	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	176	0.0579	"	"	"	"	"	"	
Sodium	280	0.0579	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.72	0.00100	units	1	BFF0198	06/08/22	06/08/22	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@7.5-8.5'
2205382-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.3		%	1	BFE0745	05/31/22	05/31/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.992	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.26		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@15-17.5'
2205382-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0320	80.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	95.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0353	88.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.3	114 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@15-17.5'
2205382-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0241	72.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0222	66.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.300	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 15:15**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@15-17.5'
2205382-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	8.05	0.281	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	195	0.562	"	"	"	"	"	"
Cadmium	ND	0.281	"	"	"	"	"	"
Copper	9.20	0.562	"	"	"	"	"	"
Lead	11.9	0.281	"	"	"	"	"	"
Nickel	7.44	0.562	"	"	"	"	"	"
Selenium	1.11	0.365	"	"	"	"	"	"
Silver	0.0361	0.0281	"	"	"	"	"	"
Zinc	29.8	0.562	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1360	0.0702	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	302	0.0702	"	"	"	"	"	"	
Sodium	481	0.0702	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.07	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 15:15**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@15-17.5'
2205382-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	71.2	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.73	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 15:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@17.5-19'
2205382-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0346	86.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	96.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0355	88.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.0	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@17.5-19'
2205382-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0221	66.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.172	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@17.5-19'
2205382-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.70	0.302	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	164	0.604	"	"	"	"	"	"
Cadmium	ND	0.302	"	"	"	"	"	"
Copper	9.90	0.604	"	"	"	"	"	"
Lead	16.5	0.302	"	"	"	"	"	"
Nickel	2.27	0.604	"	"	"	"	"	"
Selenium	1.55	0.392	"	"	"	"	"	"
Silver	0.0612	0.0302	"	"	"	"	"	"
Zinc	20.3	0.604	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	188	0.0755	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	111	0.0755	"	"	"	"	"	"	
Sodium	382	0.0755	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.47	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 15:20**

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@17.5-19'
2205382-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	66.3	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.39	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.67		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0340	84.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0354	88.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.5	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0138	41.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	0.179	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.01	0.240	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	373	0.480	"	"	"	"	"	"
Cadmium	0.275	0.240	"	"	"	"	"	"
Copper	6.40	0.480	"	"	"	"	"	"
Lead	12.1	0.240	"	"	"	"	"	"
Nickel	6.32	0.480	"	"	"	"	"	"
Selenium	0.910	0.312	"	"	"	"	"	"
Silver	0.0322	0.0240	"	"	"	"	"	"
Zinc	25.0	0.480	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	875	0.0600	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	177	0.0600	"	"	"	"	"	"	
Sodium	139	0.0600	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.12	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 10:45**

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 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	83.3	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.04	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.14		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@7.5-8.5'
2205382-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0348	87.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0360	90.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.7	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@7.5-8.5'
2205382-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0155	46.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.202	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 12:10**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@7.5-8.5'
2205382-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.07	0.226	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	167	0.453	"	"	"	"	"	"
Cadmium	0.234	0.226	"	"	"	"	"	"
Copper	4.62	0.453	"	"	"	"	"	"
Lead	10.8	0.226	"	"	"	"	"	"
Nickel	4.36	0.453	"	"	"	"	"	"
Selenium	0.777	0.294	"	"	"	"	"	"
Silver	ND	0.0226	"	"	"	"	"	"
Zinc	18.6	0.453	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	503	0.0566	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	132	0.0566	"	"	"	"	"	"	
Sodium	142	0.0566	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.46	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 12:10**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@7.5-8.5'
2205382-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.3	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.800	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.53		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@15-17.5'
2205382-14 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0351	87.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0391	97.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0355	88.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.0	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@15-17.5'
2205382-14 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0255	76.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0244	73.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.443	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 12:23**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@15-17.5'
2205382-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	9.01	0.262	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	282	0.524	"	"	"	"	"	"
Cadmium	ND	0.262	"	"	"	"	"	"
Copper	9.43	0.524	"	"	"	"	"	"
Lead	11.4	0.262	"	"	"	"	"	"
Nickel	8.37	0.524	"	"	"	"	"	"
Selenium	1.19	0.341	"	"	"	"	"	"
Silver	0.0360	0.0262	"	"	"	"	"	"
Zinc	30.5	0.524	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	778	0.0655	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	167	0.0655	"	"	"	"	"	"	
Sodium	227	0.0655	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.93	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 12:23**

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 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH04@15-17.5'

2205382-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.3	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.33	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@23-24'
2205382-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0345	86.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0356	89.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.2	114 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@23-24'
2205382-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0225	67.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0224	67.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0457	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 12:37**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@23-24'
2205382-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	8.04	0.256	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	42.4	0.512	"	"	"	"	"	"
Cadmium	ND	0.256	"	"	"	"	"	"
Copper	10.8	0.512	"	"	"	"	"	"
Lead	18.7	0.256	"	"	"	"	"	"
Nickel	3.14	0.512	"	"	"	"	"	"
Selenium	2.78	0.333	"	"	"	"	"	"
Silver	0.0428	0.0256	"	"	"	"	"	"
Zinc	9.20	0.512	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1120	0.0640	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	332	0.0640	"	"	"	"	"	"	
Sodium	310	0.0640	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.09	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 12:37**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@23-24'
2205382-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.1	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.92	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 12:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.38		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 09:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0320	79.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0359	89.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.5	116 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0221	66.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0197	59.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0971	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 09:34**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.97	0.234	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	198	0.467	"	"	"	"	"	"
Cadmium	0.257	0.234	"	"	"	"	"	"
Copper	5.76	0.467	"	"	"	"	"	"
Lead	10.9	0.234	"	"	"	"	"	"
Nickel	5.57	0.467	"	"	"	"	"	"
Selenium	0.973	0.304	"	"	"	"	"	"
Silver	0.0277	0.0234	"	"	"	"	"	"
Zinc	21.5	0.467	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	943	0.0584	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	160	0.0584	"	"	"	"	"	"	
Sodium	46.7	0.0584	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.370	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 09:34**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.6	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.522	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 09:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.28		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@7.5-8.5'
2205382-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0310	77.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0353	88.3 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.0	120 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@7.5-8.5'
2205382-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0235	70.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0228	68.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.230	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 12:52**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@7.5-8.5'
2205382-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.91	0.226	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	223	0.452	"	"	"	"	"	"
Cadmium	0.260	0.226	"	"	"	"	"	"
Copper	4.40	0.452	"	"	"	"	"	"
Lead	11.7	0.226	"	"	"	"	"	"
Nickel	4.40	0.452	"	"	"	"	"	"
Selenium	0.900	0.294	"	"	"	"	"	"
Silver	ND	0.0226	"	"	"	"	"	"
Zinc	17.6	0.452	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	461	0.0565	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	115	0.0565	"	"	"	"	"	"	
Sodium	84.0	0.0565	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.907	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 12:52**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@7.5-8.5'
2205382-17 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	88.4	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.412	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@15-17.5'
2205382-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0313	78.3 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0356	88.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.3	122 %	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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@15-17.5'
2205382-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0204	61.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0197	59.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.380	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 13:12**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@15-17.5'
2205382-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.48	0.288	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	75.5	0.577	"	"	"	"	"	"
Cadmium	ND	0.288	"	"	"	"	"	"
Copper	7.92	0.577	"	"	"	"	"	"
Lead	14.1	0.288	"	"	"	"	"	"
Nickel	4.19	0.577	"	"	"	"	"	"
Selenium	1.46	0.375	"	"	"	"	"	"
Silver	0.0459	0.0288	"	"	"	"	"	"
Zinc	24.0	0.577	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	626	0.0721	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	183	0.0721	"	"	"	"	"	"	
Sodium	293	0.0721	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.65	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 13:12**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@15-17.5'
2205382-18 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	69.4	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.662	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.66		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@23-24'
2205382-19 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.037	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	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: **05/24/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0344	86.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0350	87.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.3	106 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@23-24'
2205382-19 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0253	76.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0227	68.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0501	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@23-24'
2205382-19 (Soil)

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Total Metals by EPA 6020B

Arsenic	16.3	0.256	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	26.8	0.512	"	"	"	"	"	"
Cadmium	ND	0.256	"	"	"	"	"	"
Copper	9.08	0.512	"	"	"	"	"	"
Lead	14.5	0.256	"	"	"	"	"	"
Nickel	2.43	0.512	"	"	"	"	"	"
Selenium	0.771	0.333	"	"	"	"	"	"
Silver	0.0260	0.0256	"	"	"	"	"	"
Zinc	10.1	0.512	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	963	0.0640	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	349	0.0640	"	"	"	"	"	"	
Sodium	245	0.0640	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.72	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 13:25**

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 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@23-24'
2205382-19 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.1	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.75	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.21		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH04@20-22'

2205382-20 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.066	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.23	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.40	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.097	0.0050	"	"	"	"	"	"	
Naphthalene	0.13	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	11	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0343	85.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0572	143 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	320	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
C28-C36 (ORO)	52	50	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.3	123 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@20-22'
2205382-20 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	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	0.0162	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0552	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.107	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.188	0.00500	"	"	"	"	"	"	

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0244	73.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0604	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/24/22 13:25**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@20-22'
2205382-20 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	5.92	0.270	mg/kg dry	1	BFF0247	06/09/22	06/11/22	EPA 6020B
Barium	111	0.540	"	"	"	"	"	"
Cadmium	ND	0.270	"	"	"	"	"	"
Copper	8.92	0.540	"	"	"	"	"	"
Lead	8.42	0.270	"	"	"	"	"	"
Nickel	3.60	0.540	"	"	"	"	"	"
Selenium	2.46	0.351	"	"	"	"	"	"
Silver	0.109	0.0270	"	"	"	"	"	"
Zinc	21.0	0.540	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0251	06/09/22	06/09/22	EPA 7196A	

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

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	320	0.0675	mg/L dry	1	BFF0122	06/06/22	06/08/22	EPA 6020B	
Magnesium	111	0.0675	"	"	"	"	"	"	
Sodium	159	0.0675	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.95	0.00100	units	1	BFF0198	06/08/22	06/08/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/24/22 13:25**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@20-22'
2205382-20 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	74.1	%	1	BFE0745	05/31/22	05/31/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.328	0.0100	mmhos/cm	1	BFF0126	06/06/22	06/07/22	EPA 120.1	

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

Date Sampled: **05/24/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.65		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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6855 W. 119th Ave.
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Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFE0642 - EPA 5030 Soil MS

Blank (BFE0642-BLK1)

Prepared: 05/27/22 Analyzed: 05/28/22

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	0.0285		"	0.0400		71.3	50-150			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0341		"	0.0400		85.4	50-150			

LCS (BFE0642-BS1)

Prepared: 05/27/22 Analyzed: 05/28/22

Benzene	0.0553	0.0020	mg/kg	0.0750		73.8	70-130			
Toluene	0.0569	0.0050	"	0.0750		75.8	70-130			
Ethylbenzene	0.0655	0.0050	"	0.0750		87.3	70-130			
m,p-Xylene	0.140	0.010	"	0.150		93.0	70-130			
o-Xylene	0.0633	0.0050	"	0.0750		84.4	70-130			
1,2,4-Trimethylbenzene	0.0638	0.0050	"	0.0750		85.1	70-130			
1,3,5-Trimethylbenzene	0.0666	0.0050	"	0.0750		88.8	70-130			
Naphthalene	0.0578	0.0038	"	0.0750		77.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0277		"	0.0400		69.2	50-150			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0353		"	0.0400		88.2	50-150			

Matrix Spike (BFE0642-MS1)

Source: 2205382-01

Prepared: 05/27/22 Analyzed: 05/28/22

Benzene	0.0553	0.0020	mg/kg	0.0750	ND	73.7	70-130			
Toluene	0.0593	0.0050	"	0.0750	ND	79.1	70-130			
Ethylbenzene	0.0661	0.0050	"	0.0750	ND	88.1	70-130			
m,p-Xylene	0.142	0.010	"	0.150	ND	94.4	70-130			
o-Xylene	0.0648	0.0050	"	0.0750	ND	86.4	70-130			
1,2,4-Trimethylbenzene	0.0670	0.0050	"	0.0750	ND	89.4	70-130			
1,3,5-Trimethylbenzene	0.0703	0.0050	"	0.0750	ND	93.7	70-130			
Naphthalene	0.0634	0.0038	"	0.0750	0.00870	73.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0309		"	0.0400		77.2	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0362		"	0.0400		90.5	50-150			

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

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 BFE0642 - EPA 5030 Soil MS

Matrix Spike Dup (BFE0642-MSD1)		Source: 2205382-01			Prepared: 05/27/22 Analyzed: 05/28/22					
Benzene	0.0540	0.0020	mg/kg	0.0750	ND	72.0	70-130	2.42	30	
Toluene	0.0589	0.0050	"	0.0750	ND	78.5	70-130	0.711	30	
Ethylbenzene	0.0672	0.0050	"	0.0750	ND	89.6	70-130	1.71	30	
m,p-Xylene	0.144	0.010	"	0.150	ND	96.0	70-130	1.68	30	
o-Xylene	0.0638	0.0050	"	0.0750	ND	85.1	70-130	1.49	30	
1,2,4-Trimethylbenzene	0.0662	0.0050	"	0.0750	ND	88.2	70-130	1.31	30	
1,3,5-Trimethylbenzene	0.0697	0.0050	"	0.0750	ND	92.9	70-130	0.815	30	
Naphthalene	0.0643	0.0038	"	0.0750	0.00870	74.1	70-130	1.32	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	0.0301		"	0.0400		75.2	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	50-150			

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFE0643 - EPA 3550A

Blank (BFE0643-BLK1)

Prepared: 05/27/22 Analyzed: 05/29/22

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

LCS (BFE0643-BS1)

Prepared: 05/27/22 Analyzed: 05/29/22

C10-C28 (DRO)	422	50	mg/kg	500		84.5	70-130			
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Matrix Spike (BFE0643-MS1)

Source: 2205382-01

Prepared: 05/27/22 Analyzed: 05/29/22

C10-C28 (DRO)	3530	50	mg/kg	500	4090	NR	70-130			QM-05
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Matrix Spike Dup (BFE0643-MSD1)

Source: 2205382-01

Prepared: 05/27/22 Analyzed: 05/29/22

C10-C28 (DRO)	3900	50	mg/kg	500	4090	NR	70-130	10.1	20	QM-05
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFE0695 - EPA 5030 Soil MS

Blank (BFE0695-BLK1)

Prepared: 05/31/22 Analyzed: 06/05/22

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	0.0331		"	0.0333		99.3	40-150			
Surrogate: Fluoranthene-d10	0.0311		"	0.0333		93.3	40-150			

LCS (BFE0695-BS1)

Prepared: 05/31/22 Analyzed: 06/05/22

Acenaphthene	0.0293	0.00500	mg/kg	0.0333		87.8	31-137			
Anthracene	0.0312	0.00500	"	0.0333		93.6	30-120			
Benzo (a) anthracene	0.0263	0.00500	"	0.0333		78.9	30-120			
Benzo (a) pyrene	0.0284	0.00500	"	0.0333		85.2	30-120			
Benzo (b) fluoranthene	0.0283	0.00500	"	0.0333		84.9	30-120			
Benzo (k) fluoranthene	0.0316	0.00500	"	0.0333		94.8	30-120			
Chrysene	0.0289	0.00500	"	0.0333		86.8	30-120			
Dibenz (a,h) anthracene	0.0299	0.00500	"	0.0333		89.7	30-120			
Fluoranthene	0.0321	0.00500	"	0.0333		96.2	30-120			
Fluorene	0.0284	0.00500	"	0.0333		85.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333		60.3	30-120			
Pyrene	0.0280	0.00500	"	0.0333		84.1	35-142			
1-Methylnaphthalene	0.0281	0.00500	"	0.0333		84.2	35-142			
2-Methylnaphthalene	0.0302	0.00500	"	0.0333		90.7	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0291		"	0.0333		87.2	40-150			
Surrogate: Fluoranthene-d10	0.0302		"	0.0333		90.7	40-150			

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFE0695 - EPA 5030 Soil MS

Matrix Spike (BFE0695-MS1)

Source: 2205382-06

Prepared: 05/31/22 Analyzed: 06/10/22

Acenaphthene	0.0238	0.00500	mg/kg	0.0333	ND	71.5	31-137				
Anthracene	0.0251	0.00500	"	0.0333	ND	75.3	30-120				
Benzo (a) anthracene	0.0220	0.00500	"	0.0333	ND	65.9	30-120				
Benzo (a) pyrene	0.0240	0.00500	"	0.0333	ND	71.9	30-120				
Benzo (b) fluoranthene	0.0273	0.00500	"	0.0333	ND	81.9	30-120				
Benzo (k) fluoranthene	0.0309	0.00500	"	0.0333	ND	92.6	30-120				
Chrysene	0.0234	0.00500	"	0.0333	ND	70.1	30-120				
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	48.1	30-120				
Fluoranthene	0.0244	0.00500	"	0.0333	ND	73.3	30-120				
Fluorene	0.0234	0.00500	"	0.0333	ND	70.2	30-120				
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.7	30-120				
Pyrene	0.0234	0.00500	"	0.0333	ND	70.3	35-142				
1-Methylnaphthalene	0.0238	0.00500	"	0.0333	ND	71.4	15-130				
2-Methylnaphthalene	0.0245	0.00500	"	0.0333	ND	73.4	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.5	40-150				
Surrogate: Fluoranthene-d10	0.0233		"	0.0333		69.8	40-150				

Matrix Spike Dup (BFE0695-MSD1)

Source: 2205382-06

Prepared: 05/31/22 Analyzed: 06/10/22

Acenaphthene	0.0238	0.00500	mg/kg	0.0333	ND	71.5	31-137	0.0881	30
Anthracene	0.0243	0.00500	"	0.0333	ND	73.0	30-120	3.00	30
Benzo (a) anthracene	0.0214	0.00500	"	0.0333	ND	64.3	30-120	2.41	30
Benzo (a) pyrene	0.0232	0.00500	"	0.0333	ND	69.5	30-120	3.34	30
Benzo (b) fluoranthene	0.0254	0.00500	"	0.0333	ND	76.3	30-120	6.99	30
Benzo (k) fluoranthene	0.0286	0.00500	"	0.0333	ND	85.7	30-120	7.76	30
Chrysene	0.0228	0.00500	"	0.0333	ND	68.4	30-120	2.47	30
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	2.74	30
Fluoranthene	0.0256	0.00500	"	0.0333	ND	76.9	30-120	4.72	30
Fluorene	0.0242	0.00500	"	0.0333	ND	72.6	30-120	3.37	30
Indeno (1,2,3-cd) pyrene	0.0104	0.00500	"	0.0333	ND	31.1	30-120	29.2	30
Pyrene	0.0237	0.00500	"	0.0333	ND	71.1	35-142	1.08	30
1-Methylnaphthalene	0.0234	0.00500	"	0.0333	ND	70.2	15-130	1.69	50
2-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.5	15-130	8.38	50
Surrogate: 2-Methylnaphthalene-d10	0.0218		"	0.0333		65.5	40-150		
Surrogate: Fluoranthene-d10	0.0243		"	0.0333		73.0	40-150		

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0137 - EPA 3050B

Blank (BFF0137-BLK1)

Prepared: 06/06/22 Analyzed: 06/07/22

Boron ND 0.0100 mg/L

LCS (BFF0137-BS1)

Prepared: 06/06/22 Analyzed: 06/07/22

Boron 5.30 0.0100 mg/L 5.00 106 80-120

Duplicate (BFF0137-DUP1)

Source: 2205382-01

Prepared: 06/06/22 Analyzed: 06/07/22

Boron 0.0937 0.0100 mg/L 0.0902 3.84 20

Matrix Spike (BFF0137-MS1)

Source: 2205382-01

Prepared: 06/06/22 Analyzed: 06/07/22

Boron 5.03 0.0100 mg/L 5.00 0.0902 98.8 75-125

Matrix Spike Dup (BFF0137-MSD1)

Source: 2205382-01

Prepared: 06/06/22 Analyzed: 06/07/22

Boron 5.01 0.0100 mg/L 5.00 0.0902 98.3 75-125 0.435 25

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0247 - EPA 3050B

Blank (BFF0247-BLK1)

Prepared: 06/09/22 Analyzed: 06/11/22

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 (BFF0247-BS1)

Prepared: 06/09/22 Analyzed: 06/11/22

Arsenic	41.2	0.200	mg/kg wet	40.0	103	80-120
Barium	43.6	0.400	"	40.0	109	80-120
Cadmium	2.17	0.200	"	2.00	109	80-120
Copper	40.4	0.400	"	40.0	101	80-120
Lead	20.7	0.200	"	20.0	103	80-120
Nickel	38.3	0.400	"	40.0	95.8	80-120
Selenium	3.82	0.260	"	4.00	95.5	80-120
Silver	2.13	0.0200	"	2.00	106	80-120
Zinc	41.7	0.400	"	40.0	104	80-120

Duplicate (BFF0247-DUP1)

Source: 2205382-01

Prepared: 06/09/22 Analyzed: 06/11/22

Arsenic	3.18	0.251	mg/kg dry	3.13	1.65	20
Barium	244	0.502	"	244	0.0178	20
Cadmium	0.233	0.251	"	0.231	0.727	20
Copper	8.78	0.502	"	8.85	0.774	20
Lead	11.7	0.251	"	11.7	0.403	20
Nickel	7.73	0.502	"	7.67	0.772	20
Selenium	0.929	0.326	"	1.00	7.52	20
Silver	0.0490	0.0251	"	0.0459	6.49	20
Zinc	29.9	0.502	"	30.1	0.799	20

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0247 - EPA 3050B

Matrix Spike (BFF0247-MS1)		Source: 2205382-01			Prepared: 06/09/22 Analyzed: 06/11/22					
Arsenic	56.1	0.251	mg/kg dry	50.2	3.13	106	75-125			
Barium	321	0.502	"	50.2	244	153	75-125			QM-02
Cadmium	2.89	0.251	"	2.51	0.231	106	75-125			
Copper	57.7	0.502	"	50.2	8.85	97.4	75-125			
Lead	34.6	0.251	"	25.1	11.7	91.3	75-125			
Nickel	57.1	0.502	"	50.2	7.67	98.5	75-125			
Selenium	5.47	0.326	"	5.02	1.00	89.2	75-125			
Silver	2.54	0.0251	"	2.51	0.0459	99.6	75-125			
Zinc	82.8	0.502	"	50.2	30.1	105	75-125			

Matrix Spike Dup (BFF0247-MSD1)		Source: 2205382-01			Prepared: 06/09/22 Analyzed: 06/11/22					
Arsenic	55.7	0.251	mg/kg dry	50.2	3.13	105	75-125	0.793	25	
Barium	315	0.502	"	50.2	244	142	75-125	1.74	25	QM-02
Cadmium	2.84	0.251	"	2.51	0.231	104	75-125	1.69	25	
Copper	56.7	0.502	"	50.2	8.85	95.5	75-125	1.71	25	
Lead	34.0	0.251	"	25.1	11.7	88.7	75-125	1.89	25	
Nickel	56.6	0.502	"	50.2	7.67	97.5	75-125	0.869	25	
Selenium	5.39	0.326	"	5.02	1.00	87.5	75-125	1.55	25	
Silver	2.50	0.0251	"	2.51	0.0459	98.0	75-125	1.54	25	
Zinc	82.3	0.502	"	50.2	30.1	104	75-125	0.565	25	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0251 - 3060A Mod

Blank (BFF0251-BLK1)

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFF0251-BS1)

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent 24.0 0.30 mg/kg wet 25.0 95.8 80-120

Duplicate (BFF0251-DUP1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFF0251-MS1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent 32.7 0.30 mg/kg dry 31.3 ND 104 75-125

Matrix Spike Dup (BFF0251-MSD1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent 33.5 0.30 mg/kg dry 31.3 ND 107 75-125 2.27 20

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0122 - General Preparation

Blank (BFF0122-BLK1)

Prepared: 06/06/22 Analyzed: 06/08/22

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

LCS (BFF0122-BS1)

Prepared: 06/06/22 Analyzed: 06/08/22

Calcium	647	0.0500	mg/L wet	500	129	70-130
Magnesium	547	0.0500	"	500	109	70-130
Sodium	520	0.0500	"	500	104	70-130

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

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 BFE0745 - General Preparation

Duplicate (BFE0745-DUP1)

Source: 2205382-01

Prepared & Analyzed: 05/31/22

% Solids	80.5	%	79.8	0.971	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0126 - General Preparation

Blank (BFF0126-BLK1)

Prepared: 06/06/22 Analyzed: 06/07/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFF0126-BS1)

Prepared: 06/06/22 Analyzed: 06/07/22

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BFF0126-DUP1)

Source: 2205382-01

Prepared: 06/06/22 Analyzed: 06/07/22

Specific Conductance (EC) 1.05 0.0100 mmhos/cm 1.13 6.70 20

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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 BFF0125 - General Preparation

LCS (BFF0125-BS1)

Prepared: 06/06/22 Analyzed: 06/07/22

pH	9.07	pH Units	9.18	98.8	95-105
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Duplicate (BFF0125-DUP1)

Source: 2205382-01

Prepared: 06/06/22 Analyzed: 06/07/22

pH	7.52	pH Units	7.50	0.266	20
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Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
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.
QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference