

# **SITE ASSESSMENT REPORT**

## **LILLI UNIT N-5 FACILITY**

**ECMC SPILL TRACKING # 482023**

**ECMC REMEDIATION # 20862**

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



6855 W. 119<sup>th</sup> Ave  
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## **TABLES**

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

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)	
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24	
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019	
SS01@2.5'	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	<0.00500	<0.00500	<0.00500	0.0488	<0.00500	<0.00500	<0.00500	<0.00500	0.00703	<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	<0.00500	<0.00500	<0.0500 <sup>(4)</sup>	0.669	<0.00500	<0.00500	0.658	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.0500	0.102	<0.0500 <sup>(4)</sup>
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	<0.00500	<0.00500	<0.0500 <sup>(4)</sup>	<0.00500	<0.00500	<0.00500	0.942	<0.00500	<0.00500	<5.00 <sup>(4)</sup>	<0.00500	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	<0.00500	<0.00500	<0.0500 <sup>(4)</sup>	0.410	0.186	<0.00500	0.928	<0.00500	0.186	6.81	<0.00500	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	<0.00500	0.0264	<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	0.107	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@15-17.5'	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@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	
BH06@14-16.5'	10/26/22	6.5	24	34	130	100	30	35	4,900	15,000	2,000	<0.00500	<0.00500	<0.0500 <sup>(4)</sup>	0.494	<0.00500	<0.00500	0.927	<0.00500	0.228	2.24	<0.00500	0.533	26.6	46.2	
BH06@29-31'	10/26/22	<0.0020	<0.0050	<0.0050	<0.010	0.0051	<0.0050	0.013	1.8	<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	
BH07@19-21.5'	10/26/22	<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	0.00980	0.0115		
BH07@24-27'	10/26/22	<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	
BH07@29-31'	10/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038																		

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

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	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@15-17.5'	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
BH06@14-16.5'	10/26/22	8.61	2.72	0.548	0.183
BH06@29-31'	10/26/22	8.09	4.42	1.41	0.0634
BH07@19-21.5'	10/26/22	8.22	4.85	0.412	0.338
BH07@24-27'	10/26/22	7.72	4.12	2.07	0.0554
BH07@29-31'	10/26/22	7.80	4.34	2.24	0.0521
BH08@17-17.5'	10/27/22	8.08	0.0974	0.759	0.0791
BH08@24-26.5'	10/27/22	7.82	0.149	1.38	<0.0100
BH08@29-31'	10/27/22	7.89	0.150	1.44	0.0871
BH09@21.5-24'	10/27/22	8.02	0.174	0.826	0.103
BH09@30-31'	10/27/22	7.96	0.157	1.46	0.0306
BH10@24-26.5'	10/27/22	7.79	0.171	1.12	0.0293
BH10@30-31'	10/27/22	7.95	0.118	1.44	0.0662
BH11@19-21.5'	10/27/22	8.00	0.179	1.36	0.0235
BH11@21.5-24'	10/27/22	6.88	0.180	1.77	0.0151

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL <sup>2</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>2,3</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
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	3.14	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@15-17.5'	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
BH06@14-16.5'	10/26/22	2.38	127	<0.265	<0.30	6.37	10.6	4.33	<0.345 <sup>(5)</sup>	0.0302	20.6
BH06@29-31'	10/26/22	0.492	8.57	0.642	<0.30	5.35	8.79	1.98	<0.327 <sup>(5)</sup>	0.0397	6.35
BH07@19-21.5'	10/26/22	1.85	83.1	0.305	<0.30	4.91	9.59	2.24	0.398	<0.0267	12.0
BH07@24-27'	10/26/22	<0.259	13.9	0.354	<0.30	8.22	8.31	2.34	<0.337 <sup>(5)</sup>	0.0705	7.54
BH07@29-31'	10/26/22	0.307	13.5	0.362	<0.30	8.59	9.70	2.23	0.926	0.0558	7.71
BH08@17-17.5'	10/27/22	8.58	228	<0.293	<0.30	6.16	19.2	3.83	<0.380 <sup>(5)</sup>	0.0322	18.7
BH08@24-26.5'	10/27/22	1.96	17.8	<0.262	<0.30	6.60	13.6	1.91	<0.341 <sup>(5)</sup>	<0.0262	4.77
BH08@29-31'	10/27/22	2.26	9.97	<0.259	<0.30	5.42	12.2	1.63	<0.337 <sup>(5)</sup>	<0.0259	4.12
BH09@21.5-24'	10/27/22	33.4	36.2	0.295	<0.30	6.06	27.8	2.60	0.735	0.0278	10.8
BH09@30-31'	10/27/22	2.94	13.8	<0.269	<0.30	4.41	8.04	1.91	<0.350 <sup>(5)</sup>	0.0614	4.51
BH10@24-26.5'	10/27/22	6.85	19.7	<0.270	<0.30	5.90	16.6	2.09	<0.351 <sup>(5)</sup>	0.0297	8.52
BH10@30-31'	10/27/22	2.09	9.19	<0.261	<0.30	5.82	12.8	1.39	<0.340 <sup>(5)</sup>	<0.0261	4.23
BH11@19-21.5'	10/27/22	7.60	57.0	0.404	<0.30	6.39	22.5	3.05	0.366	0.0650	16.6
BH11@21.5-24'	10/27/22	10.8	20.2	0.315	<0.30	5.34	13.0	2.14	0.948	0.0345	14.3
BG01@3.5'	05/03/22	3.26	192	<0.249	<0.30	7.20	12.8	5.70	0.971	0.0593	24.6
BG02@3.5'	08/10/22	2.49	183	NA	NA	NA	NA	NA	0.710	NA	NA
BG02@5'	08/10/22	3.84	269	NA	NA	NA	NA	NA	0.844	NA	NA
BG03@3.5'	08/10/22	3.14	262	NA	NA	NA	NA	NA	0.675	NA	NA
BG03@5'	08/10/22	3.38	218	NA	NA	NA	NA	NA	0.808	NA	NA
BG04@3.5'	08/10/22	2.95	312	NA	NA	NA	NA	NA	0.708	NA	NA
BG04@5'	08/10/22	3.36	258	NA	NA	NA	NA	NA	0.744	NA	NA
BG05@3.5'	08/10/22	3.62	217	NA	NA	NA	NA	NA	0.697	NA	NA
BG05@5'	08/10/22	3.08	247	NA	NA	NA	NA	NA	0.691	NA	NA
BG06@3.5'	08/10/22	3.02	558	NA	NA	NA	NA	NA	0.757	NA	NA
BG06@5'	08/10/22	2.80	248	NA	NA	NA	NA	NA	0.725	NA	NA
BG07@6'	02/26/24	5.34	122	NA	NA	NA	18.2	NA	<0.260	NA	NA
BG07@15'	02/26/24	3.90	26.2	NA	NA	NA	24.9	NA	0.466	NA	NA
BG07@18'	02/26/24	3.07	17.3	NA	NA	NA	18.5	NA	<0.260	NA	NA
BG08@6'	02/28/24	8.23	36.1	0.244	NA	NA	25.4	NA	0.539	NA	NA
BG08@15'	02/28/24	10.4	35.8	0.797	NA	NA	22.4	NA	0.836	NA	NA
BG08@18'	02/28/24	3.52	14.1	0.982	NA	NA	18.7	NA	<0.260	NA	NA
BG09@6'	02/28/24	5.21	119	0.371	NA	NA	12.9	NA	0.479	NA	NA
BG09@15'	02/28/24	7.00	62.6	0.31	NA	NA	16.4	NA	<0.260	NA	NA
BG09@18'	02/28/24	4.46	17.9	0.901	NA	NA	15.9	NA	0.313	NA	NA
BG11@6'	02/28/24	11.5	36.0	0.299	NA	NA	20.1	NA	<0.260	NA	NA
BG11@15'	02/28/24	7.92	31.0	<0.200	NA	NA	11.2	NA	4.06	NA	NA
BG11@18'	02/28/24	14.7	65.3	0.245	NA	NA	14.3	NA	1.52	NA	NA
Mean Background Concentration		5.23	154	0.460	-	-	17.8	-	0.776	-	-
Mean Background x1.25 <sup>(6)</sup>		6.53	193	0.575	-	-	22.3	-	0.970	-	-
Highest Background		14.7	558	0.982	-	-	25.4	-	4.06	-	-
Highest Background x1.25		18.4	698	1.23	-	-	31.8	-	5.08	-	-

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

Notes:

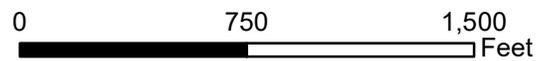
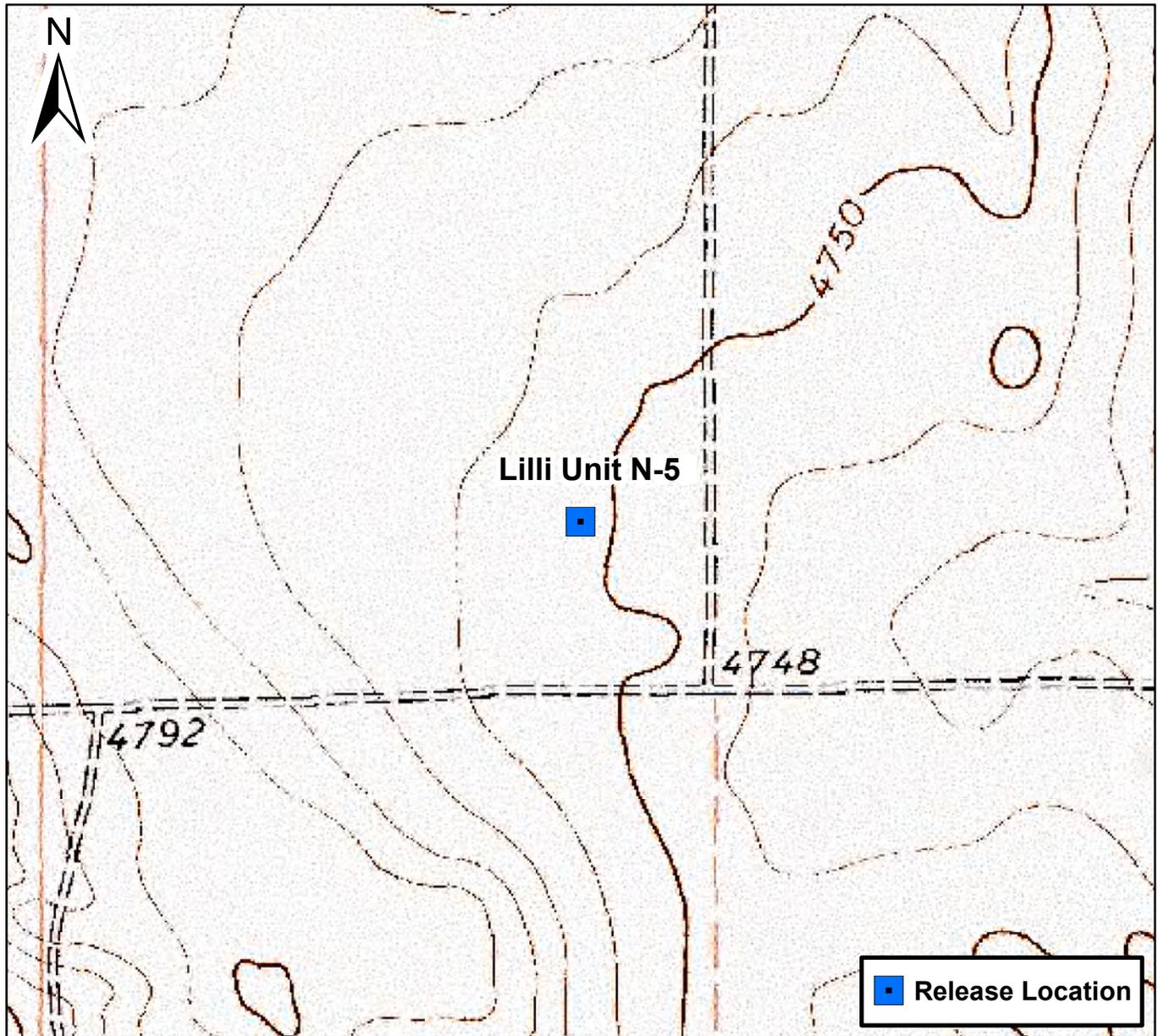
1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.
4. Analyte was not detected at the elevated method reporting limit caused by target analyte dilution or matrix interference. The elevated method reporting limit is above the ECMCC standard for the compound.
5. Analyte was not detected, method reporting limit is above the ECMC standard.
6. Non-detect laboratory results are included in the mean calculation at the laboratory detection limit
7. Background (BG01-BG11) analytical results were collected adjacent to the Lilli Unit O-5 Tank Battery (Location ID 323665, Rem #20862)
8. Background soil samples were collected at the Lilli Unit O-5 Tank Battery from similar depth intervals to the Lilli Unit N-5 Tank Battery soil boring samples, both of which were collected within a lean clay.

Definitions:

ECMC = Energy and Carbon Management Commission	1,2,4 - TMB = 1,2,4 Trimethylbenzene
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics	1,3,5 - TMB = 1,3,5 Trimethylbenzene
TPH-DRO = Total petroleum hydrocarbons - diesel range organics	Benzo(a) = Benzo(a)anthracene
TPH-ORO = Total petroleum hydrocarbons - oil range organics	Benzo(a) = Benzo(a)pyrene
mg/kg = Milligrams per kilogram	Benzo(b) = Benzo(b)fluoranthene
SAR = Sodium Adsorption Ratio	Benzo(k) = Benzo(k)fluoranthene
EC = Electrical Conductivity	A,H = Dibenzo(a,h)anthracene
mmhos/cm = Millimhos per centimeter	1,2,3-CD = Indeno(1,2,3-cd)pyrene
mg/L = Milligrams per liter	1-M = 1-methylnaphthalene
< = Analytical result is less than the indicated laboratory reporting limit	2-M = 2-methylnaphthalene

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

## **FIGURES**



### Figure 1

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





DATE:	5/6/2022
DESIGNED BY:	JW
DRAWN BY:	LR

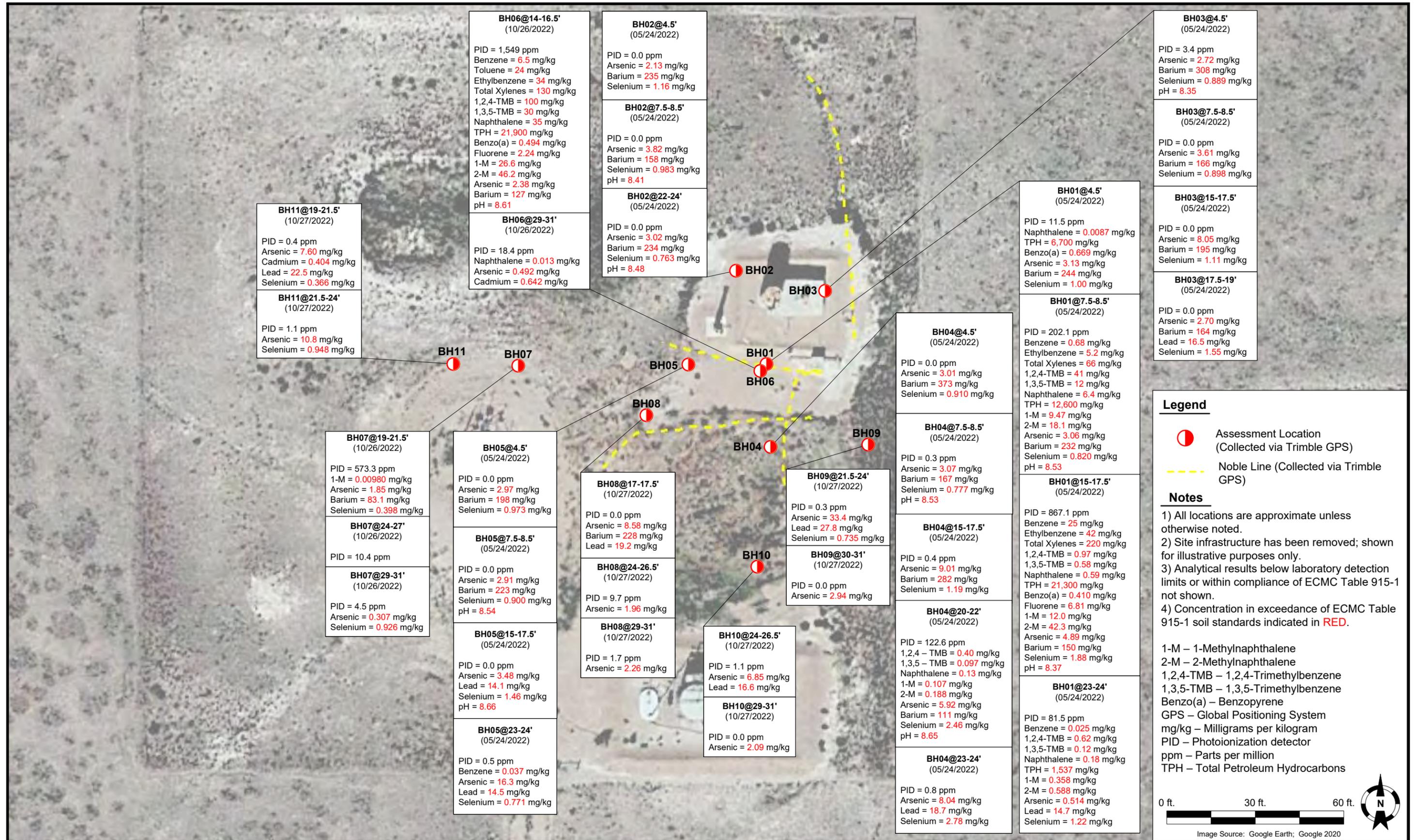


**Tasman, Inc.**  
 6855 W 119<sup>th</sup> Avenue  
 Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**Lilli Unit N-5 Facility**  
 SESW, Section 5, Township 8 North, Range 58 West  
 Weld County, Colorado

Decommissioning &  
 Soil Analytical Results Map  
 (03/31/2022 & 04/01/2022)

**FIGURE**  
 2



DATE:	11/09/2022
DESIGNED BY:	JW
DRAWN BY:	JB

**Tasman, Inc.**  
 6855 W 119<sup>th</sup> Avenue  
 Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**Lilli Unit N-5 Facility**  
 SESW, Section 5, Township 8 North, Range 58 West  
 Weld County, Colorado

Site Assessment  
 Soil Analytical Results Map  
 (05/24/22, 10/26/22 & 10/27/22)

FIGURE  
 3

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

# 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 'Paul 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

S<sub>2</sub>

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-gee.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>J. Cwatroch</u>	Date/Time: <u>5/24/22 @ 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/25/22 1500</u>	<b>Turn Around Time</b> (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"/>	<b>Notes:</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Temperature Upon Receipt: <u>8.1</u>	Corrected Temperature <u>8.1</u>	HNO3 lot #	<b>Sample Integrity:</b> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No		
IR gun correction: <u>0</u>	IR gun #: <u>1</u>				

# Summit Scientific

2205382.2

S<sub>2</sub>

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

Page 2 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 Quattrochi 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	EL, PH, SAR	Boron			
1	BH03 @ 17.5-19'	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>52522 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"/>		Notes:	
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:		Samples Intact: <input checked="" type="checkbox"/> Yes		No									
Temperature Upon Receipt: <u>8.1</u>		Corrected Temperature <u>8.1</u>		HNO3 lot #		IR gun correction: <u>0</u>		IR gun #: <u>1</u>													

S<sub>2</sub>

2/2

2205382

Sample Receipt Checklist

S2 Work Order#

Client: Noble Frisman

Client Project ID: Lilli Unit 14-5

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

-

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

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C <sup>(1)</sup> ? <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact <sup>(1)</sup> ?	-			
Was adequate sample volume provided <sup>(1)</sup> ?	-			
If custody seals are present, are they intact <sup>(1)</sup> ?	-			
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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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 <sup>(1)</sup> ?	-			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	-			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	-			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	-			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			-	
Are samples preserved that require preservation <b>(excluding cooling)</b> <sup>(1)</sup> ? Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

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

Custodian Printed Name

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		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		"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0087</b>	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

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

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

**Extractable Petroleum Hydrocarbons by 8015**

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

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

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: o-Terphenyl</i>	18.5	148 %		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@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	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.669</b>	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.658</b>	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	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.102</b>	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
<b>Boron</b>	<b>0.0902</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.50		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

**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						
<b>Benzene</b>	<b>0.68</b>	0.20	mg/kg	100	BFE0642	05/27/22	05/29/22	EPA 8260B	
Toluene	ND	0.0050	"	1	"	"	05/29/22	"	
<b>Ethylbenzene</b>	<b>5.2</b>	0.50	"	100	"	"	05/29/22	"	
<b>Xylenes (total)</b>	<b>66</b>	1.0	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>41</b>	0.50	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>12</b>	0.50	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>6.4</b>	0.38	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1200</b>	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						
<b>C10-C28 (DRO)</b>	<b>8700</b>	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>2700</b>	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

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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**

**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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.942</b>	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	"	"	"	"	
<b>Pyrene</b>	<b>0.735</b>	0.0500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>9.47</b>	0.0500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>18.1</b>	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
<b>Boron</b>	<b>0.134</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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	

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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

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

**PAH by EPA Method 8270D SIM**

**R-01**

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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

**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	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.410</b>	0.0500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.186</b>	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.928</b>	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.186</b>	0.0500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>6.81</b>	5.00	"	1000	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	"	"	
<b>Pyrene</b>	<b>0.764</b>	0.0500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>12.0</b>	0.0500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>42.3</b>	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
<b>Boron</b>	<b>0.131</b>	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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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**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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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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**

<b>% Solids</b>	<b>76.9</b>	%	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
<b>Specific Conductance (EC)</b>	<b>1.07</b>	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
<b>pH</b>	<b>8.37</b>		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
<b>Benzene</b>	<b>0.025</b>	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.25</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>3.5</b>	0.10	"	10	"	"	05/28/22	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.62</b>	0.0050	"	1	"	"	05/28/22	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.12</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.18</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>17</b>	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0379	94.7 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0313	78.3 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	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
<b>C10-C28 (DRO)</b>	<b>1000</b>	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>520</b>	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	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	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0153</b>	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0307</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0827</b>	0.0500	"	10	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	1	"	"	"	"	
<b>Pyrene</b>	<b>0.0206</b>	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.358</b>	0.0500	"	10	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.588</b>	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
<b>Boron</b>	<b>0.0436</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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
<b>Boron</b>	<b>0.101</b>	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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 13:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0716</b>	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 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@7.5-8.5'**  
**2205382-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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)	<b>0.415</b>	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	<b>8.41</b>		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

**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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.4	115 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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

**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
<b>Boron</b>	<b>0.0518</b>	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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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

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

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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**

<b>% Solids</b>	<b>90.7</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.444</b>	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
<b>pH</b>	<b>8.48</b>		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

**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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.6	125 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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**

**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	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0306</b>	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0353</b>	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	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.0264</b>	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
<b>Boron</b>	<b>0.117</b>	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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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

**BH03@4.5'**  
**2205382-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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**

<b>% Solids</b>	<b>88.6</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.779</b>	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
<b>pH</b>	<b>8.35</b>		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@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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.1	121 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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**

**PAH by EPA Method 8270D SIM**

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

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 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.310</b>	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 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@7.5-8.5'**  
**2205382-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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.  
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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	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.3	114 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.300</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.0	112 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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

**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 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 15:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.172</b>	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 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

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

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.179</b>	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 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@4.5'**  
**2205382-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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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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**

<b>% Solids</b>	<b>83.3</b>	%	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
<b>Specific Conductance (EC)</b>	<b>1.04</b>	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
<b>pH</b>	<b>8.14</b>		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.7	109 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.202</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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**

<b>% Solids</b>	<b>88.3</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.800</b>	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
<b>pH</b>	<b>8.53</b>		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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.0	112 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.443</b>	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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.2	114 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.0457</b>	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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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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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**

<b>% Solids</b>	<b>78.1</b>	%	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
<b>Specific Conductance (EC)</b>	<b>1.92</b>	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
<b>pH</b>	<b>7.38</b>		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

**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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.5	116 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.0971</b>	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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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**

<b>% Solids</b>	<b>85.6</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.522</b>	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
<b>pH</b>	<b>8.28</b>		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.0	120 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 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
<b>Boron</b>	<b>0.230</b>	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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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.  
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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	

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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 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	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.3	122 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Tasman Geosciences  
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

**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
<b>Boron</b>	<b>0.380</b>	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**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**

<b>% Solids</b>	<b>69.4</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.662</b>	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
<b>pH</b>	<b>8.66</b>		pH Units	1	BFF0125	06/06/22	06/07/22	EPA 9045D	

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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**

**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
<b>Benzene</b>	<b>0.037</b>	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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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]  
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**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
<b>Boron</b>	<b>0.0501</b>	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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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**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**

<b>% Solids</b>	<b>78.1</b>	%	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
<b>Specific Conductance (EC)</b>	<b>1.75</b>	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
<b>pH</b>	<b>6.21</b>		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

**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	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.066</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.23</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.40</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.097</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.13</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>11</b>	0.50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0343	85.7 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0387	96.8 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	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
<b>C10-C28 (DRO)</b>	<b>320</b>	50	mg/kg	1	BFE0643	05/27/22	05/29/22	EPA 8015M	
<b>C28-C36 (ORO)</b>	<b>52</b>	50	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0162</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0552</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.107</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.188</b>	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
<b>Boron</b>	<b>0.0604</b>	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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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**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**

<b>% Solids</b>	<b>74.1</b>	%	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
<b>Specific Conductance (EC)</b>	<b>0.328</b>	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
<b>pH</b>	<b>8.65</b>		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

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0285		"	0.0400		71.3	50-150			
<i>Surrogate: Toluene-d8</i>	0.0389		"	0.0400		97.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	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			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0277		"	0.0400		69.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0382		"	0.0400		95.5	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	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			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0309		"	0.0400		77.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0391		"	0.0400		97.6	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0362		"	0.0400		90.5	50-150			

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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

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BFE0642 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BFE0642-MSD1)</b>	<b>Source: 2205382-01</b>			<b>Prepared: 05/27/22 Analyzed: 05/28/22</b>						
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	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0301</i>		<i>"</i>	<i>0.0400</i>		<i>75.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0373</i>		<i>"</i>	<i>0.0400</i>		<i>93.2</i>	<i>50-150</i>			

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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

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

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

**Batch 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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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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0331</i>		"	<i>0.0333</i>		<i>99.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0311</i>		"	<i>0.0333</i>		<i>93.3</i>	<i>40-150</i>			

**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			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0291</i>		"	<i>0.0333</i>		<i>87.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0302</i>		"	<i>0.0333</i>		<i>90.7</i>	<i>40-150</i>			

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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

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

**Summit Scientific**

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

**Batch BFE0695 - EPA 5030 Soil MS**

<b>Matrix Spike (BFE0695-MS1)</b>	<b>Source: 2205382-06</b>			<b>Prepared: 05/31/22 Analyzed: 06/10/22</b>						
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			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0225</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>67.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0233</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>69.8</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BFE0695-MSD1)</b>	<b>Source: 2205382-06</b>			<b>Prepared: 05/31/22 Analyzed: 06/10/22</b>						
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	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0218</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>65.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0243</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>73.0</i>	<i>40-150</i>			

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

**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	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

**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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BFF0247 - EPA 3050B**

<b>Matrix Spike (BFF0247-MS1)</b>	<b>Source: 2205382-01</b>			<b>Prepared: 06/09/22 Analyzed: 06/11/22</b>								
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					

<b>Matrix Spike Dup (BFF0247-MSD1)</b>	<b>Source: 2205382-01</b>			<b>Prepared: 06/09/22 Analyzed: 06/11/22</b>								
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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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

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch 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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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

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

**Summit Scientific**

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

**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

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 - Quality Control**

**Summit Scientific**

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

**Batch BFE0745 - General Preparation**

Duplicate (BFE0745-DUP1)	Source: 2205382-01			Prepared & Analyzed: 05/31/22							
% Solids	80.5		%		79.8				0.971	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

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

**Summit Scientific**

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

**Batch 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	Source		%REC		RPD		Notes
		Limit	Units	Level	Result	%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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 14, 2022

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Lilli Unit 14-5  
Work Order #2210521

Enclosed are the results of analyses for samples received by Summit Scientific on 10/27/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH06@14-16.5'	2210521-01	Soil	10/26/22 11:30	10/27/22 16:00
BH06@29-31'	2210521-02	Soil	10/26/22 12:15	10/27/22 16:00
BH06@32.5-34'	2210521-03	Soil	10/26/22 12:30	10/27/22 16:00
BH06@36.5-39'	2210521-04	Soil	10/26/22 12:45	10/27/22 16:00
BH07@19-21.5'	2210521-05	Soil	10/26/22 14:45	10/27/22 16:00
BH07@24-27'	2210521-06	Soil	10/26/22 14:50	10/27/22 16:00
BH07@29-31'	2210521-07	Soil	10/26/22 15:00	10/27/22 16:00

Summit Scientific

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# Summit Scientific

2210521

S<sub>2</sub>

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

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whriterour  
 Address: 6855 W 119th Ave E-Mail: jwhriterour@tasman-geo.com  
 City/State/Zip: Broomfield CO 80020  
 Phone: 303-827-1511 Project Name: Lilli Unit 14-5  
 Sampler Name: Sarah Wetrochi 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	PAH-915	TPH	Metals-915	Boron	PH, SAR, EC	HOLD		
1	BH06 @ 14-16.5'	10/26/12	1130	3			X			X				X	X	X	X	X	X		
2	BH06 @ 29-31'		1215																		
3	BH06 @ 32.5-34'		1230																		X
4	BH06 @ 36.5-39'		1245																		X
5	BH07 @ 19-21.5'		1445																		
6	BH07 @ 24-27'		1450																		
7	BH07 @ 29-31'		1500																		
8																					
9																					
10																					

Relinquished by: <u>[Signature]</u> Date/Time: <u>1741 10/26/12</u>	Received by: <u>S2</u> Date/Time: <u>102622 1741</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: <u>S2</u> Date/Time: <u>102722 1600</u>	Received by: <u>[Signature]</u> Date/Time: <u>102722 1600</u>		
Temperature Upon Receipt: <u>9.1</u>	Corrected Temperature: <u>[Signature]</u>	HNO3 lot #	
IR gun correction: <u>[Signature]</u>	IR gun #: <u>1</u>		

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2210521

Client: Noble Frisman Client Project ID: Lilli unit 14-5

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

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

Temp (°C)

Thermometer #

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

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

[Signature]  
Custodian Printed Name

10/27/22 1600  
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:**  
11/14/22 12:07

**BH06@14-16.5'**  
**2210521-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	6.5	0.20	mg/kg	100	BFJ0814	10/28/22	10/30/22	EPA 8260B	
Toluene	24	0.50	"	"	"	"	"	"	
Ethylbenzene	34	0.50	"	"	"	"	"	"	
Xylenes (total)	130	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	100	0.50	"	"	"	"	"	"	E
1,3,5-Trimethylbenzene	30	0.50	"	"	"	"	"	"	
Naphthalene	35	0.38	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4900	50	"	"	"	"	"	"	E

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		140 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		203 %	50-150		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	15000	50	mg/kg	1	BFJ0815	10/28/22	10/31/22	EPA 8015M	
C28-C36 (ORO)	2000	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		686 %	30-150		"	"	"	"	S-02

**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:**  
11/14/22 12:07

**BH06@14-16.5'**  
**2210521-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFK0002	11/01/22	11/01/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.494</b>	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.927</b>	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.228</b>	0.0500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>2.24</b>	0.500	"	100	"	"	11/02/22	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	11/01/22	"	
<b>Pyrene</b>	<b>0.533</b>	0.0500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>26.6</b>	2.50	"	500	"	"	11/02/22	"	
<b>2-Methylnaphthalene</b>	<b>46.2</b>	2.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.4 %	40-150		"	"	11/01/22	"	S-01
Surrogate: Fluoranthene-d10		%	40-150		"	"	"	"	S-01

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.183</b>	0.0100	mg/L	1	BFJ0795	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 11:30**

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH06@14-16.5'**  
**2210521-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.38	0.265	mg/kg dry	1	BFJ0790	10/28/22	10/28/22	EPA 6020B	
Barium	127	0.530	"	"	"	"	"	"	
Cadmium	ND	0.265	"	"	"	"	"	"	
Copper	6.37	0.530	"	"	"	"	"	"	
Lead	10.6	0.265	"	"	"	"	"	"	
Nickel	4.33	0.530	"	"	"	"	"	"	
Selenium	ND	0.345	"	"	"	"	"	"	
Silver	0.0302	0.0265	"	"	"	"	"	"	
Zinc	20.6	0.530	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	82.6	0.0663	mg/L dry	1	BFJ0819	10/28/22	10/31/22	EPA 6020B	
Magnesium	18.3	0.0663	"	"	"	"	"	"	
Sodium	105	0.0663	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.72	0.00100	units	1	BFK0013	11/01/22	11/01/22	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:**  
11/14/22 12:07

**BH06@14-16.5'**  
**2210521-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.5		%	1	BFJ0796	10/28/22	10/28/22	Calculation	

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.548	0.0100	mmhos/cm	1	BFJ0828	10/28/22	10/31/22	EPA 120.1	

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

Date Sampled: **10/26/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.61		pH Units	1	BFJ0829	10/28/22	10/31/22	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:**  
11/14/22 12:07

**BH06@29-31'**  
**2210521-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0814	10/28/22	10/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.0051</b>	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.013</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.8</b>	0.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		113 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		129 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0815	10/28/22	10/31/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		79.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH06@29-31'**  
**2210521-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/01/22	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: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		86.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.4 %	40-150		"	"	"	"	

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

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0634</b>	0.0100	mg/L	1	BFJ0795	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 12:15**

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH06@29-31'**  
**2210521-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.492	0.251	mg/kg dry	1	BFJ0790	10/28/22	10/28/22	EPA 6020B	
Barium	8.57	0.503	"	"	"	"	"	"	
Cadmium	0.642	0.251	"	"	"	"	"	"	
Copper	5.35	0.503	"	"	"	"	"	"	
Lead	8.79	0.251	"	"	"	"	"	"	
Nickel	1.98	0.503	"	"	"	"	"	"	
Selenium	ND	0.327	"	"	"	"	"	"	
Silver	0.0397	0.0251	"	"	"	"	"	"	
Zinc	6.35	0.503	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	93.2	0.0628	mg/L dry	1	BFJ0819	10/28/22	10/31/22	EPA 6020B	
Magnesium	29.5	0.0628	"	"	"	"	"	"	
Sodium	191	0.0628	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.42	0.00100	units	1	BFK0013	11/01/22	11/01/22	Calculation	

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

Date Sampled: **10/26/22 12:15**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH06@29-31'**  
**2210521-02 (Soil)**

**Summit Scientific**

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

% Solids	79.6	%	1	BFJ0796	10/28/22	10/28/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.41	0.0100	mmhos/cm	1	BFJ0828	10/28/22	10/31/22	EPA 120.1	

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

Date Sampled: **10/26/22 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BFJ0829	10/28/22	10/31/22	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:**  
11/14/22 12:07

**BH06@32.5-34'**  
**2210521-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0220	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0221	"	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.3 %	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:**  
11/14/22 12:07

**BH06@32.5-34'**  
**2210521-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0201	11/08/22	11/08/22	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: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		77.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.2 %	40-150		"	"	"	"	

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0593</b>	0.0100	mg/L	1	BFK0206	11/08/22	11/09/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 12:30**

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH06@32.5-34'**  
**2210521-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.74	0.239	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B
Barium	97.1	0.477	"	"	"	"	"	"
Cadmium	1.14	0.239	"	"	"	"	"	"
Copper	3.90	0.477	"	"	"	"	"	"
Lead	10.3	0.239	"	"	"	"	"	"
Nickel	2.26	0.477	"	"	"	"	"	"
Selenium	ND	0.310	"	"	"	"	"	"
Silver	ND	0.0239	"	"	"	"	"	"
Zinc	5.76	0.477	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0183	11/07/22	11/07/22	EPA 7196A	

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	46.3	0.0597	mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	11.2	0.0597	"	"	"	"	"	"	
Sodium	106	0.0597	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.63	0.00100	units	1	BFK0339	11/12/22	11/12/22	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:**  
11/14/22 12:07

**BH06@32.5-34'**  
**2210521-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.8		%	1	BFK0212	11/08/22	11/08/22	Calculation	

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.827	0.0100	mmhos/cm	1	BFK0273	11/10/22	11/10/22	EPA 120.1	

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

Date Sampled: **10/26/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BFK0274	11/10/22	11/10/22	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:**  
11/14/22 12:07

**BH06@36.5-39'**  
**2210521-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0220	11/08/22	11/08/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0221	"	11/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.3 %	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:**  
11/14/22 12:07

**BH06@36.5-39'**  
**2210521-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0201	11/08/22	11/08/22	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: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.5 %	40-150		"	"	"	"	

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

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.156</b>	0.0100	mg/L	1	BFK0206	11/08/22	11/09/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 12:45**

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:**  
11/14/22 12:07

**BH06@36.5-39'**  
**2210521-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.586	0.265	mg/kg dry	1	BFK0223	11/08/22	11/09/22	EPA 6020B	
Barium	6.69	0.531	"	"	"	"	"	"	
Cadmium	ND	0.265	"	"	"	"	"	"	
Copper	4.59	0.531	"	"	"	"	"	"	
Lead	4.68	0.265	"	"	"	"	"	"	
Nickel	1.62	0.531	"	"	"	"	"	"	
Selenium	ND	0.345	"	"	"	"	"	"	
Silver	ND	0.0265	"	"	"	"	"	"	
Zinc	3.04	0.531	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/26/22 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0183	11/07/22	11/07/22	EPA 7196A	

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

Date Sampled: 10/26/22 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	17.0	0.0663	mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	5.15	0.0663	"	"	"	"	"	"	
Sodium	73.9	0.0663	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/26/22 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.03	0.00100	units	1	BFK0339	11/12/22	11/12/22	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:**  
11/14/22 12:07

**BH06@36.5-39'**  
**2210521-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.4		%	1	BFK0212	11/08/22	11/08/22	Calculation	

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

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.422	0.0100	mmhos/cm	1	BFK0273	11/10/22	11/10/22	EPA 120.1	

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

Date Sampled: **10/26/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BFK0274	11/10/22	11/10/22	EPA 9045D	

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH07@19-21.5'**  
**2210521-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0814	10/28/22	10/30/22	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: **10/26/22 14:45**

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

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0815	10/28/22	10/31/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		78.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH07@19-21.5'**  
**2210521-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/01/22	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	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.00980</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0115</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	58.5 %	40-150			"	"	"	"	
Surrogate: Fluoranthene-d10	49.0 %	40-150			"	"	"	"	

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

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.338</b>	0.0100	mg/L	1	BFJ0795	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 14:45**

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:**  
11/14/22 12:07

**BH07@19-21.5'**  
**2210521-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.85	0.267	mg/kg dry	1	BFJ0790	10/28/22	10/28/22	EPA 6020B	
Barium	83.1	0.535	"	"	"	"	"	"	
Cadmium	0.305	0.267	"	"	"	"	"	"	
Copper	4.91	0.535	"	"	"	"	"	"	
Lead	9.59	0.267	"	"	"	"	"	"	
Nickel	2.24	0.535	"	"	"	"	"	"	
Selenium	0.398	0.348	"	"	"	"	"	"	
Silver	ND	0.0267	"	"	"	"	"	"	
Zinc	12.0	0.535	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/26/22 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

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

Date Sampled: 10/26/22 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.7	0.0668	mg/L dry	1	BFJ0819	10/28/22	10/31/22	EPA 6020B	
Magnesium	4.66	0.0668	"	"	"	"	"	"	
Sodium	81.4	0.0668	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/26/22 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.85	0.00100	units	1	BFK0013	11/01/22	11/01/22	Calculation	

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

Date Sampled: 10/26/22 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH07@19-21.5'**  
**2210521-05 (Soil)**

**Summit Scientific**

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

% Solids	74.8	%	1	BFJ0796	10/28/22	10/28/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.412	0.0100	mmhos/cm	1	BFJ0828	10/28/22	10/31/22	EPA 120.1	

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

Date Sampled: **10/26/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BFJ0829	10/28/22	10/31/22	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:**  
11/14/22 12:07

**BH07@24-27'**  
**2210521-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0814	10/28/22	10/30/22	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: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		120 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0815	10/28/22	10/31/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		65.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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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:**  
11/14/22 12:07

**BH07@24-27'**  
**2210521-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/01/22	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: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		90.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.0 %	40-150		"	"	"	"	

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

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0554</b>	0.0100	mg/L	1	BFJ0795	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 14:50**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH07@24-27'**  
**2210521-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	0.259	mg/kg dry	1	BFJ0790	10/28/22	10/28/22	EPA 6020B	
Barium	13.9	0.519	"	"	"	"	"	"	
Cadmium	0.354	0.259	"	"	"	"	"	"	
Copper	8.22	0.519	"	"	"	"	"	"	
Lead	8.31	0.259	"	"	"	"	"	"	
Nickel	2.34	0.519	"	"	"	"	"	"	
Selenium	ND	0.337	"	"	"	"	"	"	
Silver	0.0705	0.0259	"	"	"	"	"	"	
Zinc	7.54	0.519	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/26/22 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

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

Date Sampled: 10/26/22 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	154	0.0648	mg/L dry	1	BFJ0819	10/28/22	10/31/22	EPA 6020B	
Magnesium	50.0	0.0648	"	"	"	"	"	"	
Sodium	230	0.0648	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/26/22 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.12	0.00100	units	1	BFK0013	11/01/22	11/01/22	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:**  
11/14/22 12:07

**BH07@24-27'**  
**2210521-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.1		%	1	BFJ0796	10/28/22	10/28/22	Calculation	

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

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.07	0.0100	mmhos/cm	1	BFJ0828	10/28/22	10/31/22	EPA 120.1	

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

Date Sampled: **10/26/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72		pH Units	1	BFJ0829	10/28/22	10/31/22	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:**  
11/14/22 12:07

**BH07@29-31'**  
**2210521-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFJ0814	10/28/22	10/30/22	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: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFJ0815	10/28/22	10/31/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		73.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

**BH07@29-31'**  
**2210521-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/01/22	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: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		79.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.9 %	40-150		"	"	"	"	

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

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0521</b>	0.0100	mg/L	1	BFJ0795	10/28/22	10/29/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/26/22 15:00**

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:**  
11/14/22 12:07

**BH07@29-31'**  
**2210521-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.307	0.274	mg/kg dry	1	BFJ0790	10/28/22	10/28/22	EPA 6020B	
Barium	13.5	0.547	"	"	"	"	"	"	
Cadmium	0.362	0.274	"	"	"	"	"	"	
Copper	8.59	0.547	"	"	"	"	"	"	
Lead	9.70	0.274	"	"	"	"	"	"	
Nickel	2.23	0.547	"	"	"	"	"	"	
Selenium	0.926	0.356	"	"	"	"	"	"	
Silver	0.0558	0.0274	"	"	"	"	"	"	
Zinc	7.71	0.547	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFJ0799	10/28/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	194	0.0684	mg/L dry	1	BFJ0819	10/28/22	10/31/22	EPA 6020B	
Magnesium	61.9	0.0684	"	"	"	"	"	"	
Sodium	271	0.0684	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.34	0.00100	units	1	BFK0013	11/01/22	11/01/22	Calculation	

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

Date Sampled: **10/26/22 15:00**

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:**  
11/14/22 12:07

**BH07@29-31'**  
**2210521-07 (Soil)**

**Summit Scientific**

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

% Solids	73.1	%	1	BFJ0796	10/28/22	10/28/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.24	0.0100	mmhos/cm	1	BFJ0828	10/28/22	10/31/22	EPA 120.1	

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

Date Sampled: **10/26/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BFJ0829	10/28/22	10/31/22	EPA 9045D	

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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:**  
11/14/22 12:07

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BFJ0814 - EPA 5030 Soil MS

##### Blank (BFJ0814-BLK1)

Prepared: 10/28/22 Analyzed: 10/29/22

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	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.5</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0451</i>		<i>"</i>	<i>0.0400</i>		<i>113</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0429</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>50-150</i>				

##### LCS (BFJ0814-BS1)

Prepared: 10/28/22 Analyzed: 10/30/22

Benzene	0.0731	0.0020	mg/kg	0.100		73.1	70-130				
Toluene	0.0724	0.0050	"	0.100		72.4	70-130				
Ethylbenzene	0.0758	0.0050	"	0.100		75.8	70-130				
m,p-Xylene	0.156	0.010	"	0.200		78.0	70-130				
o-Xylene	0.0792	0.0050	"	0.100		79.2	70-130				
1,2,4-Trimethylbenzene	0.0881	0.0050	"	0.100		88.1	70-130				
1,3,5-Trimethylbenzene	0.0866	0.0050	"	0.100		86.6	70-130				
Naphthalene	0.122	0.0038	"	0.100		122	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0370</i>		<i>"</i>	<i>0.0400</i>		<i>92.6</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0450</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0425</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>				

##### Matrix Spike (BFJ0814-MS1)

Source: 2210447-01

Prepared: 10/28/22 Analyzed: 10/30/22

Benzene	0.0778	0.0020	mg/kg	0.100	ND	77.8	70-130				
Toluene	0.0747	0.0050	"	0.100	ND	74.7	70-130				
Ethylbenzene	0.0767	0.0050	"	0.100	ND	76.7	70-130				
m,p-Xylene	0.157	0.010	"	0.200	ND	78.4	70-130				
o-Xylene	0.0800	0.0050	"	0.100	ND	80.0	70-130				
1,2,4-Trimethylbenzene	0.0907	0.0050	"	0.100	ND	90.7	70-130				
1,3,5-Trimethylbenzene	0.0882	0.0050	"	0.100	ND	88.2	70-130				
Naphthalene	0.118	0.0038	"	0.100	ND	118	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0423</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0446</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0446</i>		<i>"</i>	<i>0.0400</i>		<i>111</i>	<i>50-150</i>				

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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:**  
11/14/22 12:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BFJ0814 - EPA 5030 Soil MS**

**Matrix Spike Dup (BFJ0814-MSD1)**

Source: 2210447-01

Prepared: 10/28/22 Analyzed: 10/30/22

Benzene	0.0801	0.0020	mg/kg	0.100	ND	80.1	70-130	2.96	30
Toluene	0.0766	0.0050	"	0.100	ND	76.6	70-130	2.58	30
Ethylbenzene	0.0730	0.0050	"	0.100	ND	73.0	70-130	4.93	30
m,p-Xylene	0.148	0.010	"	0.200	ND	74.1	70-130	5.64	30
o-Xylene	0.0774	0.0050	"	0.100	ND	77.4	70-130	3.39	30
1,2,4-Trimethylbenzene	0.0883	0.0050	"	0.100	ND	88.3	70-130	2.61	30
1,3,5-Trimethylbenzene	0.0850	0.0050	"	0.100	ND	85.0	70-130	3.74	30
Naphthalene	0.108	0.0038	"	0.100	ND	108	70-130	9.39	30
Surrogate: 1,2-Dichloroethane-d4	0.0431		"	0.0400		108	50-150		
Surrogate: Toluene-d8	0.0484		"	0.0400		121	50-150		
Surrogate: 4-Bromofluorobenzene	0.0435		"	0.0400		109	50-150		

**Batch BFK0220 - EPA 5030 Soil MS**

**Blank (BFK0220-BLK1)**

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

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	0.0400		"	0.0400		100	50-150		
Surrogate: Toluene-d8	0.0386		"	0.0400		96.5	50-150		
Surrogate: 4-Bromofluorobenzene	0.0447		"	0.0400		112	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:**  
11/14/22 12:07

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

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

**Batch BFK0220 - EPA 5030 Soil MS**

**LCS (BFK0220-BS1)**

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

Benzene	0.0967	0.0020	mg/kg	0.100		96.7	70-130			
Toluene	0.0972	0.0050	"	0.100		97.2	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.235	0.010	"	0.200		118	70-130			
o-Xylene	0.116	0.0050	"	0.100		116	70-130			
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.100		118	70-130			
1,3,5-Trimethylbenzene	0.128	0.0050	"	0.100		128	70-130			
Naphthalene	0.113	0.0038	"	0.100		113	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>98.9</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

**Matrix Spike (BFK0220-MS1)**

Source: 2211126-01

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

Benzene	0.0961	0.0020	mg/kg	0.100	ND	96.1	70-130			
Toluene	0.0964	0.0050	"	0.100	ND	96.4	70-130			
Ethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130			
m,p-Xylene	0.237	0.010	"	0.200	ND	119	70-130			
o-Xylene	0.116	0.0050	"	0.100	ND	116	70-130			
1,2,4-Trimethylbenzene	0.125	0.0050	"	0.100	ND	125	70-130			
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130			
Naphthalene	0.123	0.0038	"	0.100	ND	123	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>95.9</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>	<i>50-150</i>			

**Matrix Spike Dup (BFK0220-MSD1)**

Source: 2211126-01

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

Benzene	0.0956	0.0020	mg/kg	0.100	ND	95.6	70-130	0.501	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	4.41	30	
Ethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130	0.504	30	
m,p-Xylene	0.238	0.010	"	0.200	ND	119	70-130	0.341	30	
o-Xylene	0.118	0.0050	"	0.100	ND	118	70-130	1.03	30	
1,2,4-Trimethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130	5.06	30	
1,3,5-Trimethylbenzene	0.130	0.0050	"	0.100	ND	130	70-130	2.15	30	
Naphthalene	0.121	0.0038	"	0.100	ND	121	70-130	1.30	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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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:**  
11/14/22 12:07

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

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

**Batch BFJ0815 - EPA 3550A**

**Blank (BFJ0815-BLK1)**

Prepared: 10/28/22 Analyzed: 10/31/22

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	9.68		"	12.5		77.5	30-150				

**LCS (BFJ0815-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

C10-C28 (DRO)	508	50	mg/kg	500		102	70-130				
Surrogate: <i>o</i> -Terphenyl	17.9		"	12.5		144	30-150				

**Matrix Spike (BFJ0815-MS1)**

Source: 2210447-01

Prepared: 10/28/22 Analyzed: 10/31/22

C10-C28 (DRO)	490	50	mg/kg	500	29.3	92.1	70-130				
Surrogate: <i>o</i> -Terphenyl	12.5		"	12.5		99.7	30-150				

**Matrix Spike Dup (BFJ0815-MSD1)**

Source: 2210447-01

Prepared: 10/28/22 Analyzed: 10/31/22

C10-C28 (DRO)	673	50	mg/kg	500	29.3	129	70-130	31.5	20		QM-07
Surrogate: <i>o</i> -Terphenyl	16.0		"	12.5		128	30-150				

**Batch BFK0221 - EPA 3550A**

**Blank (BFK0221-BLK1)**

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

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	11.8		"	12.5		94.5	30-150				

**LCS (BFK0221-BS1)**

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

C10-C28 (DRO)	501	50	mg/kg	500		100	70-130				
Surrogate: <i>o</i> -Terphenyl	11.2		"	12.5		89.4	30-150				

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

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

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

**Batch BFK0221 - EPA 3550A**

<b>Matrix Spike (BFK0221-MS1)</b>		<b>Source: 2211126-01</b>			Prepared: 11/08/22		Analyzed: 11/09/22	
C10-C28 (DRO)	525	50	mg/kg	500	23.1	100	70-130	
Surrogate: <i>o</i> -Terphenyl	11.4		"	12.5		91.4	30-150	
<b>Matrix Spike Dup (BFK0221-MSD1)</b>		<b>Source: 2211126-01</b>			Prepared: 11/08/22		Analyzed: 11/09/22	
C10-C28 (DRO)	528	50	mg/kg	500	23.1	101	70-130	0.537
Surrogate: <i>o</i> -Terphenyl	11.7		"	12.5		93.5	30-150	

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

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

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

**Batch BFK0002 - EPA 5030 Soil MS**

**Blank (BFK0002-BLK1)**

Prepared & Analyzed: 11/01/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0365</i>		"	<i>0.0333</i>	<i>110</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0263</i>		"	<i>0.0333</i>	<i>78.9</i>	<i>40-150</i>				

**LCS (BFK0002-BS1)**

Prepared & Analyzed: 11/01/22

Acenaphthene	0.0423	0.00500	mg/kg	0.0333	127	31-137				
Anthracene	0.0385	0.00500	"	0.0333	116	30-120				
Benzo (a) anthracene	0.0328	0.00500	"	0.0333	98.5	30-120				
Benzo (a) pyrene	0.0313	0.00500	"	0.0333	93.9	30-120				
Benzo (b) fluoranthene	0.0383	0.00500	"	0.0333	115	30-120				
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333	103	30-120				
Chrysene	0.0341	0.00500	"	0.0333	102	30-120				
Dibenz (a,h) anthracene	0.0286	0.00500	"	0.0333	85.9	30-120				
Fluoranthene	0.0396	0.00500	"	0.0333	119	30-120				
Fluorene	0.0378	0.00500	"	0.0333	113	30-120				
Indeno (1,2,3-cd) pyrene	0.0325	0.00500	"	0.0333	97.5	30-120				
Pyrene	0.0361	0.00500	"	0.0333	108	35-142				
1-Methylnaphthalene	0.0389	0.00500	"	0.0333	117	35-142				
2-Methylnaphthalene	0.0411	0.00500	"	0.0333	123	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0389</i>		"	<i>0.0333</i>	<i>117</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0403</i>		"	<i>0.0333</i>	<i>121</i>	<i>40-150</i>				

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

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

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

**Batch BFK0002 - EPA 5030 Soil MS**

<b>Matrix Spike (BFK0002-MS1)</b>	<b>Source: 2210521-02</b>			<b>Prepared &amp; Analyzed: 11/01/22</b>							
Acenaphthene	0.0218	0.00500	mg/kg	0.0333	ND	65.5	31-137				
Anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120				
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.4	30-120				
Benzo (a) pyrene	0.0169	0.00500	"	0.0333	ND	50.7	30-120				
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7	30-120				
Benzo (k) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.9	30-120				
Chrysene	0.0175	0.00500	"	0.0333	ND	52.4	30-120				
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120				
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.6	30-120				
Fluorene	0.0197	0.00500	"	0.0333	ND	59.1	30-120				
Indeno (1,2,3-cd) pyrene	0.0171	0.00500	"	0.0333	ND	51.4	30-120				
Pyrene	0.0182	0.00500	"	0.0333	ND	54.5	35-142				
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130				
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0194</i>		<i>"</i>	<i>0.0333</i>		<i>58.1</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0172</i>		<i>"</i>	<i>0.0333</i>		<i>51.6</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BFK0002-MSD1)</b>	<b>Source: 2210521-02</b>			<b>Prepared &amp; Analyzed: 11/01/22</b>							
Acenaphthene	0.0206	0.00500	mg/kg	0.0333	ND	61.7	31-137	5.97	30		
Anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	1.14	30		
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.2	30-120	2.29	30		
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120	1.98	30		
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	3.45	30		
Benzo (k) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.2	30-120	1.04	30		
Chrysene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	0.162	30		
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	8.90	30		
Fluoranthene	0.0191	0.00500	"	0.0333	ND	57.2	30-120	4.66	30		
Fluorene	0.0208	0.00500	"	0.0333	ND	62.5	30-120	5.61	30		
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	13.7	30		
Pyrene	0.0190	0.00500	"	0.0333	ND	57.0	35-142	4.58	30		
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.1	15-130	2.87	50		
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.6	15-130	4.22	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.4</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0177</i>		<i>"</i>	<i>0.0333</i>		<i>53.2</i>	<i>40-150</i>				

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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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFK0201 - EPA 5030 Soil MS**

**Blank (BFK0201-BLK1)**

Prepared & Analyzed: 11/08/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0435</i>		"	<i>0.0333</i>		<i>130</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0296</i>		"	<i>0.0333</i>		<i>88.9</i>		<i>40-150</i>		

**LCS (BFK0201-BS1)**

Prepared & Analyzed: 11/08/22

Acenaphthene	0.0388	0.00500	mg/kg	0.0333		116		31-137		
Anthracene	0.0391	0.00500	"	0.0333		117		30-120		
Benzo (a) anthracene	0.0333	0.00500	"	0.0333		100		30-120		
Benzo (a) pyrene	0.0388	0.00500	"	0.0333		116		30-120		
Benzo (b) fluoranthene	0.0373	0.00500	"	0.0333		112		30-120		
Benzo (k) fluoranthene	0.0287	0.00500	"	0.0333		86.1		30-120		
Chrysene	0.0338	0.00500	"	0.0333		101		30-120		
Dibenz (a,h) anthracene	0.0338	0.00500	"	0.0333		101		30-120		
Fluoranthene	0.0331	0.00500	"	0.0333		99.4		30-120		
Fluorene	0.0365	0.00500	"	0.0333		109		30-120		
Indeno (1,2,3-cd) pyrene	0.0368	0.00500	"	0.0333		110		30-120		
Pyrene	0.0347	0.00500	"	0.0333		104		35-142		
1-Methylnaphthalene	0.0335	0.00500	"	0.0333		101		35-142		
2-Methylnaphthalene	0.0353	0.00500	"	0.0333		106		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0364</i>		"	<i>0.0333</i>		<i>109</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0348</i>		"	<i>0.0333</i>		<i>104</i>		<i>40-150</i>		

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFK0201 - EPA 5030 Soil MS**

<b>Matrix Spike (BFK0201-MS1)</b>	<b>Source: 2210521-03</b>			<b>Prepared &amp; Analyzed: 11/08/22</b>						
Acenaphthene	0.0219	0.00500	mg/kg	0.0333	ND	65.7	31-137			
Anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120			
Benzo (a) anthracene	0.0167	0.00500	"	0.0333	ND	50.0	30-120			
Benzo (a) pyrene	0.0190	0.00500	"	0.0333	ND	57.0	30-120			
Benzo (b) fluoranthene	0.0194	0.00500	"	0.0333	ND	58.1	30-120			
Benzo (k) fluoranthene	0.0226	0.00500	"	0.0333	ND	67.7	30-120			
Chrysene	0.0168	0.00500	"	0.0333	ND	50.4	30-120			
Dibenz (a,h) anthracene	0.0211	0.00500	"	0.0333	ND	63.2	30-120			
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.6	30-120			
Fluorene	0.0186	0.00500	"	0.0333	ND	55.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0176	0.00500	"	0.0333	ND	52.8	30-120			
Pyrene	0.0170	0.00500	"	0.0333	ND	50.9	35-142			
1-Methylnaphthalene	0.0180	0.00500	"	0.0333	ND	54.1	15-130			
2-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0195</i>		<i>"</i>	<i>0.0333</i>		<i>58.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0176</i>		<i>"</i>	<i>0.0333</i>		<i>52.8</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BFK0201-MSD1)</b>	<b>Source: 2210521-03</b>			<b>Prepared &amp; Analyzed: 11/08/22</b>						
Acenaphthene	0.0220	0.00500	mg/kg	0.0333	ND	66.0	31-137	0.443	30	
Anthracene	0.0180	0.00500	"	0.0333	ND	54.1	30-120	7.46	30	
Benzo (a) anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	8.10	30	
Benzo (a) pyrene	0.0207	0.00500	"	0.0333	ND	62.2	30-120	8.75	30	
Benzo (b) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.8	30-120	10.9	30	
Benzo (k) fluoranthene	0.0250	0.00500	"	0.0333	ND	74.9	30-120	10.2	30	
Chrysene	0.0185	0.00500	"	0.0333	ND	55.5	30-120	9.63	30	
Dibenz (a,h) anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120	7.92	30	
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.5	30-120	0.0788	30	
Fluorene	0.0204	0.00500	"	0.0333	ND	61.2	30-120	9.35	30	
Indeno (1,2,3-cd) pyrene	0.0194	0.00500	"	0.0333	ND	58.2	30-120	9.79	30	
Pyrene	0.0181	0.00500	"	0.0333	ND	54.4	35-142	6.62	30	
1-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	56.9	15-130	5.06	50	
2-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.7	15-130	2.24	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0210</i>		<i>"</i>	<i>0.0333</i>		<i>62.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0177</i>		<i>"</i>	<i>0.0333</i>		<i>53.1</i>	<i>40-150</i>			

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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:**  
11/14/22 12:07

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

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

**Batch BFJ0795 - EPA 3050B**

<b>Blank (BFJ0795-BLK1)</b>				Prepared: 10/28/22 Analyzed: 10/29/22							
Boron	ND	0.0100	mg/L								
<b>LCS (BFJ0795-BS1)</b>				Prepared: 10/28/22 Analyzed: 10/29/22							
Boron	5.51	0.0100	mg/L	5.00	110	80-120					
<b>Duplicate (BFJ0795-DUP1)</b>				<b>Source: 2210448-08</b>		Prepared: 10/28/22 Analyzed: 10/29/22					
Boron	0.406	0.0100	mg/L	0.414			1.92	20			
<b>Matrix Spike (BFJ0795-MS1)</b>				<b>Source: 2210448-08</b>		Prepared: 10/28/22 Analyzed: 10/29/22					
Boron	5.73	0.0100	mg/L	5.00	0.414	106	75-125				
<b>Matrix Spike Dup (BFJ0795-MSD1)</b>				<b>Source: 2210448-08</b>		Prepared: 10/28/22 Analyzed: 10/29/22					
Boron	5.89	0.0100	mg/L	5.00	0.414	110	75-125	2.72	25		

**Batch BFK0206 - EPA 3050B**

<b>Blank (BFK0206-BLK1)</b>				Prepared: 11/08/22 Analyzed: 11/09/22							
Boron	ND	0.0100	mg/L								
<b>LCS (BFK0206-BS1)</b>				Prepared: 11/08/22 Analyzed: 11/09/22							
Boron	5.19	0.0100	mg/L	5.00	104	80-120					
<b>Duplicate (BFK0206-DUP1)</b>				<b>Source: 2210521-03</b>		Prepared: 11/08/22 Analyzed: 11/09/22					
Boron	0.0524	0.0100	mg/L	0.0593			12.3	20			
<b>Matrix Spike (BFK0206-MS1)</b>				<b>Source: 2210521-03</b>		Prepared: 11/08/22 Analyzed: 11/09/22					
Boron	5.91	0.0100	mg/L	5.00	0.0593	117	75-125				

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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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFK0206 - EPA 3050B**

**Matrix Spike Dup (BFK0206-MSD1)**

**Source: 2210521-03**

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

Boron	5.81	0.0100	mg/L	5.00	0.0593	115	75-125	1.79	25	
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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:**  
11/14/22 12:07

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0790 - EPA 3050B**

**Blank (BFJ0790-BLK1)**

Prepared & Analyzed: 10/28/22

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 (BFJ0790-BS1)**

Prepared & Analyzed: 10/28/22

Arsenic	36.5	0.200	mg/kg wet	40.0	91.3	80-120
Barium	38.3	0.400	"	40.0	95.8	80-120
Cadmium	1.96	0.200	"	2.00	97.9	80-120
Copper	39.5	0.400	"	40.0	98.8	80-120
Lead	19.6	0.200	"	20.0	97.9	80-120
Nickel	37.9	0.400	"	40.0	94.9	80-120
Selenium	3.27	0.260	"	4.00	81.8	80-120
Silver	1.66	0.0200	"	2.00	83.2	80-120
Zinc	38.0	0.400	"	40.0	94.9	80-120

**Duplicate (BFJ0790-DUP1)**

Source: 2210521-01

Prepared & Analyzed: 10/28/22

Arsenic	2.39	0.265	mg/kg dry	2.38	0.645	20
Barium	127	0.530	"	127	0.0571	20
Cadmium	0.311	0.265	"	0.263	16.6	20
Copper	6.55	0.530	"	6.37	2.80	20
Lead	10.6	0.265	"	10.6	0.310	20
Nickel	4.48	0.530	"	4.33	3.40	20
Selenium	0.246	0.345	"	0.240	2.62	20
Silver	0.0371	0.0265	"	0.0302	20.5	20
Zinc	21.3	0.530	"	20.6	3.34	20

QR-01

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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:**  
11/14/22 12:07

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0790 - EPA 3050B**

<b>Matrix Spike (BFJ0790-MS1)</b>		<b>Source: 2210521-01</b>			<b>Prepared &amp; Analyzed: 10/28/22</b>							
Arsenic	15.6	0.265	mg/kg dry	53.0	2.38	25.0	75-125					QM-05
Barium	178	0.530	"	53.0	127	96.4	75-125					
Cadmium	2.29	0.265	"	2.65	0.263	76.3	75-125					
Copper	41.2	0.530	"	53.0	6.37	65.7	75-125					QM-05
Lead	30.3	0.265	"	26.5	10.6	74.2	75-125					QM-05
Nickel	37.2	0.530	"	53.0	4.33	61.9	75-125					QM-05
Selenium	4.35	0.345	"	5.30	0.240	77.6	75-125					
Silver	2.05	0.0265	"	2.65	0.0302	76.4	75-125					
Zinc	57.4	0.530	"	53.0	20.6	69.3	75-125					QM-05

<b>Matrix Spike Dup (BFJ0790-MSD1)</b>		<b>Source: 2210521-01</b>			<b>Prepared &amp; Analyzed: 10/28/22</b>							
Arsenic	15.6	0.265	mg/kg dry	53.0	2.38	25.0	75-125	0.0780	25			QM-05
Barium	176	0.530	"	53.0	127	93.0	75-125	1.04	25			
Cadmium	2.26	0.265	"	2.65	0.263	75.4	75-125	1.14	25			
Copper	41.0	0.530	"	53.0	6.37	65.3	75-125	0.613	25			QM-05
Lead	29.8	0.265	"	26.5	10.6	72.3	75-125	1.66	25			QM-05
Nickel	37.1	0.530	"	53.0	4.33	61.9	75-125	0.0656	25			QM-05
Selenium	4.37	0.345	"	5.30	0.240	78.0	75-125	0.535	25			
Silver	2.03	0.0265	"	2.65	0.0302	75.5	75-125	1.12	25			
Zinc	56.8	0.530	"	53.0	20.6	68.3	75-125	0.915	25			QM-05

**Batch BFK0223 - EPA 3050B**

<b>Blank (BFK0223-BLK1)</b>		<b>Prepared: 11/08/22 Analyzed: 11/09/22</b>										
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	"									

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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:**  
11/14/22 12:07

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFK0223 - EPA 3050B**

**LCS (BFK0223-BS1)**

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

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

**Duplicate (BFK0223-DUP1)**

Source: 2210521-03

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

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

**Matrix Spike (BFK0223-MS1)**

Source: 2210521-03

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

Arsenic	49.0	0.239	mg/kg dry	47.7	3.74	94.9	75-125			
Barium	86.9	0.477	"	47.7	97.1	NR	75-125			QM-05
Cadmium	3.48	0.239	"	2.39	1.14	98.2	75-125			
Copper	32.1	0.477	"	47.7	3.90	59.0	75-125			QM-05
Lead	25.8	0.239	"	23.9	10.3	65.0	75-125			QM-05
Nickel	30.8	0.477	"	47.7	2.26	59.7	75-125			QM-05
Selenium	5.65	0.310	"	4.77	ND	118	75-125			
Silver	1.94	0.0239	"	2.39	0.0215	80.2	75-125			
Zinc	34.5	0.477	"	47.7	5.76	60.2	75-125			QM-05

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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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFK0223 - EPA 3050B**

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

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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:**  
11/14/22 12:07

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0799 - 3060A Mod**

<b>Blank (BFJ0799-BLK1)</b>											
Prepared: 10/28/22 Analyzed: 11/02/22											
Chromium, Hexavalent	ND	0.30	mg/kg wet								
<b>LCS (BFJ0799-BS1)</b>											
Prepared: 10/28/22 Analyzed: 11/02/22											
Chromium, Hexavalent	26.8	0.30	mg/kg wet	25.0		107	80-120				
<b>Duplicate (BFJ0799-DUP1)</b>											
Source: 2210446-01 Prepared: 10/28/22 Analyzed: 11/02/22											
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND					20	
<b>Matrix Spike (BFJ0799-MS1)</b>											
Source: 2210446-01 Prepared: 10/28/22 Analyzed: 11/02/22											
Chromium, Hexavalent	33.9	0.30	mg/kg dry	28.4	ND	120	75-125				
<b>Matrix Spike Dup (BFJ0799-MSD1)</b>											
Source: 2210446-01 Prepared: 10/28/22 Analyzed: 11/02/22											
Chromium, Hexavalent	34.8	0.30	mg/kg dry	28.4	ND	123	75-125	2.64		20	

**Batch BFK0183 - 3060A Mod**

<b>Blank (BFK0183-BLK1)</b>											
Prepared & Analyzed: 11/07/22											
Chromium, Hexavalent	ND	0.30	mg/kg wet								
<b>LCS (BFK0183-BS1)</b>											
Prepared & Analyzed: 11/07/22											
Chromium, Hexavalent	24.6	0.30	mg/kg wet	25.0		98.4	80-120				
<b>Duplicate (BFK0183-DUP1)</b>											
Source: 2210521-03 Prepared & Analyzed: 11/07/22											
Chromium, Hexavalent	ND	0.30	mg/kg dry		ND					20	
<b>Matrix Spike (BFK0183-MS1)</b>											
Source: 2210521-03 Prepared & Analyzed: 11/07/22											
Chromium, Hexavalent	29.1	0.30	mg/kg dry	29.8	ND	97.6	75-125				

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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:**  
11/14/22 12:07

**Hexavalent Chromium by EPA Method 7196 - Quality Control**

**Summit Scientific**

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

**Batch BFK0183 - 3060A Mod**

**Matrix Spike Dup (BFK0183-MSD1)**

Source: 2210521-03

Prepared & Analyzed: 11/07/22

Chromium, Hexavalent	29.4	0.30	mg/kg dry	29.8	ND	98.6	75-125	1.02	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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFJ0819 - General Preparation**

**Blank (BFJ0819-BLK1)**

Prepared: 10/28/22 Analyzed: 10/31/22

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

**LCS (BFJ0819-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Calcium	4.09	0.0500	mg/L wet	5.00		81.8	70-130
Magnesium	5.40	0.0500	"	5.00		108	70-130
Sodium	6.03	0.0500	"	5.00		121	70-130

**Batch BFK0225 - General Preparation**

**Blank (BFK0225-BLK1)**

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

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

**LCS (BFK0225-BS1)**

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

Calcium	5.02	0.0500	mg/L wet	5.00		100	70-130
Magnesium	5.02	0.0500	"	5.00		100	70-130
Sodium	4.79	0.0500	"	5.00		95.7	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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFJ0796 - General Preparation**

<b>Duplicate (BFJ0796-DUP1)</b>		<b>Source: 2210448-08</b>			<b>Prepared &amp; Analyzed: 10/28/22</b>					
% Solids	88.2		%		88.1			0.101		20

**Batch BFK0212 - General Preparation**

<b>Duplicate (BFK0212-DUP1)</b>		<b>Source: 2210521-03</b>			<b>Prepared &amp; Analyzed: 11/08/22</b>					
% Solids	83.8		%		83.8			0.0386		20

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Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/14/22 12:07

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

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

**Batch BFJ0828 - General Preparation**

**Blank (BFJ0828-BLK1)**

Prepared: 10/28/22 Analyzed: 10/31/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFJ0828-BS1)**

Prepared: 10/28/22 Analyzed: 10/31/22

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

**Duplicate (BFJ0828-DUP1)**

**Source: 2210516-01**

Prepared: 10/28/22 Analyzed: 10/31/22

Specific Conductance (EC) 1.12 0.0100 mmhos/cm 1.12 0.715 20

**Batch BFK0273 - General Preparation**

**Blank (BFK0273-BLK1)**

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFK0273-BS1)**

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 0.143 0.0100 mmhos/cm 0.150 95.5 95-105

**Duplicate (BFK0273-DUP1)**

**Source: 2210521-03**

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 0.816 0.0100 mmhos/cm 0.827 1.42 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:**  
11/14/22 12:07

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

**Summit Scientific**

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

**Batch BFJ0829 - General Preparation**

<b>LCS (BFJ0829-BS1)</b>		Prepared: 10/28/22 Analyzed: 10/31/22								
pH	9.17		pH Units	9.18		99.9	95-105			
<b>Duplicate (BFJ0829-DUP1)</b>		<b>Source: 2210285-03</b>		Prepared: 10/28/22 Analyzed: 10/31/22						
pH	7.88		pH Units		7.86			0.254	20	

**Batch BFK0274 - General Preparation**

<b>LCS (BFK0274-BS1)</b>		Prepared & Analyzed: 11/10/22								
pH	9.00		pH Units	9.18		98.0	95-105			
<b>Duplicate (BFK0274-DUP1)</b>		<b>Source: 2210521-03</b>		Prepared & Analyzed: 11/10/22						
pH	8.33		pH Units		8.23			1.21	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:**  
11/14/22 12:07

### 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.
- S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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.
- 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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 07, 2022

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Lilli Unit 14-5  
Work Order #2210555

Enclosed are the results of analyses for samples received by Summit Scientific on 10/28/22 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury  
President



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH08@17-17.5'	2210555-01	Soil	10/27/22 09:28	10/28/22 16:00
BH08@24-26.5'	2210555-02	Soil	10/27/22 09:45	10/28/22 16:00
BH08@29-31'	2210555-03	Soil	10/27/22 09:55	10/28/22 16:00
BH09@21.5-24'	2210555-04	Soil	10/27/22 12:10	10/28/22 16:00
BH09@30-31'	2210555-05	Soil	10/27/22 11:54	10/28/22 16:00
BH10@24-26.5'	2210555-06	Soil	10/27/22 13:45	10/28/22 16:00
BH10@30-31'	2210555-07	Soil	10/27/22 13:39	10/28/22 16:00
BH11@19-21.5'	2210555-08	Soil	10/27/22 15:00	10/28/22 16:00
BH11@21.5-24'	2210555-09	Soil	10/27/22 15:05	10/28/22 16:00

Summit Scientific

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# Summit Scientific

2210555

S<sub>2</sub>

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

Page 0 of 1

Client: Noble/Tasman Project Manager: Jack Whittenour  
 Address: 6855 W 119th Ave E-Mail: jwhittenour@tasman-geo.com  
 City/State/Zip: Broomfield, CO 80020  
 Phone: 303-827-1511 Project Name: Little Unit 14-5  
 Sampler Name: Sarah Quatrochi 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	PAH - 915	VOC - 915	TPH	metals - 915	boron	EC, SAR, pH	HOLD		
1	BH08@17-17.5'	10/27/12	928	2			X			X				X	X	X	X	X	X		
2	BH08@24-26.5'		945	3																	
3	BH08@29-31'		955																		
4	BH09@21.5-24'		1210																		
5	BH09@30-31'		1154																		
6	BH10@24-26.5'		1345																		
7	BH10@30-31'		1334																		
8	BH11@19-21.5'		1500																		
9	BH11@21.5-24'		1505																		
10	BH11@29-31'		1515																		X

Relinquished by: <u>[Signature]</u> Date/Time: <u>10/27/12</u>	Received by: <u>SZ</u> Date/Time: <u>10/27/12</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>SZ</u> Date/Time: <u>10/28/12 1000</u>	Received by: <u>[Signature]</u> Date/Time: <u>10/28/12 1000</u>	Same Day <input type="checkbox"/> 72 hours	
Temperature Upon Receipt: <u>6.7</u>	Corrected Temperature: <u>6</u>	24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
IR gun correction: <u>0</u>	IR gun #: <u>1</u>	48 hours <input type="checkbox"/>	Sample Integrity:
		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

# S<sub>2</sub>

S2 Work Order# 2210555

## Sample Receipt Checklist

Client: Noble / Gasman Client Project ID: L:11: W:17 14-5

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

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

Matrix (Check all that apply) Air  Soil/Solid  Water  Other Temp (°C) Thermometer # 

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

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

PS  
Custodian Printed Name

10/28/22 1600  
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:**  
11/07/22 16:27

**BH08@17-17.5'**  
**2210555-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BFK0014	11/01/22	11/01/22	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: **10/27/22 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		121 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl		48.5 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH08@17-17.5'**  
**2210555-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		82.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.0 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0791</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 09:28**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH08@17-17.5'**  
**2210555-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	8.58	0.293	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	228	0.585	"	"	"	"	"	"	
Cadmium	ND	0.293	"	"	"	"	"	"	
Copper	6.16	0.585	"	"	"	"	"	"	
Lead	19.2	0.293	"	"	"	"	"	"	
Nickel	3.83	0.585	"	"	"	"	"	"	
Selenium	ND	0.380	"	"	"	"	"	"	
Silver	0.0322	0.0293	"	"	"	"	"	"	
Zinc	18.7	0.585	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	272	0.0731	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	57.9	0.0731	"	"	"	"	"	"	
Sodium	6.78	0.0731	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0974	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH08@17-17.5'**  
**2210555-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	68.4		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.759	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 09:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH08@24-26.5'**  
**2210555-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/01/22	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: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		129 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		46.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH08@24-26.5'**  
**2210555-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		70.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.9 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 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:**  
11/07/22 16:27

**BH08@24-26.5'**  
**2210555-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.96	0.262	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	17.8	0.525	"	"	"	"	"	"	
Cadmium	ND	0.262	"	"	"	"	"	"	
Copper	6.60	0.525	"	"	"	"	"	"	
Lead	13.6	0.262	"	"	"	"	"	"	
Nickel	1.91	0.525	"	"	"	"	"	"	
Selenium	ND	0.341	"	"	"	"	"	"	
Silver	ND	0.0262	"	"	"	"	"	"	
Zinc	4.77	0.525	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	64.3	0.0656	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	41.7	0.0656	"	"	"	"	"	"	
Sodium	6.24	0.0656	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.149	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH08@24-26.5'**  
**2210555-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.2		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.38	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH08@29-31'**  
**2210555-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/01/22	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: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		74.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH08@29-31'**  
**2210555-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		80.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.8 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0871</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 09:55**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH08@29-31'**  
**2210555-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Arsenic</b>	<b>2.26</b>	0.259	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
<b>Barium</b>	<b>9.97</b>	0.518	"	"	"	"	"	"	
Cadmium	ND	0.259	"	"	"	"	"	"	
<b>Copper</b>	<b>5.42</b>	0.518	"	"	"	"	"	"	
<b>Lead</b>	<b>12.2</b>	0.259	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.63</b>	0.518	"	"	"	"	"	"	
Selenium	ND	0.337	"	"	"	"	"	"	
Silver	ND	0.0259	"	"	"	"	"	"	
<b>Zinc</b>	<b>4.12</b>	0.518	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>76.2</b>	0.0648	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
<b>Magnesium</b>	<b>39.1</b>	0.0648	"	"	"	"	"	"	
<b>Sodium</b>	<b>6.44</b>	0.0648	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Sodium Adsorption Ratio</b>	<b>0.150</b>	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH08@29-31'**  
**2210555-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	77.2		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.44	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.89		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH09@21.5-24'**  
**2210555-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/01/22	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: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		66.8 %	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:**  
11/07/22 16:27

**BH09@21.5-24'**  
**2210555-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		90.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.2 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.103</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 12:10**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH09@21.5-24'**  
**2210555-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	33.4	0.267	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	36.2	0.534	"	"	"	"	"	"	
Cadmium	0.295	0.267	"	"	"	"	"	"	
Copper	6.06	0.534	"	"	"	"	"	"	
Lead	27.8	0.267	"	"	"	"	"	"	
Nickel	2.60	0.534	"	"	"	"	"	"	
Selenium	0.735	0.347	"	"	"	"	"	"	
Silver	0.0278	0.0267	"	"	"	"	"	"	
Zinc	10.8	0.534	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	116	0.0668	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	44.2	0.0668	"	"	"	"	"	"	
Sodium	8.69	0.0668	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.174	0.00100	units	1	BFK0067	11/02/22	11/02/22	Calculation	

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

Date Sampled: **10/27/22 12:10**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH09@21.5-24'**  
**2210555-04 (Soil)**

**Summit Scientific**

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

% Solids	74.9	%	1	BFJ0855	10/31/22	11/01/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.826</b>	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.02</b>		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH09@30-31'**  
**2210555-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/01/22	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: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 11:54**

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

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH09@30-31'**  
**2210555-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		88.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.6 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0306</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 11:54**

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:**  
11/07/22 16:27

**BH09@30-31'**  
**2210555-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.94	0.269	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B
Barium	13.8	0.539	"	"	"	"	"	"
Cadmium	ND	0.269	"	"	"	"	"	"
Copper	4.41	0.539	"	"	"	"	"	"
Lead	8.04	0.269	"	"	"	"	"	"
Nickel	1.91	0.539	"	"	"	"	"	"
Selenium	ND	0.350	"	"	"	"	"	"
Silver	0.0614	0.0269	"	"	"	"	"	"
Zinc	4.51	0.539	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	106	0.0673	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	42.1	0.0673	"	"	"	"	"	"	
Sodium	7.57	0.0673	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.157	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH09@30-31'**  
**2210555-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.3		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.46	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.96		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH10@24-26.5'**  
**2210555-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/02/22	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: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		97.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

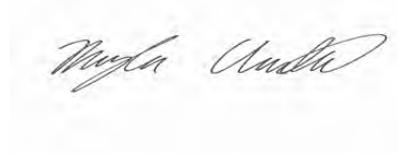
Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		74.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH10@24-26.5'**  
**2210555-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		96.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.7 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0293</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 13:45**

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:**  
11/07/22 16:27

**BH10@24-26.5'**  
**2210555-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.85	0.270	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	19.7	0.540	"	"	"	"	"	"	
Cadmium	ND	0.270	"	"	"	"	"	"	
Copper	5.90	0.540	"	"	"	"	"	"	
Lead	16.6	0.270	"	"	"	"	"	"	
Nickel	2.09	0.540	"	"	"	"	"	"	
Selenium	ND	0.351	"	"	"	"	"	"	
Silver	0.0297	0.0270	"	"	"	"	"	"	
Zinc	8.52	0.540	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	90.7	0.0675	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	44.0	0.0675	"	"	"	"	"	"	
Sodium	7.92	0.0675	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.171	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH10@24-26.5'**  
**2210555-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.1		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.12	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH10@30-31'**  
**2210555-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/02/22	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: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		98.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		79.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		67.3 %	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:**  
11/07/22 16:27

**BH10@30-31'**  
**2210555-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		89.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.5 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0662</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 13:39**

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:**  
11/07/22 16:27

**BH10@30-31'**  
**2210555-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.09	0.261	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	9.19	0.523	"	"	"	"	"	"	
Cadmium	ND	0.261	"	"	"	"	"	"	
Copper	5.82	0.523	"	"	"	"	"	"	
Lead	12.8	0.261	"	"	"	"	"	"	
Nickel	1.39	0.523	"	"	"	"	"	"	
Selenium	ND	0.340	"	"	"	"	"	"	
Silver	ND	0.0261	"	"	"	"	"	"	
Zinc	4.23	0.523	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/27/22 13:39

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: 10/27/22 13:39

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	162	0.0653	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	37.2	0.0653	"	"	"	"	"	"	
Sodium	6.41	0.0653	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/27/22 13:39

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.118	0.00100	units	1	BFK0067	11/02/22	11/02/22	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:**  
11/07/22 16:27

**BH10@30-31'**  
**2210555-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.5		%	1	BFJ0855	10/31/22	11/01/22	Calculation	

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

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.44	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH11@19-21.5'**  
**2210555-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/02/22	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: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		96.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		81.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		68.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH11@19-21.5'**  
**2210555-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		72.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		46.2 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0235</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 15:00**

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:**  
11/07/22 16:27

**BH11@19-21.5'**  
**2210555-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.60	0.275	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B	
Barium	57.0	0.551	"	"	"	"	"	"	
Cadmium	0.404	0.275	"	"	"	"	"	"	
Copper	6.39	0.551	"	"	"	"	"	"	
Lead	22.5	0.275	"	"	"	"	"	"	
Nickel	3.05	0.551	"	"	"	"	"	"	
Selenium	0.366	0.358	"	"	"	"	"	"	
Silver	0.0650	0.0275	"	"	"	"	"	"	
Zinc	16.6	0.551	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/27/22 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: 10/27/22 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	126	0.0689	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	58.2	0.0689	"	"	"	"	"	"	
Sodium	9.67	0.0689	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/27/22 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.179	0.00100	units	1	BFK0067	11/02/22	11/02/22	Calculation	

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

Date Sampled: 10/27/22 15:00

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:**  
11/07/22 16:27

**BH11@19-21.5'**  
**2210555-08 (Soil)**

**Summit Scientific**

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

% Solids	72.6	%	1	BFJ0855	10/31/22	11/01/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.36	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BFK0010	11/01/22	11/01/22	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:**  
11/07/22 16:27

**BH11@21.5-24'**  
**2210555-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFK0014	11/01/22	11/02/22	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: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		94.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		126 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0016	11/01/22	11/04/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

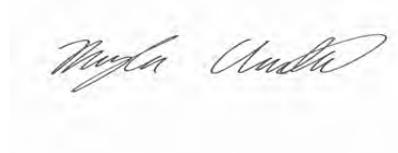
Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		76.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
11/07/22 16:27

**BH11@21.5-24'**  
**2210555-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0002	11/01/22	11/02/22	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: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		83.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.4 %	40-150		"	"	"	"	

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

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0151</b>	0.0100	mg/L	1	BFK0025	11/01/22	11/02/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **10/27/22 15:05**

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:**  
11/07/22 16:27

**BH11@21.5-24'**  
**2210555-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	10.8	0.270	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B
Barium	20.2	0.540	"	"	"	"	"	"
Cadmium	0.315	0.270	"	"	"	"	"	"
Copper	5.34	0.540	"	"	"	"	"	"
Lead	13.0	0.270	"	"	"	"	"	"
Nickel	2.14	0.540	"	"	"	"	"	"
Selenium	0.948	0.351	"	"	"	"	"	"
Silver	0.0345	0.0270	"	"	"	"	"	"
Zinc	14.3	0.540	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 10/27/22 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0032	11/01/22	11/02/22	EPA 7196A	

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

Date Sampled: 10/27/22 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	102	0.0675	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	47.5	0.0675	"	"	"	"	"	"	
Sodium	8.78	0.0675	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 10/27/22 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.180	0.00100	units	1	BFK0067	11/02/22	11/02/22	Calculation	

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

Date Sampled: 10/27/22 15:05

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:**  
11/07/22 16:27

**BH11@21.5-24'**  
**2210555-09 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>74.1</b>	%	1	BFJ0855	10/31/22	11/01/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.77</b>	0.0100	mmhos/cm	1	BFK0011	11/01/22	11/01/22	EPA 120.1	

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

Date Sampled: **10/27/22 15:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>6.88</b>		pH Units	1	BFK0010	11/01/22	11/01/22	EPA 9045D	

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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:**  
11/07/22 16:27

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BFK0014 - EPA 5030 Soil MS

##### Blank (BFK0014-BLK1)

Prepared: 11/01/22 Analyzed: 11/03/22

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0441</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

##### LCS (BFK0014-BS1)

Prepared: 11/01/22 Analyzed: 11/03/22

Benzene	0.0904	0.0020	mg/kg	0.125		72.3	70-130			
Toluene	0.128	0.0050	"	0.125		102	70-130			
Ethylbenzene	0.143	0.0050	"	0.125		115	70-130			
m,p-Xylene	0.290	0.010	"	0.250		116	70-130			
o-Xylene	0.148	0.0050	"	0.125		118	70-130			
1,2,4-Trimethylbenzene	0.139	0.0050	"	0.125		111	70-130			
1,3,5-Trimethylbenzene	0.136	0.0050	"	0.125		109	70-130			
Naphthalene	0.145	0.0038	"	0.125		116	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0350</i>		<i>"</i>	<i>0.0400</i>		<i>87.5</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>95.0</i>	<i>50-150</i>			

##### Matrix Spike (BFK0014-MS1)

Source: 2210529-01

Prepared: 11/01/22 Analyzed: 11/03/22

Benzene	0.102	0.0020	mg/kg	0.125	ND	81.6	70-130			
Toluene	0.136	0.0050	"	0.125	ND	109	70-130			
Ethylbenzene	0.145	0.0050	"	0.125	ND	116	70-130			
m,p-Xylene	0.297	0.010	"	0.250	ND	119	70-130			
o-Xylene	0.143	0.0050	"	0.125	ND	114	70-130			
1,2,4-Trimethylbenzene	0.140	0.0050	"	0.125	ND	112	70-130			
1,3,5-Trimethylbenzene	0.137	0.0050	"	0.125	ND	110	70-130			
Naphthalene	0.124	0.0038	"	0.125	ND	99.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0456</i>		<i>"</i>	<i>0.0400</i>		<i>114</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0503</i>		<i>"</i>	<i>0.0400</i>		<i>126</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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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:**  
11/07/22 16:27

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BFK0014 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BFK0014-MSD1)</b>	<b>Source: 2210529-01</b>			<b>Prepared: 11/01/22 Analyzed: 11/03/22</b>						
Benzene	0.102	0.0020	mg/kg	0.125	ND	81.3	70-130	0.354	30	
Toluene	0.139	0.0050	"	0.125	ND	111	70-130	2.12	30	
Ethylbenzene	0.162	0.0050	"	0.125	ND	129	70-130	11.0	30	
m,p-Xylene	0.266	0.010	"	0.250	ND	107	70-130	11.1	30	
o-Xylene	0.153	0.0050	"	0.125	ND	122	70-130	6.68	30	
1,2,4-Trimethylbenzene	0.145	0.0050	"	0.125	ND	116	70-130	3.58	30	
1,3,5-Trimethylbenzene	0.141	0.0050	"	0.125	ND	113	70-130	2.50	30	
Naphthalene	0.150	0.0038	"	0.125	ND	120	70-130	19.2	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0520</i>		<i>"</i>	<i>0.0400</i>		<i>130</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>50-150</i>			

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:**  
11/07/22 16:27

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

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

**Batch BFK0016 - EPA 3550A**

**Blank (BFK0016-BLK1)**

Prepared: 11/01/22 Analyzed: 11/04/22

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	6.76		"	12.5		54.1		30-150			

**LCS (BFK0016-BS1)**

Prepared: 11/01/22 Analyzed: 11/04/22

C10-C28 (DRO)	405	50	mg/kg	500		81.1		70-130			
Surrogate: <i>o</i> -Terphenyl	6.92		"	12.5		55.4		30-150			

**Matrix Spike (BFK0016-MS1)**

Source: 2210528-01

Prepared: 11/01/22 Analyzed: 11/04/22

C10-C28 (DRO)	2020	50	mg/kg	500	1550	94.1		70-130			
Surrogate: <i>o</i> -Terphenyl	6.62		"	12.5		53.0		30-150			

**Matrix Spike Dup (BFK0016-MSD1)**

Source: 2210528-01

Prepared: 11/01/22 Analyzed: 11/04/22

C10-C28 (DRO)	2190	50	mg/kg	500	1550	127		70-130	7.79	20	
Surrogate: <i>o</i> -Terphenyl	6.81		"	12.5		54.5		30-150			

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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFK0002 - EPA 5030 Soil MS**

**Blank (BFK0002-BLK1)**

Prepared & Analyzed: 11/01/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0365</i>		<i>"</i>	<i>0.0333</i>	<i>110</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0263</i>		<i>"</i>	<i>0.0333</i>	<i>78.9</i>	<i>40-150</i>				

**LCS (BFK0002-BS1)**

Prepared & Analyzed: 11/01/22

Acenaphthene	0.0423	0.00500	mg/kg	0.0333	127	31-137				
Anthracene	0.0385	0.00500	"	0.0333	116	30-120				
Benzo (a) anthracene	0.0328	0.00500	"	0.0333	98.5	30-120				
Benzo (a) pyrene	0.0313	0.00500	"	0.0333	93.9	30-120				
Benzo (b) fluoranthene	0.0383	0.00500	"	0.0333	115	30-120				
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333	103	30-120				
Chrysene	0.0341	0.00500	"	0.0333	102	30-120				
Dibenz (a,h) anthracene	0.0286	0.00500	"	0.0333	85.9	30-120				
Fluoranthene	0.0396	0.00500	"	0.0333	119	30-120				
Fluorene	0.0378	0.00500	"	0.0333	113	30-120				
Indeno (1,2,3-cd) pyrene	0.0325	0.00500	"	0.0333	97.5	30-120				
Pyrene	0.0361	0.00500	"	0.0333	108	35-142				
1-Methylnaphthalene	0.0389	0.00500	"	0.0333	117	35-142				
2-Methylnaphthalene	0.0411	0.00500	"	0.0333	123	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0389</i>		<i>"</i>	<i>0.0333</i>	<i>117</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0403</i>		<i>"</i>	<i>0.0333</i>	<i>121</i>	<i>40-150</i>				

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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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFK0002 - EPA 5030 Soil MS**

<b>Matrix Spike (BFK0002-MS1)</b>	<b>Source: 2210521-02</b>			<b>Prepared &amp; Analyzed: 11/01/22</b>						
Acenaphthene	0.0218	0.00500	mg/kg	0.0333	ND	65.5	31-137			
Anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120			
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.4	30-120			
Benzo (a) pyrene	0.0169	0.00500	"	0.0333	ND	50.7	30-120			
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.7	30-120			
Benzo (k) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.9	30-120			
Chrysene	0.0175	0.00500	"	0.0333	ND	52.4	30-120			
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	44.9	30-120			
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.6	30-120			
Fluorene	0.0197	0.00500	"	0.0333	ND	59.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0171	0.00500	"	0.0333	ND	51.4	30-120			
Pyrene	0.0182	0.00500	"	0.0333	ND	54.5	35-142			
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.4	15-130			
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0194</i>		<i>"</i>	<i>0.0333</i>		<i>58.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0172</i>		<i>"</i>	<i>0.0333</i>		<i>51.6</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BFK0002-MSD1)</b>	<b>Source: 2210521-02</b>			<b>Prepared &amp; Analyzed: 11/01/22</b>						
Acenaphthene	0.0206	0.00500	mg/kg	0.0333	ND	61.7	31-137	5.97	30	
Anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	1.14	30	
Benzo (a) anthracene	0.0171	0.00500	"	0.0333	ND	51.2	30-120	2.29	30	
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120	1.98	30	
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	3.45	30	
Benzo (k) fluoranthene	0.0214	0.00500	"	0.0333	ND	64.2	30-120	1.04	30	
Chrysene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	0.162	30	
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	8.90	30	
Fluoranthene	0.0191	0.00500	"	0.0333	ND	57.2	30-120	4.66	30	
Fluorene	0.0208	0.00500	"	0.0333	ND	62.5	30-120	5.61	30	
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	13.7	30	
Pyrene	0.0190	0.00500	"	0.0333	ND	57.0	35-142	4.58	30	
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.1	15-130	2.87	50	
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.6	15-130	4.22	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0177</i>		<i>"</i>	<i>0.0333</i>		<i>53.2</i>	<i>40-150</i>			

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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:**  
11/07/22 16:27

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

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

**Batch BFK0025 - EPA 3050B**

**Blank (BFK0025-BLK1)**

Prepared & Analyzed: 11/01/22

Boron ND 0.0100 mg/L

**LCS (BFK0025-BS1)**

Prepared & Analyzed: 11/01/22

Boron 5.46 0.0100 mg/L 5.00 109 80-120

**Duplicate (BFK0025-DUP1)**

Source: 2210555-01

Prepared & Analyzed: 11/01/22

Boron 0.0765 0.0100 mg/L 0.0791 3.41 20

**Matrix Spike (BFK0025-MS1)**

Source: 2210555-01

Prepared & Analyzed: 11/01/22

Boron 5.39 0.0100 mg/L 5.00 0.0791 106 75-125

**Matrix Spike Dup (BFK0025-MSD1)**

Source: 2210555-01

Prepared & Analyzed: 11/01/22

Boron 5.59 0.0100 mg/L 5.00 0.0791 110 75-125 3.68 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:**  
11/07/22 16:27

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0864 - EPA 3050B**

**Blank (BFJ0864-BLK1)**

Prepared: 10/31/22 Analyzed: 11/02/22

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 (BFJ0864-BS1)**

Prepared: 10/31/22 Analyzed: 11/02/22

Arsenic	44.0	0.200	mg/kg wet	40.0	110	80-120
Barium	42.7	0.400	"	40.0	107	80-120
Cadmium	2.11	0.200	"	2.00	105	80-120
Copper	42.5	0.400	"	40.0	106	80-120
Lead	21.1	0.200	"	20.0	105	80-120
Nickel	47.8	0.400	"	40.0	119	80-120
Selenium	4.40	0.260	"	4.00	110	80-120
Silver	2.10	0.0200	"	2.00	105	80-120
Zinc	47.4	0.400	"	40.0	118	80-120

**Duplicate (BFJ0864-DUP1)**

Source: 2210539-01

Prepared: 10/31/22 Analyzed: 11/02/22

Arsenic	1.78	0.211	mg/kg dry	1.76	1.15	20
Barium	56.1	0.422	"	58.8	4.82	20
Cadmium	0.0759	0.211	"	0.0814	6.97	20
Copper	2.32	0.422	"	2.48	6.34	20
Lead	4.01	0.211	"	4.44	10.2	20
Nickel	2.12	0.422	"	2.16	1.91	20
Selenium	ND	0.274	"	ND		20
Silver	0.0164	0.0211	"	0.0156	5.26	20
Zinc	7.99	0.422	"	8.54	6.75	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:**  
11/07/22 16:27

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFJ0864 - EPA 3050B**

**Matrix Spike (BFJ0864-MS1)**

Source: 2210539-01

Prepared: 10/31/22 Analyzed: 11/02/22

Arsenic	49.0	0.211	mg/kg dry	42.2	1.76	112	75-125		
Barium	92.6	0.422	"	42.2	58.8	80.1	75-125		
Cadmium	2.22	0.211	"	2.11	0.0814	102	75-125		
Copper	46.2	0.422	"	42.2	2.48	104	75-125		
Lead	25.2	0.211	"	21.1	4.44	98.4	75-125		
Nickel	43.9	0.422	"	42.2	2.16	98.9	75-125		
Selenium	4.66	0.274	"	4.22	ND	111	75-125		
Silver	2.06	0.0211	"	2.11	0.0156	96.9	75-125		
Zinc	51.7	0.422	"	42.2	8.54	102	75-125		

**Matrix Spike Dup (BFJ0864-MSD1)**

Source: 2210539-01

Prepared: 10/31/22 Analyzed: 11/02/22

Arsenic	48.0	0.211	mg/kg dry	42.2	1.76	110	75-125	2.21	25
Barium	91.1	0.422	"	42.2	58.8	76.6	75-125	1.62	25
Cadmium	2.35	0.211	"	2.11	0.0814	108	75-125	5.80	25
Copper	47.4	0.422	"	42.2	2.48	107	75-125	2.55	25
Lead	27.0	0.211	"	21.1	4.44	107	75-125	7.13	25
Nickel	45.3	0.422	"	42.2	2.16	102	75-125	3.13	25
Selenium	4.71	0.274	"	4.22	ND	112	75-125	1.01	25
Silver	2.17	0.0211	"	2.11	0.0156	102	75-125	5.48	25
Zinc	52.5	0.422	"	42.2	8.54	104	75-125	1.62	25

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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:**  
11/07/22 16:27

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BFK0032 - 3060A Mod**

**Blank (BFK0032-BLK1)**

Prepared: 11/01/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFK0032-BS1)**

Prepared: 11/01/22 Analyzed: 11/02/22

Chromium, Hexavalent 25.1 0.30 mg/kg wet 25.0 100 80-120

**Duplicate (BFK0032-DUP1)**

**Source: 2210578-05**

Prepared: 11/01/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFK0032-MS1)**

**Source: 2210578-05**

Prepared: 11/01/22 Analyzed: 11/02/22

Chromium, Hexavalent 25.7 0.30 mg/kg dry 25.8 ND 99.6 75-125

**Matrix Spike Dup (BFK0032-MSD1)**

**Source: 2210578-05**

Prepared: 11/01/22 Analyzed: 11/02/22

Chromium, Hexavalent 24.0 0.30 mg/kg dry 25.8 ND 93.2 75-125 6.64 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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFJ0849 - General Preparation**

**Blank (BFJ0849-BLK1)**

Prepared: 10/31/22 Analyzed: 11/01/22

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

**LCS (BFJ0849-BS1)**

Prepared: 10/31/22 Analyzed: 11/01/22

Calcium	6.06	0.0500	mg/L wet	5.00	121	70-130				
Magnesium	5.88	0.0500	"	5.00	118	70-130				
Sodium	5.67	0.0500	"	5.00	113	70-130				

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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFJ0855 - General Preparation**

**Duplicate (BFJ0855-DUP1)**

**Source: 2210285-03**

Prepared: 10/31/22 Analyzed: 11/01/22

% Solids	90.9		%		91.1			0.200	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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFK0011 - General Preparation**

**Blank (BFK0011-BLK1)**

Prepared & Analyzed: 11/01/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFK0011-BS1)**

Prepared & Analyzed: 11/01/22

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

**Duplicate (BFK0011-DUP1)**

Source: 2210555-01

Prepared & Analyzed: 11/01/22

Specific Conductance (EC) 0.743 0.0100 mmhos/cm 0.759 2.12 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:**  
11/07/22 16:27

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

**Summit Scientific**

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

**Batch BFK0010 - General Preparation**

**LCS (BFK0010-BS1)**

Prepared & Analyzed: 11/01/22

pH	9.01	pH Units	9.18	98.1	95-105
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**Duplicate (BFK0010-DUP1)**

Source: 2210555-01

Prepared & Analyzed: 11/01/22

pH	8.18	pH Units	8.08	1.23	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:**  
11/07/22 16:27

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

**ATTACHMENT B**

**LABORATORY SOIL ANALYTICAL DATA REPORTS;  
LILLI UNIT O-5 TANK BATTERY BACKGROUND DATA**

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

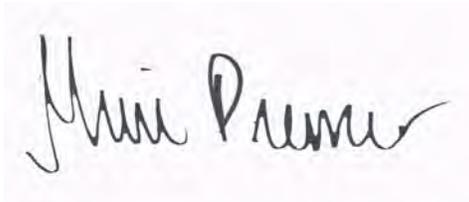
303.277.9310

June 01, 2022

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Lilli Unit 0-5 Fac  
Work Order #2205034

Enclosed are the results of analyses for samples received by Summit Scientific on 05/03/22 17:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial 'M' and a long, sweeping underline.

Muri Premer For Paul Shrewsbury  
President



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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN

Project Manager: Jacob Whritenour

**Reported:**  
 06/01/22 14:04

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2.5'	2205034-01	Soil	05/03/22 14:25	05/03/22 17:36
SS02@2.5'	2205034-02	Soil	05/03/22 14:30	05/03/22 17:36
SS03@2.5'	2205034-03	Soil	05/03/22 14:35	05/03/22 17:36
SS04@2.5'	2205034-04	Soil	05/03/22 14:40	05/03/22 17:36
FS01@3.5'	2205034-05	Soil	05/03/22 14:45	05/03/22 17:36
AST01@0.5'	2205034-06	Soil	05/03/22 14:10	05/03/22 17:36
AST02@0.5'	2205034-07	Soil	05/03/22 14:15	05/03/22 17:36
AST03@0.5'	2205034-08	Soil	05/03/22 14:20	05/03/22 17:36
SEP01-FL@3'	2205034-09	Soil	05/03/22 14:55	05/03/22 17:36
SEP01-DL@3'	2205034-10	Soil	05/03/22 14:50	05/03/22 17:36
BG01@2.5'	2205034-11	Soil	05/03/22 14:58	05/03/22 17:36
BG01@3.5'	2205034-12	Soil	05/03/22 14:58	05/03/22 17:36

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

2205034.1

S<sub>2</sub>

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303-277-9310

Page 1 of 2

Client: Noble / Tasman Project Manager: Jake Whritenour, Invoice: Wade firestien  
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com  
City/State/Zip: Broomfield/ CO/ 80020  
Phone: 303-261-6246 Project Name: Lilli Unit 0-5 FAC  
Sampler Name: Stanley Gilbert Project Number: UWRWE - A2632-ABN

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	SAR, EC, PH	Boron - HWS		HOLD
1	SS01@2.5'	5/3/22	14:25	2			X			X			X	X	X	X	X		
2	SS02@2.5'		14:30				X			X			X	X	X	X	X		HOLD
3	SS03@2.5'		14:35				X			X			X	X	X	X	X		HOLD
4	SS04@2.5'		14:40				X			X			X	X	X	X	X		HOLD
5	FS01@3.5'		14:45				X			X			X	X	X	X	X		
6	AST01@0.5'		14:10				X			X			X	X	X	X	X		
7	AST02@0.5'		14:15				X			X			X	X	X	X	X		
8	AST03@0.5'		14:20				X			X			X	X	X	X	X		
9	SEP01-FLG@3'		14:55				X			X			X	X	X	X	X		
10	SEP01-DL@3'		14:50				X			X			X	X	X	X	X		

Relinquished by: <u>[Signature]</u> Date/Time: <u>5/3/22 17:36</u>	Received by: <u>Tasman's Lock Box</u> Date/Time: <u>5/3/22 17:36</u>	<b>Turn Around Time (Check)</b> Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Temperature Upon Receipt: <u>7.0</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b>
Relinquished by: <u>Tasman's Lock Box</u> Date/Time: <u>5/3/22 17:36</u>	Received by: <u>[Signature]</u> Date/Time: <u>5/3/22 17:36</u>		
Relinquished by:	Received by:		

# Summit Scientific

2205034.2

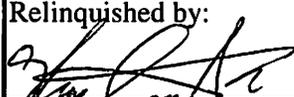
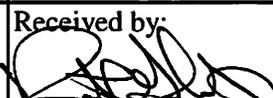
S<sub>2</sub>

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

Page 2 of 2

Client: Noble / Tasman Project Manager: Jake Whritenour, Invoice: Wade firestien  
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com  
City/State/Zip: Broomfield/ CO/ 80020  
Phone: 303-261-6246 Project Name: LILLI Unit B-5 FAC  
Sampler Name: Stanley Gilbert Project Number: UWRWE-A1632-ABN

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	SAR, EC, PH	Boron - HWS	HOLD		
1	BG01 @ 2.5'	5/3/22	14:58	1			X		X				X	X	X	X	X	X		HOLD
2	BG01 @ 3.5'	↓	14:58	1			X		X				X	X	X	X	X	X		HOLD
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 5/3/22 17:36	Received by: Tasman's Lock Box	Date/Time: 5/3/22 17:36	Turn Around Time (Check)	Notes:
				Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>	
				24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished by: Tasman's Lock Box	Date/Time: 5/3/22 1736	Received by: 	Date/Time: 5/3/22 1736	48 hours <input type="checkbox"/>	Sample Integrity: 7.0
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt: <u>7.0</u>	
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S<sub>2</sub>

2205034

Sample Receipt Checklist

S2 Work Order#

Client: Nodeltasman Client Project ID: Lilli Unit 0-5 FAC

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

-

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

Temp (°C)  Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C <sup>(1)</sup> ? <b>NOTE:</b> If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact <sup>(1)</sup> ?	-			
Was adequate sample volume provided <sup>(1)</sup> ?	-			
If custody seals are present, are they intact <sup>(1)</sup> ?	-			
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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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 <sup>(1)</sup> ?	-			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	-			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	-			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	-			
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>			-	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

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

[Signature]  
Custodian Printed Name

5322  
Date/Time



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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS01@2.5'**  
**2205034-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		94.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/03/22 14:25**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS01@2.5'**  
**2205034-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		41.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		41.2 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.146</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:25**

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 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS01@2.5'**  
**2205034-01 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	227	0.0685	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	59.9	0.0685	"	"	"	"	"	"	
Sodium	190	0.0685	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.90	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.0		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.75	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.77		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS02@2.5'**  
**2205034-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0341	05/17/22	05/18/22	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: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.5 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0342	05/17/22	05/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS02@2.5'**  
**2205034-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0344	05/17/22	05/18/22	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: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		67.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		71.8 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>606</b>	0.0637	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
<b>Magnesium</b>	<b>136</b>	0.0637	"	"	"	"	"	"	
<b>Sodium</b>	<b>231</b>	0.0637	"	"	"	"	"	"	

**Calculated Analysis**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS02@2.5'**  
**2205034-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.21	0.00100	units	1	BFE0647	05/27/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.5		%	1	BFE0607	05/26/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.564	0.0100	mmhos/cm	1	BFE0499	05/23/22	05/24/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.24		pH Units	1	BFE0498	05/23/22	05/24/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS03@2.5'**  
**2205034-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0341	05/17/22	05/18/22	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: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0342	05/17/22	05/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.7 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS03@2.5'**  
**2205034-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0344	05/17/22	05/18/22	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: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		60.4 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>841</b>	0.0723	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
<b>Magnesium</b>	<b>167</b>	0.0723	"	"	"	"	"	"	
<b>Sodium</b>	<b>170</b>	0.0723	"	"	"	"	"	"	

**Calculated Analysis**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS03@2.5'**  
**2205034-03 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.40	0.00100	units	1	BFE0647	05/27/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	69.2		%	1	BFE0607	05/26/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.542	0.0100	mmhos/cm	1	BFE0499	05/23/22	05/24/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.12		pH Units	1	BFE0498	05/23/22	05/24/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS04@2.5'**  
**2205034-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0341	05/17/22	05/17/22	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: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0342	05/17/22	05/17/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS04@2.5'**  
**2205034-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0344	05/17/22	05/18/22	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: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		67.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		63.0 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1000</b>	0.0636	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
<b>Magnesium</b>	<b>180</b>	0.0636	"	"	"	"	"	"	
<b>Sodium</b>	<b>327</b>	0.0636	"	"	"	"	"	"	

**Calculated Analysis**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SS04@2.5'**  
**2205034-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.50	0.00100	units	1	BFE0647	05/27/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	78.6		%	1	BFE0607	05/26/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.689	0.0100	mmhos/cm	1	BFE0499	05/23/22	05/24/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.18		pH Units	1	BFE0498	05/23/22	05/24/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**FS01@3.5'**  
**2205034-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.023</b>	0.010	"	"	"	"	"	"	
<b>1,2,4-Trimethylbenzene</b>	<b>0.027</b>	0.0050	"	"	"	"	"	"	
<b>1,3,5-Trimethylbenzene</b>	<b>0.0078</b>	0.0050	"	"	"	"	"	"	
<b>Naphthalene</b>	<b>0.0070</b>	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.62</b>	0.50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**FS01@3.5'**  
**2205034-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.3 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0837</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/03/22 14:45**

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**FS01@3.5'**  
**2205034-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.10	0.269	mg/kg dry	1	BFE0430	05/19/22	05/25/22	EPA 6020B	
Barium	252	0.538	"	"	"	"	"	"	
Cadmium	ND	0.269	"	"	"	"	"	"	
Copper	7.29	0.538	"	"	"	"	"	"	
Lead	13.7	0.269	"	"	"	"	"	"	
Nickel	5.41	0.538	"	"	"	"	"	"	
Selenium	1.02	0.350	"	"	"	"	"	"	
Silver	0.0579	0.0269	"	"	"	"	"	"	
Zinc	23.5	0.538	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFE0492	05/23/22	05/23/22	EPA 7196A	

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

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	89.7	0.0673	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	21.0	0.0673	"	"	"	"	"	"	
Sodium	60.1	0.0673	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.49	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:45**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**FS01@3.5'**  
**2205034-05 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>74.3</b>	%	1	BFE0067	05/04/22	05/04/22	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.22</b>	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.91</b>		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST01@0.5'**  
**2205034-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST01@0.5'**  
**2205034-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.7 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0915</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:10**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST01@0.5'**  
**2205034-06 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10.3	0.0571	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	2.98	0.0571	"	"	"	"	"	"	
Sodium	54.2	0.0571	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.83	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.6		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.505	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.29		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST02@0.5'**  
**2205034-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST02@0.5'**  
**2205034-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.6 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0659</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:15**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST02@0.5'**  
**2205034-07 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	146	0.0595	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	24.5	0.0595	"	"	"	"	"	"	
Sodium	105	0.0595	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.12	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.32	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST03@0.5'**  
**2205034-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST03@0.5'**  
**2205034-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.0 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0945</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:20**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**AST03@0.5'**  
**2205034-08 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.5	0.0602	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	5.90	0.0602	"	"	"	"	"	"	
Sodium	31.5	0.0602	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.38	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.0		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.530	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.00		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-FL@3'**  
**2205034-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		103 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-FL@3'**  
**2205034-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		42.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.8 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.226</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:55**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-FL@3'**  
**2205034-09 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.4	0.0661	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	10.3	0.0661	"	"	"	"	"	"	
Sodium	139	0.0661	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.18	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.6		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.20	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-DL@3'**  
**2205034-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0065	05/04/22	05/05/22	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: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>51</b>	50	mg/kg	1	BFE0066	05/04/22	05/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		108 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-DL@3'**  
**2205034-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0060	05/04/22	05/05/22	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: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		44.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.3 %	40-150		"	"	"	"	

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

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0765</b>	0.0100	mg/L	1	BFE0161	05/09/22	05/16/22	EPA 6020B	

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

Date Sampled: **05/03/22 14:50**

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**SEP01-DL@3'**  
**2205034-10 (Soil)**

**Summit Scientific**

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.0	0.0654	mg/L dry	1	BFE0167	05/09/22	05/16/22	EPA 6020B	
Magnesium	10.8	0.0654	"	"	"	"	"	"	
Sodium	71.3	0.0654	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.87	0.00100	units	1	BFE0308	05/16/22	05/16/22	Calculation	

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

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.4		%	1	BFE0067	05/04/22	05/04/22	Calculation	

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

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.779	0.0100	mmhos/cm	1	BFE0193	05/10/22	05/10/22	EPA 120.1	

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

Date Sampled: **05/03/22 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BFE0194	05/10/22	05/10/22	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**BG01@2.5'**  
**2205034-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	471	0.0585	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
Magnesium	63.7	0.0585	"	"	"	"	"	"	
Sodium	389	0.0585	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.46	0.00100	units	1	BFE0647	05/27/22	05/27/22	Calculation	

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

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.5		%	1	BFE0607	05/26/22	05/27/22	Calculation	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**BG01@3.5'**  
**2205034-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.26	0.249	mg/kg dry	1	BFE0430	05/19/22	05/25/22	EPA 6020B	
Barium	192	0.497	"	"	"	"	"	"	
Cadmium	ND	0.249	"	"	"	"	"	"	
Copper	7.20	0.497	"	"	"	"	"	"	
Lead	12.8	0.249	"	"	"	"	"	"	
Nickel	5.70	0.497	"	"	"	"	"	"	
Selenium	0.971	0.323	"	"	"	"	"	"	
Silver	0.0593	0.0249	"	"	"	"	"	"	
Zinc	24.6	0.497	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFE0492	05/23/22	05/23/22	EPA 7196A	

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

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	475	0.0621	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
Magnesium	63.9	0.0621	"	"	"	"	"	"	
Sodium	439	0.0621	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	5.02	0.00100	units	1	BFE0647	05/27/22	05/27/22	Calculation	

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

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 06/01/22 14:04

**BG01@3.5'**  
**2205034-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/03/22 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>80.5</b>		%	1	BFE0607	05/26/22	05/27/22	Calculation	

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BFE0065 - EPA 5030 Soil MS

##### Blank (BFE0065-BLK1)

Prepared & Analyzed: 05/04/22

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0377		"	0.0400		94.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0397		"	0.0400		99.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0366		"	0.0400		91.5	50-150			

##### LCS (BFE0065-BS1)

Prepared & Analyzed: 05/04/22

Benzene	0.0608	0.0020	mg/kg	0.0750		81.0	70-130			
Toluene	0.0640	0.0050	"	0.0750		85.3	70-130			
Ethylbenzene	0.0588	0.0050	"	0.0750		78.4	70-130			
m,p-Xylene	0.137	0.010	"	0.150		91.2	70-130			
o-Xylene	0.0660	0.0050	"	0.0750		88.0	70-130			
1,2,4-Trimethylbenzene	0.0629	0.0050	"	0.0750		83.9	70-130			
1,3,5-Trimethylbenzene	0.0608	0.0050	"	0.0750		81.0	70-130			
Naphthalene	0.0674	0.0038	"	0.0750		89.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0353		"	0.0400		88.3	50-150			
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0386		"	0.0400		96.6	50-150			

##### Matrix Spike (BFE0065-MS1)

Source: 2205024-01

Prepared & Analyzed: 05/04/22

Benzene	0.0680	0.0020	mg/kg	0.0750	ND	90.6	70-130			
Toluene	0.0722	0.0050	"	0.0750	ND	96.2	70-130			
Ethylbenzene	0.0650	0.0050	"	0.0750	ND	86.7	70-130			
m,p-Xylene	0.152	0.010	"	0.150	ND	101	70-130			
o-Xylene	0.0718	0.0050	"	0.0750	ND	95.8	70-130			
1,2,4-Trimethylbenzene	0.0704	0.0050	"	0.0750	ND	93.8	70-130			
1,3,5-Trimethylbenzene	0.0673	0.0050	"	0.0750	ND	89.7	70-130			
Naphthalene	0.0792	0.0038	"	0.0750	ND	106	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0379		"	0.0400		94.6	50-150			
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.3	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0410		"	0.0400		102	50-150			

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0065 - EPA 5030 Soil MS**

**Matrix Spike Dup (BFE0065-MSD1)**

Source: 2205024-01

Prepared & Analyzed: 05/04/22

Benzene	0.0672	0.0020	mg/kg	0.0750	ND	89.6	70-130	1.07	30	
Toluene	0.0706	0.0050	"	0.0750	ND	94.2	70-130	2.14	30	
Ethylbenzene	0.0633	0.0050	"	0.0750	ND	84.4	70-130	2.66	30	
m,p-Xylene	0.149	0.010	"	0.150	ND	99.4	70-130	1.74	30	
o-Xylene	0.0709	0.0050	"	0.0750	ND	94.5	70-130	1.30	30	
1,2,4-Trimethylbenzene	0.0693	0.0050	"	0.0750	ND	92.4	70-130	1.55	30	
1,3,5-Trimethylbenzene	0.0664	0.0050	"	0.0750	ND	88.5	70-130	1.35	30	
Naphthalene	0.0785	0.0038	"	0.0750	ND	105	70-130	0.951	30	
Surrogate: 1,2-Dichloroethane-d4	0.0377		"	0.0400		94.2	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	50-150			

**Batch BFE0341 - EPA 5030 Soil MS**

**Blank (BFE0341-BLK1)**

Prepared: 05/17/22 Analyzed: 05/18/22

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	0.0366		"	0.0400		91.6	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.4	50-150			

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0341 - EPA 5030 Soil MS**

**LCS (BFE0341-BS1)**

Prepared: 05/17/22 Analyzed: 05/18/22

Benzene	0.0642	0.0020	mg/kg	0.0750		85.6	70-130			
Toluene	0.0642	0.0050	"	0.0750		85.6	70-130			
Ethylbenzene	0.0622	0.0050	"	0.0750		83.0	70-130			
m,p-Xylene	0.141	0.010	"	0.150		93.7	70-130			
o-Xylene	0.0672	0.0050	"	0.0750		89.6	70-130			
1,2,4-Trimethylbenzene	0.0624	0.0050	"	0.0750		83.2	70-130			
1,3,5-Trimethylbenzene	0.0618	0.0050	"	0.0750		82.4	70-130			
Naphthalene	0.0860	0.0038	"	0.0750		115	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0360		"	0.0400		90.0	50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.7	50-150			

**Matrix Spike (BFE0341-MS1)**

Source: 2205034-02

Prepared: 05/17/22 Analyzed: 05/18/22

Benzene	0.0613	0.0020	mg/kg	0.0750	ND	81.8	70-130			
Toluene	0.0637	0.0050	"	0.0750	ND	84.9	70-130			
Ethylbenzene	0.0614	0.0050	"	0.0750	ND	81.9	70-130			
m,p-Xylene	0.142	0.010	"	0.150	ND	94.6	70-130			
o-Xylene	0.0670	0.0050	"	0.0750	ND	89.3	70-130			
1,2,4-Trimethylbenzene	0.0636	0.0050	"	0.0750	ND	84.8	70-130			
1,3,5-Trimethylbenzene	0.0628	0.0050	"	0.0750	ND	83.8	70-130			
Naphthalene	0.0959	0.0038	"	0.0750	ND	128	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0400		89.3	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

**Matrix Spike Dup (BFE0341-MSD1)**

Source: 2205034-02

Prepared: 05/17/22 Analyzed: 05/18/22

Benzene	0.0627	0.0020	mg/kg	0.0750	ND	83.6	70-130	2.27	30	
Toluene	0.0646	0.0050	"	0.0750	ND	86.1	70-130	1.40	30	
Ethylbenzene	0.0614	0.0050	"	0.0750	ND	81.9	70-130	0.00	30	
m,p-Xylene	0.141	0.010	"	0.150	ND	93.9	70-130	0.785	30	
o-Xylene	0.0666	0.0050	"	0.0750	ND	88.8	70-130	0.539	30	
1,2,4-Trimethylbenzene	0.0634	0.0050	"	0.0750	ND	84.6	70-130	0.236	30	
1,3,5-Trimethylbenzene	0.0626	0.0050	"	0.0750	ND	83.4	70-130	0.431	30	
Naphthalene	0.0969	0.0038	"	0.0750	ND	129	70-130	0.996	30	
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.0	50-150			
Surrogate: Toluene-d8	0.0402		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5	50-150			

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0066 - EPA 3550A**

**Blank (BFE0066-BLK1)**

Prepared & Analyzed: 05/04/22

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

**LCS (BFE0066-BS1)**

Prepared & Analyzed: 05/04/22

C10-C28 (DRO)	381	50	mg/kg	500	76.3	70-130				
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**Matrix Spike (BFE0066-MS1)**

Source: 2205024-01

Prepared & Analyzed: 05/04/22

C10-C28 (DRO)	435	50	mg/kg	500	9.04	85.1	70-130			
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**Matrix Spike Dup (BFE0066-MSD1)**

Source: 2205024-01

Prepared: 05/04/22 Analyzed: 05/05/22

C10-C28 (DRO)	451	50	mg/kg	500	9.04	88.4	70-130	3.68	20	
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**Batch BFE0342 - EPA 3550A**

**Blank (BFE0342-BLK1)**

Prepared & Analyzed: 05/17/22

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

**LCS (BFE0342-BS1)**

Prepared & Analyzed: 05/17/22

C10-C28 (DRO)	412	50	mg/kg	500	82.4	70-130				
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**Matrix Spike (BFE0342-MS1)**

Source: 2205034-02

Prepared & Analyzed: 05/17/22

C10-C28 (DRO)	432	50	mg/kg	500	8.32	84.7	70-130			
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**Matrix Spike Dup (BFE0342-MSD1)**

Source: 2205034-02

Prepared & Analyzed: 05/17/22

C10-C28 (DRO)	429	50	mg/kg	500	8.32	84.2	70-130	0.597	20	
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0060 - EPA 5030 Soil MS**

**Blank (BFE0060-BLK1)**

Prepared: 05/04/22 Analyzed: 05/05/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0289</i>		<i>"</i>	<i>0.0333</i>		<i>86.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0245</i>		<i>"</i>	<i>0.0333</i>		<i>73.6</i>	<i>40-150</i>			

**LCS (BFE0060-BS1)**

Prepared: 05/04/22 Analyzed: 05/05/22

Acenaphthene	0.0367	0.00500	mg/kg	0.0333	110	31-137				
Anthracene	0.0346	0.00500	"	0.0333	104	30-120				
Benzo (a) anthracene	0.0311	0.00500	"	0.0333	93.4	30-120				
Benzo (a) pyrene	0.0309	0.00500	"	0.0333	92.8	30-120				
Benzo (b) fluoranthene	0.0311	0.00500	"	0.0333	93.2	30-120				
Benzo (k) fluoranthene	0.0333	0.00500	"	0.0333	99.8	30-120				
Chrysene	0.0309	0.00500	"	0.0333	92.7	30-120				
Dibenz (a,h) anthracene	0.0185	0.00500	"	0.0333	55.4	30-120				
Fluoranthene	0.0289	0.00500	"	0.0333	86.7	30-120				
Fluorene	0.0365	0.00500	"	0.0333	109	30-120				
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	48.6	30-120				
Pyrene	0.0422	0.00500	"	0.0333	127	35-142				
1-Methylnaphthalene	0.0355	0.00500	"	0.0333	107	35-142				
2-Methylnaphthalene	0.0420	0.00500	"	0.0333	126	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0323</i>		<i>"</i>	<i>0.0333</i>	<i>96.8</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0302</i>		<i>"</i>	<i>0.0333</i>	<i>90.6</i>	<i>40-150</i>				

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

**Summit Scientific**

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

**Batch BFE0060 - EPA 5030 Soil MS**

<b>Matrix Spike (BFE0060-MS1)</b>	<b>Source: 2205032-01</b>			<b>Prepared: 05/04/22 Analyzed: 05/05/22</b>						
Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.3	31-137			
Anthracene	0.0182	0.00500	"	0.0333	ND	54.7	30-120			
Benzo (a) anthracene	0.0206	0.00500	"	0.0333	ND	61.9	30-120			
Benzo (a) pyrene	0.0218	0.00500	"	0.0333	ND	65.4	30-120			
Benzo (b) fluoranthene	0.0281	0.00500	"	0.0333	ND	84.4	30-120			
Benzo (k) fluoranthene	0.0310	0.00500	"	0.0333	ND	93.1	30-120			
Chrysene	0.0212	0.00500	"	0.0333	ND	63.5	30-120			
Dibenz (a,h) anthracene	0.0113	0.00500	"	0.0333	ND	33.9	30-120			
Fluoranthene	0.0179	0.00500	"	0.0333	ND	53.8	30-120			
Fluorene	0.0185	0.00500	"	0.0333	ND	55.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	ND	49.9	30-120			
Pyrene	0.0313	0.00500	"	0.0333	ND	93.9	35-142			
1-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.7	15-130			
2-Methylnaphthalene	0.0216	0.00500	"	0.0333	ND	64.8	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0208</i>		<i>"</i>	<i>0.0333</i>		<i>62.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0187</i>		<i>"</i>	<i>0.0333</i>		<i>56.1</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BFE0060-MSD1)</b>	<b>Source: 2205032-01</b>			<b>Prepared: 05/04/22 Analyzed: 05/05/22</b>						
Acenaphthene	0.0182	0.00500	mg/kg	0.0333	ND	54.7	31-137	4.65	30	
Anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	2.63	30	
Benzo (a) anthracene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	7.33	30	
Benzo (a) pyrene	0.0213	0.00500	"	0.0333	ND	64.0	30-120	2.18	30	
Benzo (b) fluoranthene	0.0278	0.00500	"	0.0333	ND	83.4	30-120	1.27	30	
Benzo (k) fluoranthene	0.0318	0.00500	"	0.0333	ND	95.5	30-120	2.54	30	
Chrysene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	9.30	30	
Dibenz (a,h) anthracene	0.0113	0.00500	"	0.0333	ND	33.9	30-120	0.0383	30	
Fluoranthene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	13.7	30	
Fluorene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	0.641	30	
Indeno (1,2,3-cd) pyrene	0.0135	0.00500	"	0.0333	ND	40.5	30-120	20.7	30	
Pyrene	0.0295	0.00500	"	0.0333	ND	88.4	35-142	6.07	30	
1-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.2	15-130	2.65	50	
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.5	15-130	0.514	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0204</i>		<i>"</i>	<i>0.0333</i>		<i>61.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0192</i>		<i>"</i>	<i>0.0333</i>		<i>57.6</i>	<i>40-150</i>			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

**Summit Scientific**

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

**Batch BFE0344 - EPA 5030 Soil MS**

**Blank (BFE0344-BLK1)**

Prepared: 05/17/22 Analyzed: 05/18/22

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0289</i>		"	<i>0.0333</i>		<i>86.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0300</i>		"	<i>0.0333</i>		<i>89.9</i>	<i>40-150</i>			

**LCS (BFE0344-BS1)**

Prepared: 05/17/22 Analyzed: 05/18/22

Acenaphthene	0.0407	0.00500	mg/kg	0.0333	122	31-137
Anthracene	0.0350	0.00500	"	0.0333	105	30-120
Benzo (a) anthracene	0.0258	0.00500	"	0.0333	77.3	30-120
Benzo (a) pyrene	0.0274	0.00500	"	0.0333	82.2	30-120
Benzo (b) fluoranthene	0.0215	0.00500	"	0.0333	64.4	30-120
Benzo (k) fluoranthene	0.0248	0.00500	"	0.0333	74.3	30-120
Chrysene	0.0289	0.00500	"	0.0333	86.8	30-120
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	51.8	30-120
Fluoranthene	0.0373	0.00500	"	0.0333	112	30-120
Fluorene	0.0342	0.00500	"	0.0333	102	30-120
Indeno (1,2,3-cd) pyrene	0.0229	0.00500	"	0.0333	68.7	30-120
Pyrene	0.0229	0.00500	"	0.0333	68.8	35-142
1-Methylnaphthalene	0.0359	0.00500	"	0.0333	108	35-142
2-Methylnaphthalene	0.0383	0.00500	"	0.0333	115	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0316</i>		"	<i>0.0333</i>	<i>94.8</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0332</i>		"	<i>0.0333</i>	<i>99.6</i>	<i>40-150</i>

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

**Summit Scientific**

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

**Batch BFE0344 - EPA 5030 Soil MS**

<b>Matrix Spike (BFE0344-MS1)</b>	<b>Source: 2205034-02</b>			<b>Prepared: 05/17/22 Analyzed: 05/18/22</b>						
Acenaphthene	0.0244	0.00500	mg/kg	0.0333	ND	73.2	31-137			
Anthracene	0.0214	0.00500	"	0.0333	ND	64.1	30-120			
Benzo (a) anthracene	0.0168	0.00500	"	0.0333	ND	50.5	30-120			
Benzo (a) pyrene	0.0167	0.00500	"	0.0333	ND	50.1	30-120			
Benzo (b) fluoranthene	0.0139	0.00500	"	0.0333	ND	41.7	30-120			
Benzo (k) fluoranthene	0.0147	0.00500	"	0.0333	ND	44.2	30-120			
Chrysene	0.0183	0.00500	"	0.0333	ND	54.9	30-120			
Dibenz (a,h) anthracene	0.0135	0.00500	"	0.0333	ND	40.4	30-120			
Fluoranthene	0.0211	0.00500	"	0.0333	ND	63.2	30-120			
Fluorene	0.0205	0.00500	"	0.0333	ND	61.5	30-120			
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333	ND	46.7	30-120			
Pyrene	0.0146	0.00500	"	0.0333	ND	43.7	35-142			
1-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.2	15-130			
2-Methylnaphthalene	0.0220	0.00500	"	0.0333	ND	65.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0207</i>		<i>"</i>	<i>0.0333</i>		<i>62.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0189</i>		<i>"</i>	<i>0.0333</i>		<i>56.6</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BFE0344-MSD1)</b>	<b>Source: 2205034-02</b>			<b>Prepared: 05/17/22 Analyzed: 05/18/22</b>						
Acenaphthene	0.0316	0.00500	mg/kg	0.0333	ND	94.8	31-137	25.7	30	
Anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120	6.47	30	
Benzo (a) anthracene	0.0178	0.00500	"	0.0333	ND	53.5	30-120	5.81	30	
Benzo (a) pyrene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	6.67	30	
Benzo (b) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	8.48	30	
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	30-120	12.5	30	
Chrysene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	9.43	30	
Dibenz (a,h) anthracene	0.0127	0.00500	"	0.0333	ND	38.0	30-120	6.09	30	
Fluoranthene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	11.9	30	
Fluorene	0.0233	0.00500	"	0.0333	ND	70.0	30-120	12.8	30	
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	4.42	30	
Pyrene	0.0154	0.00500	"	0.0333	ND	46.1	35-142	5.29	30	
1-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.9	15-130	14.9	50	
2-Methylnaphthalene	0.0261	0.00500	"	0.0333	ND	78.3	15-130	17.2	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0225</i>		<i>"</i>	<i>0.0333</i>		<i>67.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0216</i>		<i>"</i>	<i>0.0333</i>		<i>64.9</i>	<i>40-150</i>			

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Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0161 - EPA 3050B**

**Blank (BFE0161-BLK1)**

Prepared: 05/09/22 Analyzed: 05/16/22

Boron ND 0.0100 mg/L

**LCS (BFE0161-BS1)**

Prepared: 05/09/22 Analyzed: 05/16/22

Boron 5.34 0.0100 mg/L 5.00 107 80-120

**Duplicate (BFE0161-DUP1)**

Source: 2205034-01

Prepared: 05/09/22 Analyzed: 05/16/22

Boron 0.140 0.0100 mg/L 0.146 4.31 20

**Matrix Spike (BFE0161-MS1)**

Source: 2205034-01

Prepared: 05/09/22 Analyzed: 05/16/22

Boron 5.24 0.0100 mg/L 5.00 0.146 102 75-125

**Matrix Spike Dup (BFE0161-MSD1)**

Source: 2205034-01

Prepared: 05/09/22 Analyzed: 05/16/22

Boron 5.30 0.0100 mg/L 5.00 0.146 103 75-125 1.10 25

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFE0430 - EPA 3050B**

**Blank (BFE0430-BLK1)**

Prepared: 05/19/22 Analyzed: 05/25/22

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 (BFE0430-BS1)**

Prepared: 05/19/22 Analyzed: 05/25/22

Arsenic	41.7	0.200	mg/kg wet	40.0		104	80-120
Barium	44.2	0.400	"	40.0		110	80-120
Cadmium	2.17	0.200	"	2.00		108	80-120
Copper	39.9	0.400	"	40.0		99.6	80-120
Lead	21.3	0.200	"	20.0		106	80-120
Nickel	38.8	0.400	"	40.0		97.1	80-120
Selenium	3.93	0.260	"	4.00		98.4	80-120
Silver	2.13	0.0200	"	2.00		107	80-120
Zinc	42.6	0.400	"	40.0		107	80-120

**Duplicate (BFE0430-DUP1)**

Source: 2205034-05

Prepared: 05/19/22 Analyzed: 05/25/22

Arsenic	3.83	0.269	mg/kg dry	4.10		6.87	20
Barium	220	0.538	"	252		13.9	20
Cadmium	0.184	0.269	"	0.189		2.46	20
Copper	6.76	0.538	"	7.29		7.56	20
Lead	12.3	0.269	"	13.7		11.1	20
Nickel	5.26	0.538	"	5.41		2.72	20
Selenium	0.867	0.350	"	1.02		16.7	20
Silver	0.0513	0.0269	"	0.0579		12.1	20
Zinc	22.2	0.538	"	23.5		5.55	20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFE0430 - EPA 3050B**

**Matrix Spike (BFE0430-MS1)**

Source: 2205034-05

Prepared: 05/19/22 Analyzed: 05/25/22

Arsenic	60.3	0.269	mg/kg dry	53.8	4.10	105	75-125				
Barium	291	0.538	"	53.8	252	72.5	75-125				QM-02
Cadmium	3.28	0.269	"	2.69	0.189	115	75-125				
Copper	58.6	0.538	"	53.8	7.29	95.4	75-125				
Lead	40.4	0.269	"	26.9	13.7	99.2	75-125				
Nickel	58.4	0.538	"	53.8	5.41	98.4	75-125				
Selenium	5.90	0.350	"	5.38	1.02	90.6	75-125				
Silver	3.04	0.0269	"	2.69	0.0579	111	75-125				
Zinc	82.3	0.538	"	53.8	23.5	109	75-125				

**Matrix Spike Dup (BFE0430-MSD1)**

Source: 2205034-05

Prepared: 05/19/22 Analyzed: 05/25/22

Arsenic	61.2	0.269	mg/kg dry	53.8	4.10	106	75-125	1.47	25		
Barium	623	0.538	"	53.8	252	688	75-125	72.5	25		QM-02
Cadmium	3.07	0.269	"	2.69	0.189	107	75-125	6.92	25		
Copper	60.2	0.538	"	53.8	7.29	98.4	75-125	2.70	25		
Lead	39.8	0.269	"	26.9	13.7	97.0	75-125	1.45	25		
Nickel	60.1	0.538	"	53.8	5.41	102	75-125	2.87	25		
Selenium	6.21	0.350	"	5.38	1.02	96.3	75-125	5.05	25		
Silver	2.86	0.0269	"	2.69	0.0579	104	75-125	5.87	25		
Zinc	81.5	0.538	"	53.8	23.5	108	75-125	0.954	25		

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BFE0492 - 3060A Mod**

**Blank (BFE0492-BLK1)**

Prepared & Analyzed: 05/23/22

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BFE0492-BS1)**

Prepared & Analyzed: 05/23/22

Chromium, Hexavalent      28.1      0.30    mg/kg wet      25.0      112      80-120

**Duplicate (BFE0492-DUP1)**

**Source: 2205034-05**

Prepared & Analyzed: 05/23/22

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BFE0492-MS1)**

**Source: 2205034-05**

Prepared & Analyzed: 05/23/22

Chromium, Hexavalent      35.7      0.30    mg/kg dry      33.6      ND      106      75-125

**Matrix Spike Dup (BFE0492-MSD1)**

**Source: 2205034-05**

Prepared & Analyzed: 05/23/22

Chromium, Hexavalent      36.6      0.30    mg/kg dry      33.6      ND      109      75-125      2.61      20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0167 - General Preparation**

**Blank (BFE0167-BLK1)**

Prepared: 05/09/22 Analyzed: 05/16/22

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

**LCS (BFE0167-BS1)**

Prepared: 05/09/22 Analyzed: 05/16/22

Calcium	5.85	0.0500	mg/L wet	5.00		117	70-130			
Magnesium	6.05	0.0500	"	5.00		121	70-130			
Sodium	5.69	0.0500	"	5.00		114	70-130			

**Batch BFE0497 - General Preparation**

**Blank (BFE0497-BLK1)**

Prepared: 05/23/22 Analyzed: 05/27/22

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

**LCS (BFE0497-BS1)**

Prepared: 05/23/22 Analyzed: 05/27/22

Calcium	637	0.0500	mg/L wet	500		127	70-130			
Magnesium	542	0.0500	"	500		108	70-130			
Sodium	595	0.0500	"	500		119	70-130			

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0067 - General Preparation**

<b>Duplicate (BFE0067-DUP1)</b>		<b>Source: 2205022-01</b>			<b>Prepared &amp; Analyzed: 05/04/22</b>			
% Solids	86.7		%		84.3		2.78	20

**Batch BFE0607 - General Preparation**

<b>Duplicate (BFE0607-DUP1)</b>		<b>Source: 2205034-02</b>			<b>Prepared: 05/26/22 Analyzed: 05/27/22</b>			
% Solids	78.8		%		78.5		0.369	20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

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

**Batch BFE0193 - General Preparation**

**Blank (BFE0193-BLK1)**

Prepared & Analyzed: 05/10/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFE0193-BS1)**

Prepared & Analyzed: 05/10/22

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BFE0193-DUP1)**

**Source: 2205024-04**

Prepared & Analyzed: 05/10/22

Specific Conductance (EC) 0.349 0.0100 mmhos/cm 0.364 4.12 20

**Batch BFE0499 - General Preparation**

**Blank (BFE0499-BLK1)**

Prepared: 05/23/22 Analyzed: 05/24/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFE0499-BS1)**

Prepared: 05/23/22 Analyzed: 05/24/22

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

**Duplicate (BFE0499-DUP1)**

**Source: 2205034-02**

Prepared: 05/23/22 Analyzed: 05/24/22

Specific Conductance (EC) 0.523 0.0100 mmhos/cm 0.564 7.57 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

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

**Summit Scientific**

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

**Batch BFE0194 - General Preparation**

**LCS (BFE0194-BS1)**

Prepared & Analyzed: 05/10/22

pH 9.13 pH Units 9.18 99.5 95-105

**Duplicate (BFE0194-DUP1)**

Source: 2205024-04

Prepared & Analyzed: 05/10/22

pH 8.11 pH Units 8.10 0.123 20

**Batch BFE0498 - General Preparation**

**LCS (BFE0498-BS1)**

Prepared: 05/23/22 Analyzed: 05/24/22

pH 9.06 pH Units 9.18 98.7 95-105

**Duplicate (BFE0498-DUP1)**

Source: 2205034-02

Prepared: 05/23/22 Analyzed: 05/24/22

pH 8.30 pH Units 8.24 0.726 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: UWRWE-A1632-ABN

Project Manager: Jacob Whritenour

**Reported:**  
06/01/22 14:04

### Notes and Definitions

- 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.
- DET      Analyte DETECTED
- ND      Analyte NOT DETECTED at or above the reporting limit
- NR      Not Reported
- dry      Sample results reported on a dry weight basis
- RPD      Relative Percent Difference

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 16, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 0-5 Fac

Work Order #2208149

Enclosed are the results of analyses for samples received by Summit Scientific on 08/10/22 17:22. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG02@3.5'	2208149-01	Soil	08/10/22 13:00	08/10/22 17:22
BG02@5'	2208149-02	Soil	08/10/22 13:05	08/10/22 17:22
BG03@3.5'	2208149-03	Soil	08/10/22 13:10	08/10/22 17:22
BG03@5'	2208149-04	Soil	08/10/22 13:15	08/10/22 17:22
BG04@3.5'	2208149-05	Soil	08/10/22 13:20	08/10/22 17:22
BG04@5'	2208149-06	Soil	08/10/22 13:25	08/10/22 17:22
BG05@3.5'	2208149-07	Soil	08/10/22 13:30	08/10/22 17:22
BG05@5'	2208149-08	Soil	08/10/22 13:35	08/10/22 17:22
BG06@3.5'	2208149-09	Soil	08/10/22 13:40	08/10/22 17:22
BG06@5'	2208149-10	Soil	08/10/22 13:45	08/10/22 17:22
BH01@5'	2208149-11	Soil	08/10/22 13:50	08/10/22 17:22
BH02@3'	2208149-12	Soil	08/10/22 13:55	08/10/22 17:22
BH02@5'	2208149-13	Soil	08/10/22 14:00	08/10/22 17:22
BH03@3'	2208149-14	Soil	08/10/22 14:05	08/10/22 17:22
BH03@5'	2208149-15	Soil	08/10/22 14:10	08/10/22 17:22
BH04@3'	2208149-16	Soil	08/10/22 14:15	08/10/22 17:22
BH04@5'	2208149-17	Soil	08/10/22 14:20	08/10/22 17:22
BH05@3'	2208149-18	Soil	08/10/22 14:25	08/10/22 17:22
BH05@5'	2208149-19	Soil	08/10/22 14:30	08/10/22 17:22

Summit Scientific

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# Summit Scientific

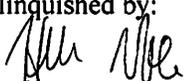
2208149.1

S<sub>2</sub>

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

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice: Erica Zuniga  
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com  
City/State/Zip: Broomfield, CO 80020  
Phone: 303-261-6246 Project Name: Lili Unit 0-5  
Sampler Name: Stanley Gilbert Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Arsenic, Barium, Selenium		SAR
1	BG02@3.5'	8/10/22	1300	1			X			X								X	X	pH, EC, SAR by saturated paste	
2	BG07@5'		1305	1																	
3	BG03@3.5'		1310	1																	
4	BG03@5'		1315	1																	
5	BG04@3.5'		1320	1																	
6	BG04@5'		1325	1																	
7	BG05@3.5'		1330	1																	
8	BG05@5'		1335	1																	
9	BG06@3.5'		1340	1																	
10	BG06@5'		1345	1																	

Relinquished by: 	Date/Time: 8/10/22 17:05	Received by: Tasman's Lock Box	Date/Time: 8/10/22 17:05	<b>Turn Around Time (Check)</b> Same Day <input type="checkbox"/> 72 hours <input checked="" type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Temperature Upon Receipt: 10.1 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box	Date/Time: 8/10/22 17:22	Received by: 	Date/Time: 8/10/22 17:22		
Relinquished by:	Date/Time:	Received by:	Date/Time:		



S<sub>2</sub>

2/2

Sample Receipt Checklist

S2 Work Order # 2208149

Client: Noble/Tasman Client Project ID: Milli unit 0-5

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

-

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

Temp (°C)  Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact <sup>(1)</sup> ?	-			
Was adequate sample volume provided <sup>(1)</sup> ?	-			
If custody seals are present, are they intact <sup>(1)</sup> ?	-			
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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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 <sup>(1)</sup> ?	-			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	-			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	-			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
<b>Additional Comments (if any):</b>				

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

  
Custodian Printed Name

8102C  
Date/Time



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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG02@3.5'**  
**2208149-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>2.49</b>	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	<b>183</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.710</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>9.31</b>	0.0563	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	<b>3.60</b>	0.0563	"	"	"	"	"	"	
Sodium	<b>57.2</b>	0.0563	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>4.03</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>88.8</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG02@5'**  
**2208149-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>3.84</b>	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	<b>269</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.844</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>11.3</b>	0.0573	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	<b>5.93</b>	0.0573	"	"	"	"	"	"	
Sodium	<b>167</b>	0.0573	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>10.0</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

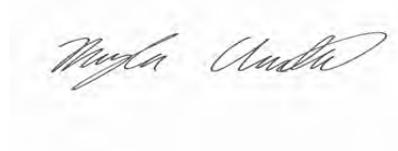
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>87.3</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG03@3.5'**  
**2208149-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.14	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	262	0.400	"	"	"	"	"	"	
Selenium	0.675	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	11.6	0.0573	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	4.89	0.0573	"	"	"	"	"	"	
Sodium	75.2	0.0573	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.67	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

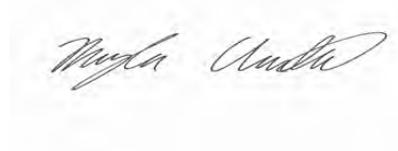
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.3		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG03@5'**  
**2208149-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>3.38</b>	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
<b>Barium</b>	<b>218</b>	0.400	"	"	"	"	"	"	
<b>Selenium</b>	<b>0.808</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>14.7</b>	0.0583	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>7.16</b>	0.0583	"	"	"	"	"	"	
<b>Sodium</b>	<b>161</b>	0.0583	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>8.61</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

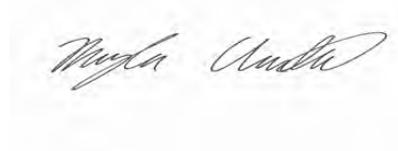
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>85.8</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG04@3.5'**  
**2208149-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>2.95</b>	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	<b>312</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.708</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>11.5</b>	0.0567	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	<b>4.68</b>	0.0567	"	"	"	"	"	"	
Sodium	<b>89.1</b>	0.0567	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>5.60</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>88.2</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG04@5'**  
**2208149-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.36	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	258	0.400	"	"	"	"	"	"	
Selenium	0.744	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.7	0.0571	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	8.28	0.0571	"	"	"	"	"	"	
Sodium	153	0.0571	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	7.52	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

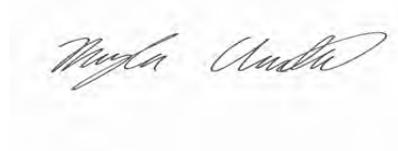
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.5		%	1	BFH0289	08/15/22	08/15/22	Calculation	

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG05@3.5'**  
**2208149-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.62	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	217	0.400	"	"	"	"	"	"	
Selenium	0.697	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	14.5	0.0561	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	5.45	0.0561	"	"	"	"	"	"	
Sodium	52.3	0.0561	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.97	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

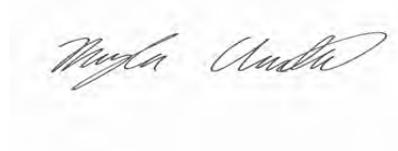
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	89.1		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG05@5'**  
**2208149-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>3.08</b>	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	<b>247</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.691</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>9.04</b>	0.0572	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	<b>3.86</b>	0.0572	"	"	"	"	"	"	
Sodium	<b>78.7</b>	0.0572	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>5.52</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

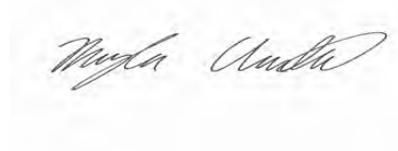
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>87.4</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG06@3.5'**  
**2208149-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.02	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	558	0.400	"	"	"	"	"	"	
Selenium	0.757	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	11.9	0.0585	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	5.17	0.0585	"	"	"	"	"	"	
Sodium	75.2	0.0585	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.58	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

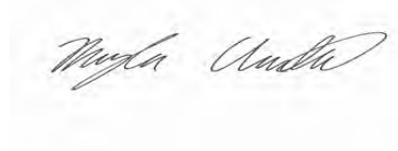
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.4		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BG06@5'**  
**2208149-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **08/10/22 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.80	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	248	0.400	"	"	"	"	"	"	
Selenium	0.725	0.260	"	"	"	"	"	"	

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

Date Sampled: **08/10/22 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.8	0.0577	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	7.44	0.0577	"	"	"	"	"	"	
Sodium	132	0.0577	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.63	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

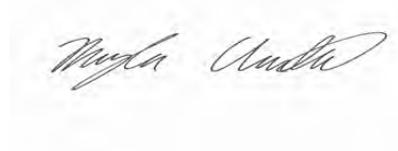
**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **08/10/22 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	86.6		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH01@5'**  
**2208149-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>196</b>	0.0623	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	<b>16.1</b>	0.0623	"	"	"	"	"	"	
Sodium	<b>32.7</b>	0.0623	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>0.604</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>80.3</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH02@3'**  
**2208149-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 13:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>11.6</b>	0.0619	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>4.49</b>	0.0619	"	"	"	"	"	"	
<b>Sodium</b>	<b>40.2</b>	0.0619	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 13:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>2.54</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 13:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>80.8</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH02@5'**  
**2208149-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	10.1	0.0612	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	4.68	0.0612	"	"	"	"	"	"	
Sodium	67.0	0.0612	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.37	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	81.7		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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





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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH03@3'**  
**2208149-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>365</b>	0.0602	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>173</b>	0.0602	"	"	"	"	"	"	
<b>Sodium</b>	<b>242</b>	0.0602	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>2.61</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>83.1</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH03@5'**  
**2208149-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>318</b>	0.0600	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>148</b>	0.0600	"	"	"	"	"	"	
<b>Sodium</b>	<b>761</b>	0.0600	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>8.84</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>83.4</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH04@3'**  
**2208149-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>59.9</b>	0.0631	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>26.1</b>	0.0631	"	"	"	"	"	"	
<b>Sodium</b>	<b>204</b>	0.0631	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>5.54</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>79.3</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH04@5'**  
**2208149-17 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	36.1	0.0621	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	15.4	0.0621	"	"	"	"	"	"	
Sodium	211	0.0621	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	7.41	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.5		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH05@3'**  
**2208149-18 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	12.7	0.0622	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	5.73	0.0622	"	"	"	"	"	"	
Sodium	36.4	0.0622	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.13	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.4		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

**BH05@5'**  
**2208149-19 (Soil)**

**Summit Scientific**

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

Date Sampled: **08/10/22 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>351</b>	0.0627	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
<b>Magnesium</b>	<b>19.1</b>	0.0627	"	"	"	"	"	"	
<b>Sodium</b>	<b>116</b>	0.0627	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **08/10/22 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>1.63</b>	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

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

Date Sampled: **08/10/22 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>79.8</b>		%	1	BFH0289	08/15/22	08/15/22	Calculation	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

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

**Summit Scientific**

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

**Batch BFH0264 - EPA 3050B**

**Blank (BFH0264-BLK1)**

Prepared: 08/12/22 Analyzed: 08/13/22

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Selenium	ND	0.260	"							

**LCS (BFH0264-BS1)**

Prepared: 08/12/22 Analyzed: 08/13/22

Arsenic	45.7	0.200	mg/kg wet	40.0		114	80-120			
Barium	41.6	0.400	"	40.0		104	80-120			
Selenium	4.13	0.260	"	4.00		103	80-120			

**Duplicate (BFH0264-DUP1)**

Source: 2208132-01

Prepared: 08/12/22 Analyzed: 08/13/22

Arsenic	1.32	0.200	mg/kg dry		1.26			5.26	20	
Barium	75.0	0.400	"		85.5			13.1	20	
Selenium	1.19	0.260	"		1.35			12.3	20	

**Matrix Spike (BFH0264-MS1)**

Source: 2208132-01

Prepared: 08/12/22 Analyzed: 08/13/22

Arsenic	47.7	0.200	mg/kg dry	47.0	1.26	98.8	75-125			
Barium	116	0.400	"	47.0	85.5	65.4	75-125			QM-05
Selenium	5.28	0.260	"	4.70	1.35	83.8	75-125			

**Matrix Spike Dup (BFH0264-MSD1)**

Source: 2208132-01

Prepared: 08/12/22 Analyzed: 08/13/22

Arsenic	45.4	0.200	mg/kg dry	47.0	1.26	93.9	75-125	4.95	25	
Barium	121	0.400	"	47.0	85.5	75.9	75-125	4.14	25	
Selenium	5.21	0.260	"	4.70	1.35	82.3	75-125	1.38	25	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

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

**Summit Scientific**

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

**Batch BFH0235 - General Preparation**

**Blank (BFH0235-BLK1)**

Prepared: 08/11/22 Analyzed: 08/13/22

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

**LCS (BFH0235-BS1)**

Prepared: 08/11/22 Analyzed: 08/13/22

Calcium	5.50	0.0500	mg/L wet	5.00		110	70-130			
Magnesium	5.02	0.0500	"	5.00		100	70-130			
Sodium	4.96	0.0500	"	5.00		99.1	70-130			

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

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

**Summit Scientific**

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

**Batch BFH0289 - General Preparation**

**Duplicate (BFH0289-DUP1)**

**Source: 2207429-02**

Prepared & Analyzed: 08/15/22

% Solids	83.1		%		83.4			0.396	20	
----------	------	--	---	--	------	--	--	-------	----	--

Summit Scientific

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

Project: Noble - Lilli Unit 0-5 Fac

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
08/16/22 13:08

### Notes and Definitions

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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 15, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

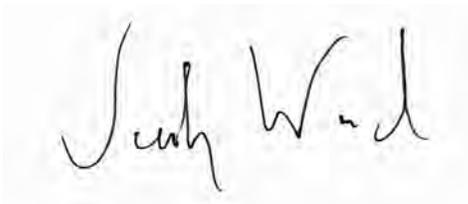
Broomfield, CO 80020

RE: Noble - Lilli Unit 0-5

Work Order #2402449

Enclosed are the results of analyses for samples received by Summit Scientific on 02/26/24 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial 'J' and a long horizontal stroke at the end.

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Lilli Unit 0-5  
 Project Number: UWRWE-A1632-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 03/15/24 11:28

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS35@6'	2402449-01	Soil	02/26/24 11:50	02/26/24 17:30
SS36@15'	2402449-02	Soil	02/26/24 11:52	02/26/24 17:30
SS37@6'	2402449-03	Soil	02/26/24 11:54	02/26/24 17:30
SS38@15'	2402449-04	Soil	02/26/24 11:56	02/26/24 17:30
SS39@6'	2402449-05	Soil	02/26/24 11:58	02/26/24 17:30
SS40@15'	2402449-06	Soil	02/26/24 12:00	02/26/24 17:30
SS41@6'	2402449-07	Soil	02/26/24 12:02	02/26/24 17:30
SS42@15'	2402449-08	Soil	02/26/24 12:04	02/26/24 17:30
BG07@6'	2402449-09	Soil	02/26/24 12:49	02/26/24 17:30
BG07@15'	2402449-10	Soil	02/26/24 12:53	02/26/24 17:30
BG07@18'	2402449-11	Soil	02/26/24 12:59	02/26/24 17:30

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.*

<b>Send Data To:</b>		<b>Send Invoice To:</b>	
Client: Noble/Tasman		Company: <u>Chevron</u>	
Address: 6855 W. 119th Ave.		Project Name/Location:	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone:		PO/Billing Codes:	
Project Name: <u>Lilli O-S</u>		Contact: <u>Dan Peterson</u> <u>Keith McLean</u>	
Sampler Name: <u>Shannon Wais</u>		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	BTEXN	1,2,4 & 1,3,5-TMBs	TDS, Cl, SO4	MEG-915	SOC-915		PAH-915	SAR-EC, PH	Boron-HMS
1	SS35 @ 6'	2/20/24	1150	2			X			X						X	X	X	X	X	
2	SS36 @ 15'		1152				X			X						X	X	X	X	X	
3	SS37 @ 15'		1154				X			X						X	X	X	X	X	
4	SS38 @ 15'		1156				X			X						X	X	X	X	X	
5	SS39 @ 15'		1158				X			X						X	X	X	X	X	
6	SS40 @ 15'		1200				X			X						X	X	X	X	X	
7	SS41 @ 15'		1202				X			X						X	X	X	X	X	
8	SS42 @ 15'		1204				X			X						X	X	X	X	X	
9	RG07 @ 6'		1249				X			X						X	X	X	X	X	
10	RG107 @ 15'		1253				X			X						X	X	X	X	X	
11	RG107 @ 18'		1259				X			X						X	X	X	X	X	
12																					
13																					
14																					
15																					

Relinquished by: <u>Shannon Wais</u> Date/Time: <u>2/20/24 1630</u>	Received by: <u>Tasman Lock Box</u> Date/Time: <u>2/26/24 1630</u>	TAT Business Days	Field DO	Notes:
		Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <u>Tasman Lock Box</u> Date/Time: <u>2/20/24 1730</u>	Received by: <u>[Signature]</u> Date/Time: <u>2/20/24 1730</u>	1 Day	Field ORP	
		2 Days	Field pH	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	3 Days	Field Temp.	
		Standard	Field Turb.	
Temperature Upon Receipt: <u>7.6</u>	Corrected Temperature: <u>8</u>	IR gun #: _____	HNO3 lot #: _____	

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2402449

Client: Nadel Terman Client Project ID: Litt 05

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

-

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

Temp (°C) 7.6 Thermometer # 1

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

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

AS  
Custodian Printed Name

2/26/24  
Date/Time



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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS35@6'**  
**2402449-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	95.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	5.08	40.6 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS35@6'**  
**2402449-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0223	67.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0136	40.9 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 11:50**

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

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

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS35@6'**  
**2402449-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	6.67	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	181	0.400	"	"	"	"	"	"
Cadmium	0.320	0.200	"	"	"	"	"	"
Copper	5.37	0.400	"	"	"	"	"	"
Lead	12.6	0.200	"	"	"	"	"	"
Nickel	3.63	0.400	"	"	"	"	"	"
Silver	0.0393	0.0200	"	"	"	"	"	"
Zinc	16.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	52.8	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	19.3	0.0500	"	"	"	"	"	"	
Sodium	402	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.0	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 11:50**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS35@6'**  
**2402449-01 (Soil)**

**Summit Scientific**

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

% Solids	73.3	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.00	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS36@15'**  
**2402449-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0080	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	0.027	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0083	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.044	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.057	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.014	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.9	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0359	89.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	5.32	42.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS36@15'**  
**2402449-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
<b>Anthracene</b>	<b>0.0100</b>	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	"	"	"	"	"	"	"
<b>2-Methylnaphthalene</b>	<b>0.0480</b>	0.00500	"	"	"	"	"	"	"

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0185	55.4 %	40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10	0.0171	51.4 %	40-150		"	"	"	"	"

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 11:52**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS36@15'**  
**2402449-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.96	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
Barium	61.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	12.4	0.400	"	"	"	"	"	"	
Lead	15.1	0.200	"	"	"	"	"	"	
Nickel	2.70	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.65	0.400	"	"	"	"	"	"	
Selenium	1.12	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	166	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	52.6	0.0500	"	"	"	"	"	"	
Sodium	375	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.50	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS36@15'**  
**2402449-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	63.3		%	1	BHC0073	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.17	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 11:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	4.56		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS37@6'**  
**2402449-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0378	94.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0377	94.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.28	50.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS37@6'**  
**2402449-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.7 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 11:54**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS37@6'**  
**2402449-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	10.1	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	156	0.400	"	"	"	"	"	"
Cadmium	0.397	0.200	"	"	"	"	"	"
Copper	6.10	0.400	"	"	"	"	"	"
Lead	18.9	0.200	"	"	"	"	"	"
Nickel	3.58	0.400	"	"	"	"	"	"
Silver	0.0546	0.0200	"	"	"	"	"	"
Zinc	17.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	82.8	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	28.0	0.0500	"	"	"	"	"	"	
Sodium	349	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.46	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 11:54**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS37@6'**  
**2402449-03 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>65.9</b>	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.84</b>	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 11:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.12</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS38@15'**  
**2402449-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.12	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	0.36	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.040	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.27	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.062	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.014	0.0050	"	"	"	"	"	"	
Naphthalene	0.019	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.3	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0338	84.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0373	93.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0375	93.8 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:56**

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

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS38@15'**  
**2402449-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	63.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.2 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 11:56**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS38@15'**  
**2402449-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	12.5	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	24.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	12.6	0.400	"	"	"	"	"	"
Lead	17.2	0.200	"	"	"	"	"	"
Nickel	2.54	0.400	"	"	"	"	"	"
Silver	0.0330	0.0200	"	"	"	"	"	"
Zinc	9.03	0.400	"	"	"	"	"	"
Selenium	5.85	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	31.0	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	11.2	0.0500	"	"	"	"	"	"	
Sodium	188	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.36	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 11:56**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS38@15'**  
**2402449-04 (Soil)**

**Summit Scientific**

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

% Solids	71.5	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.05	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	4.97		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS39@6'**  
**2402449-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0400	100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0370	92.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.94	63.5 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS39@6'**  
**2402449-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0229	68.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0139	41.8 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 11:58**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS39@6'**  
**2402449-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	15.1	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	78.3	0.400	"	"	"	"	"	"
Cadmium	0.300	0.200	"	"	"	"	"	"
Copper	8.29	0.400	"	"	"	"	"	"
Lead	24.9	0.200	"	"	"	"	"	"
Nickel	2.27	0.400	"	"	"	"	"	"
Silver	0.0600	0.0200	"	"	"	"	"	"
Zinc	13.1	0.400	"	"	"	"	"	"
Selenium	0.361	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	371	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	104	0.0500	"	"	"	"	"	"	
Sodium	533	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.30	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 11:58**

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 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS39@6'**  
**2402449-05 (Soil)**

**Summit Scientific**

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

% Solids	70.7	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.61	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 11:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.69		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS40@15'**  
**2402449-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.047</b>	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
<b>Toluene</b>	<b>0.054</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.020</b>	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: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0376	94.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0362	90.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.90	71.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS40@15'**  
**2402449-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	"
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Chrysene	ND	0.00500	"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	"
Fluoranthene	ND	0.00500	"	"	"	"	"	"	"
Fluorene	ND	0.00500	"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	"
Pyrene	ND	0.00500	"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	"

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0290	86.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0223	66.9 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:00**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS40@15'**  
**2402449-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	29.1	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	54.5	0.400	"	"	"	"	"	"
Cadmium	0.224	0.200	"	"	"	"	"	"
Copper	10.3	0.400	"	"	"	"	"	"
Lead	21.8	0.200	"	"	"	"	"	"
Nickel	1.81	0.400	"	"	"	"	"	"
Silver	0.109	0.0200	"	"	"	"	"	"
Zinc	10.9	0.400	"	"	"	"	"	"
Selenium	0.633	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	177	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	64.7	0.0500	"	"	"	"	"	"	
Sodium	472	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.72	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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6855 W. 119th Ave.  
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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS40@15'**  
**2402449-06 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>71.5</b>	<b>%</b>	<b>1</b>	<b>BHC0073</b>	<b>03/05/24</b>	<b>03/06/24</b>	<b>Calculation</b>
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.80</b>	<b>0.0100</b>	<b>mmhos/cm</b>	<b>1</b>	<b>BHB0824</b>	<b>02/26/24</b>	<b>02/28/24</b>	<b>EPA 120.1</b>	

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

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>4.69</b>		<b>pH Units</b>	<b>1</b>	<b>BHB0823</b>	<b>02/26/24</b>	<b>02/28/24</b>	<b>EPA 9045D</b>	

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS41@6'**  
**2402449-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0383	95.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.94	79.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS41@6'**  
**2402449-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0235	70.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.3 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:02**

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

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS41@6'**  
**2402449-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	31.0	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	31.3	0.400	"	"	"	"	"	"
Cadmium	0.350	0.200	"	"	"	"	"	"
Copper	9.48	0.400	"	"	"	"	"	"
Lead	40.8	0.200	"	"	"	"	"	"
Nickel	1.87	0.400	"	"	"	"	"	"
Silver	0.0856	0.0200	"	"	"	"	"	"
Zinc	16.1	0.400	"	"	"	"	"	"
Selenium	0.562	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	330	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	115	0.0500	"	"	"	"	"	"	
Sodium	801	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.68	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS41@6'**  
**2402449-07 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>71.0</b>	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>4.51</b>	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.27</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS42@15'**  
**2402449-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0384	95.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0370	92.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0819	02/26/24	02/27/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.46	75.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS42@15'**  
**2402449-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0832	02/27/24	02/27/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0291	87.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	65.9 %	40-150		"	"	"	"	

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

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0181	03/07/24	03/11/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS42@15'**  
**2402449-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	55.8	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B
Barium	22.3	0.400	"	"	"	"	"	"
Cadmium	0.225	0.200	"	"	"	"	"	"
Copper	11.7	0.400	"	"	"	"	"	"
Lead	11.7	0.200	"	"	"	"	"	"
Nickel	1.79	0.400	"	"	"	"	"	"
Silver	0.0767	0.0200	"	"	"	"	"	"
Zinc	8.56	0.400	"	"	"	"	"	"
Selenium	1.67	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0305	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	182	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	61.1	0.0500	"	"	"	"	"	"	
Sodium	381	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	6.24	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:04**

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**SS42@15'**  
**2402449-08 (Soil)**

**Summit Scientific**

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

<b>% Solids</b>	<b>73.0</b>	%	1	BHC0073	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>2.56</b>	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>4.61</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**BG07@6'**  
**2402449-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>5.34</b>	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
<b>Barium</b>	<b>122</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>18.2</b>	0.200	"	"	"	"	"	"	
<b>Selenium</b>	<b>ND</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>98.3</b>	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
<b>Magnesium</b>	<b>4.02</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>2.66</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>0.0715</b>	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>75.2</b>		%	1	BHC0073	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Specific Conductance (EC)</b>	<b>0.131</b>	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**BG07@6'**  
**2402449-09 (Soil)**

**Summit Scientific**

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

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

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.24</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**BG07@15'**  
**2402449-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.90	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
Barium	26.2	0.400	"	"	"	"	"	"	"
Lead	24.9	0.200	"	"	"	"	"	"	"
Selenium	0.466	0.260	"	"	"	"	"	"	"

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

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	63.4	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	15.2	0.0500	"	"	"	"	"	"	"
Sodium	21.9	0.0500	"	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.641	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	73.6		%	1	BHC0073	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.122	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**BG07@15'**  
**2402449-10 (Soil)**

**Summit Scientific**

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

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

Date Sampled: **02/26/24 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.71</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**BG07@18'**  
**2402449-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>3.07</b>	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
<b>Barium</b>	<b>17.3</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>18.5</b>	0.200	"	"	"	"	"	"	
<b>Selenium</b>	<b>ND</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>8.97</b>	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
<b>Magnesium</b>	<b>2.51</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>48.4</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>3.68</b>	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>78.8</b>		%	1	BHC0073	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Specific Conductance (EC)</b>	<b>0.279</b>	0.0100	mmhos/cm	1	BHB0824	02/26/24	02/28/24	EPA 120.1	

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 Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 03/15/24 11:28

**BG07@18'**  
**2402449-11 (Soil)**

**Summit Scientific**

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

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

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.73</b>		pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BHB0817 - EPA 5030 Soil MS

##### Blank (BHB0817-BLK1)

Prepared: 02/26/24 Analyzed: 02/27/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0358		"	0.0400		89.6	50-150			
<i>Surrogate: Toluene-d8</i>	0.0383		"	0.0400		95.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0394		"	0.0400		98.6	50-150			

##### LCS (BHB0817-BS1)

Prepared: 02/26/24 Analyzed: 02/27/24

Benzene	0.112	0.0020	mg/kg	0.100		112	70-130			
Toluene	0.120	0.0050	"	0.100		120	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.243	0.010	"	0.200		122	70-130			
o-Xylene	0.120	0.0050	"	0.100		120	70-130			
1,2,4-Trimethylbenzene	0.114	0.0050	"	0.100		114	70-130			
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100		113	70-130			
Naphthalene	0.120	0.0038	"	0.100		120	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0352		"	0.0400		88.0	50-150			
<i>Surrogate: Toluene-d8</i>	0.0367		"	0.0400		91.7	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0362		"	0.0400		90.4	50-150			

##### Matrix Spike (BHB0817-MS1)

Source: 2402447-02

Prepared: 02/26/24 Analyzed: 02/27/24

Benzene	0.0835	0.0020	mg/kg	0.100	ND	83.5	70-130			
Toluene	0.0919	0.0050	"	0.100	ND	91.9	70-130			
Ethylbenzene	0.0914	0.0050	"	0.100	ND	91.4	70-130			
m,p-Xylene	0.187	0.010	"	0.200	ND	93.6	70-130			
o-Xylene	0.0932	0.0050	"	0.100	ND	93.2	70-130			
1,2,4-Trimethylbenzene	0.0882	0.0050	"	0.100	ND	88.2	70-130			
1,3,5-Trimethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130			
Naphthalene	0.0957	0.0038	"	0.100	ND	95.7	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0368		"	0.0400		91.9	50-150			
<i>Surrogate: Toluene-d8</i>	0.0381		"	0.0400		95.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0375		"	0.0400		93.7	50-150			

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

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BHB0817 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BHB0817-MSD1)</b>	<b>Source: 2402447-02</b>			<b>Prepared: 02/26/24 Analyzed: 02/27/24</b>						
Benzene	0.105	0.0020	mg/kg	0.100	ND	105	70-130	22.4	30	
Toluene	0.114	0.0050	"	0.100	ND	114	70-130	21.3	30	
Ethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130	23.3	30	
m,p-Xylene	0.234	0.010	"	0.200	ND	117	70-130	22.2	30	
o-Xylene	0.113	0.0050	"	0.100	ND	113	70-130	19.4	30	
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	19.1	30	
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	19.5	30	
Naphthalene	0.117	0.0038	"	0.100	ND	117	70-130	20.0	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0364</i>		<i>"</i>	<i>0.0400</i>		<i>90.9</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0367</i>		<i>"</i>	<i>0.0400</i>		<i>91.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.1</i>	<i>50-150</i>			

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

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

**Batch BHB0819 - EPA 3550A**

**Blank (BHB0819-BLK1)**

Prepared: 02/26/24 Analyzed: 02/27/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.5		"	12.5		116		30-150			

**LCS (BHB0819-BS1)**

Prepared: 02/26/24 Analyzed: 02/27/24

C10-C28 (DRO)	483	50	mg/kg	500		96.6		70-130			
Surrogate: <i>o</i> -Terphenyl	14.1		"	12.5		113		30-150			

**Matrix Spike (BHB0819-MS1)**

Source: 2402449-01

Prepared: 02/26/24 Analyzed: 02/27/24

C10-C28 (DRO)	483	50	mg/kg	500	17.0	93.3		70-130			
Surrogate: <i>o</i> -Terphenyl	7.96		"	12.5		63.7		30-150			

**Matrix Spike Dup (BHB0819-MSD1)**

Source: 2402449-01

Prepared: 02/26/24 Analyzed: 02/27/24

C10-C28 (DRO)	436	50	mg/kg	500	17.0	83.7		70-130	10.4	20	
Surrogate: <i>o</i> -Terphenyl	7.06		"	12.5		56.5		30-150			

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

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

**Batch BHB0832 - EPA 5030 Soil MS**

**Blank (BHB0832-BLK1)**

Prepared & Analyzed: 02/27/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0358</i>		"	<i>0.0333</i>		<i>108</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0297</i>		"	<i>0.0333</i>		<i>89.2</i>		<i>40-150</i>		

**LCS (BHB0832-BS1)**

Prepared & Analyzed: 02/27/24

Acenaphthene	0.0298	0.00500	mg/kg	0.0333		89.3		31-137		
Anthracene	0.0303	0.00500	"	0.0333		90.9		30-120		
Benzo (a) anthracene	0.0275	0.00500	"	0.0333		82.4		30-120		
Benzo (a) pyrene	0.0265	0.00500	"	0.0333		79.4		30-120		
Benzo (b) fluoranthene	0.0263	0.00500	"	0.0333		78.8		30-120		
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333		90.5		30-120		
Chrysene	0.0312	0.00500	"	0.0333		93.5		30-120		
Dibenz (a,h) anthracene	0.0234	0.00500	"	0.0333		70.3		30-120		
Fluoranthene	0.0300	0.00500	"	0.0333		89.9		30-120		
Fluorene	0.0300	0.00500	"	0.0333		90.1		30-120		
Indeno (1,2,3-cd) pyrene	0.0234	0.00500	"	0.0333		70.3		30-120		
Pyrene	0.0323	0.00500	"	0.0333		96.9		35-142		
1-Methylnaphthalene	0.0411	0.00500	"	0.0333		123		35-142		
2-Methylnaphthalene	0.0338	0.00500	"	0.0333		101		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0330</i>		"	<i>0.0333</i>		<i>99.0</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0307</i>		"	<i>0.0333</i>		<i>92.0</i>		<i>40-150</i>		

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Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

**Summit Scientific**

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

**Batch BHB0832 - EPA 5030 Soil MS**

<b>Matrix Spike (BHB0832-MS1)</b>	<b>Source: 2402447-01</b>			<b>Prepared &amp; Analyzed: 02/27/24</b>								
Acenaphthene	0.0216	0.00500	mg/kg	0.0333	ND	64.7	31-137					
Anthracene	0.0227	0.00500	"	0.0333	ND	68.1	30-120					
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.5	30-120					
Benzo (a) pyrene	0.0211	0.00500	"	0.0333	ND	63.4	30-120					
Benzo (b) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.7	30-120					
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.1	30-120					
Chrysene	0.0215	0.00500	"	0.0333	ND	64.5	30-120					
Dibenz (a,h) anthracene	0.0197	0.00500	"	0.0333	ND	59.0	30-120					
Fluoranthene	0.0220	0.00500	"	0.0333	ND	66.1	30-120					
Fluorene	0.0220	0.00500	"	0.0333	ND	65.9	30-120					
Indeno (1,2,3-cd) pyrene	0.0194	0.00500	"	0.0333	ND	58.3	30-120					
Pyrene	0.0269	0.00500	"	0.0333	0.0159	33.0	35-142					QR-02
1-Methylnaphthalene	0.0349	0.00500	"	0.0333	0.0736	NR	15-130					QR-02
2-Methylnaphthalene	0.0344	0.00500	"	0.0333	0.0674	NR	15-130					QR-02
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0282</i>		<i>"</i>	<i>0.0333</i>		<i>84.7</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0237</i>		<i>"</i>	<i>0.0333</i>		<i>71.2</i>	<i>40-150</i>					

<b>Matrix Spike Dup (BHB0832-MSD1)</b>	<b>Source: 2402447-01</b>			<b>Prepared &amp; Analyzed: 02/27/24</b>								
Acenaphthene	0.0174	0.00500	mg/kg	0.0333	ND	52.1	31-137	21.6	30			
Anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	17.1	30			
Benzo (a) anthracene	0.0189	0.00500	"	0.0333	ND	56.6	30-120	17.7	30			
Benzo (a) pyrene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	13.7	30			
Benzo (b) fluoranthene	0.0162	0.00500	"	0.0333	ND	48.5	30-120	15.5	30			
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	30-120	18.2	30			
Chrysene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	18.2	30			
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120	10.4	30			
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.7	30-120	18.9	30			
Fluorene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	21.8	30			
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	11.4	30			
Pyrene	0.0212	0.00500	"	0.0333	0.0159	16.0	35-142	23.5	30			QR-02
1-Methylnaphthalene	0.0263	0.00500	"	0.0333	0.0736	NR	15-130	28.1	50			QR-02
2-Methylnaphthalene	0.0288	0.00500	"	0.0333	0.0674	NR	15-130	17.8	50			QR-02
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0199</i>		<i>"</i>	<i>0.0333</i>		<i>59.8</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0189</i>		<i>"</i>	<i>0.0333</i>		<i>56.8</i>	<i>40-150</i>					

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

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

**Batch BHC0181 - EPA 3050B**

**Blank (BHC0181-BLK1)**

Prepared: 03/07/24 Analyzed: 03/11/24

Boron ND 2.00 mg/L

**LCS (BHC0181-BS1)**

Prepared: 03/07/24 Analyzed: 03/11/24

Boron 4.68 2.00 mg/L 5.00 93.6 80-120

**Duplicate (BHC0181-DUP1)**

**Source: 2402448-01**

Prepared: 03/07/24 Analyzed: 03/11/24

Boron ND 2.00 mg/L 0.0120 200 20 QR-01

**Matrix Spike (BHC0181-MS1)**

**Source: 2402448-01**

Prepared: 03/07/24 Analyzed: 03/11/24

Boron 4.52 2.00 mg/L 5.00 0.0120 90.2 75-125

**Matrix Spike Dup (BHC0181-MSD1)**

**Source: 2402448-01**

Prepared: 03/07/24 Analyzed: 03/11/24

Boron 4.40 2.00 mg/L 5.00 0.0120 87.8 75-125 2.69 25

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHB0829 - EPA 3050B**

**Blank (BHB0829-BLK1)**

Prepared & Analyzed: 02/27/24

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

**LCS (BHB0829-BS1)**

Prepared & Analyzed: 02/27/24

Arsenic	39.9	0.200	mg/kg wet	40.0	99.7	80-120
Barium	40.1	0.400	"	40.0	100	80-120
Cadmium	1.98	0.200	"	2.00	99.1	80-120
Copper	39.8	0.400	"	40.0	99.5	80-120
Lead	19.7	0.200	"	20.0	98.7	80-120
Nickel	38.5	0.400	"	40.0	96.3	80-120
Silver	1.97	0.0200	"	2.00	98.3	80-120
Zinc	39.4	0.400	"	40.0	98.5	80-120
Selenium	4.45	0.260	"	4.00	111	80-120

**Duplicate (BHB0829-DUP1)**

Source: 2401563-04RE2

Prepared & Analyzed: 02/27/24

Arsenic	3.42	0.200	mg/kg wet	3.89	12.7	20	
Barium	88.7	0.400	"	111	22.1	20	QR-04
Cadmium	0.152	0.200	"	0.162	6.62	20	
Copper	4.20	0.400	"	4.59	8.84	20	
Lead	7.84	0.200	"	8.45	7.49	20	
Nickel	4.00	0.400	"	4.63	14.7	20	
Silver	0.0288	0.0200	"	0.0420	37.3	20	QR-01
Zinc	17.3	0.400	"	18.9	8.87	20	
Selenium	0.189	0.260	"	0.186	1.49	20	

Summit Scientific

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHB0829 - EPA 3050B**

**Matrix Spike (BHB0829-MS1)**

Source: 2401563-04RE2 Prepared & Analyzed: 02/27/24

Arsenic	41.2	0.200	mg/kg wet	40.0	3.89	93.2	75-125			
Barium	147	0.400	"	40.0	111	91.0	75-125			
Cadmium	2.13	0.200	"	2.00	0.162	98.6	75-125			
Copper	21.7	0.400	"	40.0	4.59	42.9	75-125			QM-05
Lead	27.5	0.200	"	20.0	8.45	95.0	75-125			
Nickel	21.4	0.400	"	40.0	4.63	42.0	75-125			QM-05
Silver	1.98	0.0200	"	2.00	0.0420	96.7	75-125			
Zinc	36.5	0.400	"	40.0	18.9	43.9	75-125			QM-05
Selenium	4.39	0.260	"	4.00	0.186	105	75-125			

**Matrix Spike Dup (BHB0829-MSD1)**

Source: 2401563-04RE2 Prepared & Analyzed: 02/27/24

Arsenic	41.8	0.200	mg/kg wet	40.0	3.89	94.7	75-125	1.44	25	
Barium	148	0.400	"	40.0	111	93.5	75-125	0.659	25	
Cadmium	2.19	0.200	"	2.00	0.162	101	75-125	2.52	25	
Copper	22.0	0.400	"	40.0	4.59	43.6	75-125	1.29	25	QM-05
Lead	27.6	0.200	"	20.0	8.45	95.8	75-125	0.558	25	
Nickel	21.7	0.400	"	40.0	4.63	42.7	75-125	1.35	25	QM-05
Silver	2.01	0.0200	"	2.00	0.0420	98.4	75-125	1.65	25	
Zinc	36.9	0.400	"	40.0	18.9	44.9	75-125	1.05	25	QM-05
Selenium	4.42	0.260	"	4.00	0.186	106	75-125	0.826	25	

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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BHC0305 - 3060A Mod**

**Blank (BHC0305-BLK1)**

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

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHC0305-BS1)**

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

Chromium, Hexavalent 25.3 0.30 mg/kg wet 25.0 101 80-120

**Duplicate (BHC0305-DUP1)**

**Source: 2402447-01**

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

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHC0305-MS1)**

**Source: 2402447-01**

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

Chromium, Hexavalent 32.8 0.30 mg/kg dry 30.0 ND 109 75-125

**Matrix Spike Dup (BHC0305-MSD1)**

**Source: 2402447-01**

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

Chromium, Hexavalent 32.9 0.30 mg/kg dry 30.0 ND 110 75-125 0.183 20

Summit Scientific

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

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

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

**Batch BHB0822 - General Preparation**

**Blank (BHB0822-BLK1)**

Prepared: 02/26/24 Analyzed: 03/01/24

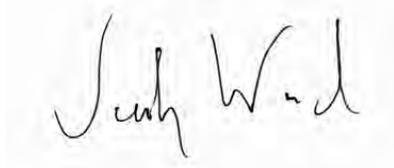
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

**LCS (BHB0822-BS1)**

Prepared: 02/26/24 Analyzed: 03/01/24

Calcium	6.10	0.0500	mg/L wet	5.00		122	70-130			
Magnesium	5.37	0.0500	"	5.00		107	70-130			
Sodium	5.30	0.0500	"	5.00		106	70-130			

Summit Scientific



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

Project: Noble - Lilli Unit 0-5  
 Project Number: UWRWE-A1632-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 03/15/24 11:28

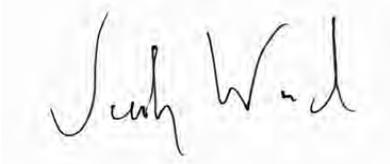
**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

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

**Batch BHC0073 - General Preparation**

Duplicate (BHC0073-DUP1)	Source: 2402367-01	Prepared: 03/05/24	Analyzed: 03/06/24		
% Solids	88.6	%	88.9	0.383	20

Summit Scientific



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

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

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

**Batch BHB0824 - General Preparation**

**Blank (BHB0824-BLK1)**

Prepared: 02/26/24 Analyzed: 02/28/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHB0824-BS1)**

Prepared: 02/26/24 Analyzed: 02/28/24

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.9 95-105

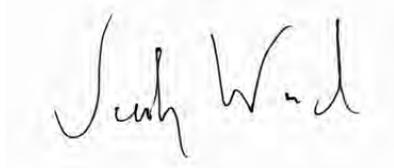
**Duplicate (BHB0824-DUP1)**

**Source: 2402448-01**

Prepared: 02/26/24 Analyzed: 02/28/24

Specific Conductance (EC) 0.121 0.0100 mmhos/cm 0.122 0.822 20

Summit Scientific



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

Project: Noble - Lilli Unit 0-5

Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

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

**Summit Scientific**

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

**Batch BHB0823 - General Preparation**

**LCS (BHB0823-BS1)**

Prepared: 02/26/24 Analyzed: 02/28/24

pH	9.13		pH Units	9.18		99.5	95-105			
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**Duplicate (BHB0823-DUP1)**

Source: 2402433-01

Prepared: 02/26/24 Analyzed: 02/28/24

pH	8.00		pH Units	8.06			0.747	20		
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5  
Project Number: UWRWE-A1632-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 11:28

### Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

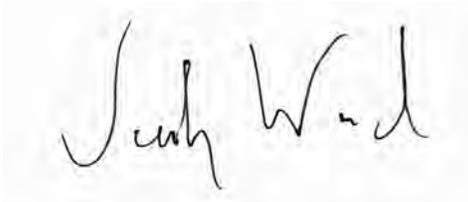
303.277.9310

March 15, 2024

Jacob Whritenour  
Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield, CO 80020  
RE: Noble - Lilli 0-5  
Work Order #2402497

Enclosed are the results of analyses for samples received by Summit Scientific on 02/28/24 16:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury  
President



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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG08@6'	2402497-01	Soil	02/28/24 10:44	02/28/24 16:35
BG08@15'	2402497-02	Soil	02/28/24 10:46	02/28/24 16:35
BG08@18'	2402497-03	Soil	02/28/24 10:48	02/28/24 16:35
BG09@6'	2402497-04	Soil	02/28/24 10:50	02/28/24 16:35
BG09@15'	2402497-05	Soil	02/28/24 10:52	02/28/24 16:35
BG09@18'	2402497-06	Soil	02/28/24 10:54	02/28/24 16:35
TP07@6'	2402497-07	Soil	02/28/24 10:56	02/28/24 16:35
TP07@15'	2402497-08	Soil	02/28/24 10:58	02/28/24 16:35
TP07@18'	2402497-09	Soil	02/28/24 11:00	02/28/24 16:35
BG11@6'	2402497-10	Soil	02/28/24 11:02	02/28/24 16:35
BG11@15'	2402497-11	Soil	02/28/24 11:04	02/28/24 16:35
BG11@18'	2402497-12	Soil	02/28/24 11:06	02/28/24 16:35

Summit Scientific

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S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 24 02497

Client: Noble/Tasman Client Project ID: Lilli 0-5

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

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

Temp (°C)  Thermometer #

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

Additional Comments (if any):  
Missing # of containers - 2 each

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

AS  
Custodian Printed Name

2/28/24  
Date/Time



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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@6'**  
**2402497-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.23	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	36.1	0.400	"	"	"	"	"	"	
Cadmium	0.244	0.200	"	"	"	"	"	"	
Lead	25.4	0.200	"	"	"	"	"	"	
Selenium	0.539	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	134	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	38.6	0.0500	"	"	"	"	"	"	
Sodium	329	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.44	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	76.5		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@6'**  
**2402497-01 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	2.24	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.93			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@15'**  
**2402497-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	10.4	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	35.8	0.400	"	"	"	"	"	"	
Cadmium	0.797	0.200	"	"	"	"	"	"	
Lead	22.4	0.200	"	"	"	"	"	"	
Selenium	0.836	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	91.2	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	26.1	0.0500	"	"	"	"	"	"	
Sodium	281	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.68	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	73.9		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@15'**  
**2402497-02 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	1.71	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.94			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@18'**  
**2402497-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.52	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	14.1	0.400	"	"	"	"	"	"	
Cadmium	0.982	0.200	"	"	"	"	"	"	
Lead	18.7	0.200	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	49.3	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	15.3	0.0500	"	"	"	"	"	"	
Sodium	278	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	8.87	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	73.9		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG08@18'**  
**2402497-03 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	1.50	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.26			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@6'**  
**2402497-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	5.21	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	119	0.400	"	"	"	"	"	"	
Cadmium	0.371	0.200	"	"	"	"	"	"	
Lead	12.9	0.200	"	"	"	"	"	"	
Selenium	0.479	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	499	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	67.0	0.0500	"	"	"	"	"	"	
Sodium	225	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.51	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	80.1		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@6'**  
**2402497-04 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	3.19	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.57			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@15'**  
**2402497-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	7.00	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	62.6	0.400	"	"	"	"	"	"	
Cadmium	0.310	0.200	"	"	"	"	"	"	
Lead	16.4	0.200	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	28.4	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	7.29	0.0500	"	"	"	"	"	"	
Sodium	153	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.63	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	76.1		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@15'**  
**2402497-05 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	0.868	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.36			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@18'**  
**2402497-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.46	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	17.9	0.400	"	"	"	"	"	"	
Cadmium	0.901	0.200	"	"	"	"	"	"	
Lead	15.9	0.200	"	"	"	"	"	"	
Selenium	0.313	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	89.8	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	25.7	0.0500	"	"	"	"	"	"	
Sodium	284	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	6.80	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	73.8		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG09@18'**  
**2402497-06 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	1.73	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.28			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@6'**  
**2402497-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0896	02/28/24	02/28/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0388	97.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0430	107 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0426	106 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0895	02/28/24	02/28/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.17	49.4 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@6'**  
**2402497-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0903	02/29/24	02/29/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0297	89.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.9 %	40-150		"	"	"	"	

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

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0207	03/08/24	03/13/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:56**

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@6'**  
**2402497-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.86	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	157	0.400	"	"	"	"	"	"	
Cadmium	0.410	0.200	"	"	"	"	"	"	
Copper	4.62	0.400	"	"	"	"	"	"	
Lead	13.0	0.200	"	"	"	"	"	"	
Nickel	3.94	0.400	"	"	"	"	"	"	
Silver	0.0367	0.0200	"	"	"	"	"	"	
Zinc	16.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0306	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.0	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	3.92	0.0500	"	"	"	"	"	"	
Sodium	88.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.34	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:56**

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@6'**  
**2402497-07 (Soil)**

**Summit Scientific**

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

% Solids	88.2	%	1	BHC0090	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.606	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1	

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

Date Sampled: **02/28/24 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@15'**  
**2402497-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0896	02/28/24	02/28/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0420	105 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0895	02/28/24	02/28/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.14	57.1 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@15'**  
**2402497-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0903	02/29/24	02/29/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0320	95.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0210	62.9 %	40-150		"	"	"	"	

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

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0207	03/08/24	03/13/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 10:58**

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 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@15'**  
**2402497-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	6.26	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B
Barium	42.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	9.01	0.400	"	"	"	"	"	"
Lead	17.9	0.200	"	"	"	"	"	"
Nickel	2.26	0.400	"	"	"	"	"	"
Silver	0.0297	0.0200	"	"	"	"	"	"
Zinc	8.84	0.400	"	"	"	"	"	"
Selenium	0.641	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0306	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	131	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	28.3	0.0500	"	"	"	"	"	"	
Sodium	192	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.97	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 10:58**

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 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@15'**  
**2402497-08 (Soil)**

**Summit Scientific**

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

% Solids	75.5	%	1	BHC0090	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.59	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1	

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

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.21		pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@18'**  
**2402497-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0896	02/28/24	02/28/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0384	96.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0422	106 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0428	107 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0895	02/28/24	02/28/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.62	69.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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

Project: Noble - Lilli 0-5  
Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@18'**  
**2402497-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0903	02/29/24	03/01/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0266	79.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0138	41.4 %	40-150		"	"	"	"	

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

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0207	03/08/24	03/13/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 11:00**

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 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@18'**  
**2402497-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.06	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B
Barium	34.1	0.400	"	"	"	"	"	"
Cadmium	0.371	0.200	"	"	"	"	"	"
Copper	10.5	0.400	"	"	"	"	"	"
Lead	22.2	0.200	"	"	"	"	"	"
Nickel	3.69	0.400	"	"	"	"	"	"
Silver	0.0448	0.0200	"	"	"	"	"	"
Zinc	8.34	0.400	"	"	"	"	"	"
Selenium	0.331	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0306	03/12/24	03/13/24	EPA 7196A	

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

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	107	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	26.4	0.0500	"	"	"	"	"	"	
Sodium	187	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	4.20	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:00**

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 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**TP07@18'**  
**2402497-09 (Soil)**

**Summit Scientific**

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

% Solids	75.0	%	1	BHC0090	03/05/24	03/06/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.44	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1	

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

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.68		pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@6'**  
**2402497-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	11.5	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	36.0	0.400	"	"	"	"	"	"	"
Cadmium	0.299	0.200	"	"	"	"	"	"	"
Lead	20.1	0.200	"	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"	"

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

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	396	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	102	0.0500	"	"	"	"	"	"	"
Sodium	256	0.0500	"	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.97	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	76.5		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@6'**  
**2402497-10 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	3.11	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 11:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.76			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@15'**  
**2402497-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>7.92</b>	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
<b>Barium</b>	<b>31.0</b>	0.400	"	"	"	"	"	"	
<b>Cadmium</b>	<b>ND</b>	0.200	"	"	"	"	"	"	
<b>Lead</b>	<b>11.2</b>	0.200	"	"	"	"	"	"	
<b>Selenium</b>	<b>4.06</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>88.4</b>	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
<b>Magnesium</b>	<b>37.2</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>195</b>	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>4.39</b>	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>76.3</b>		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@15'**  
**2402497-11 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	1.53	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	5.47			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@18'**  
**2402497-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	14.7	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	65.3	0.400	"	"	"	"	"	"	"
Cadmium	0.245	0.200	"	"	"	"	"	"	"
Lead	14.3	0.200	"	"	"	"	"	"	"
Selenium	1.52	0.260	"	"	"	"	"	"	"

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

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	155	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	45.9	0.0500	"	"	"	"	"	"	"
Sodium	174	0.0500	"	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	3.15	0.00100	units	1	BHC0152	03/06/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	76.6		%	1	BHC0090	03/05/24	03/06/24	Calculation	

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

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**BG11@18'**  
**2402497-12 (Soil)**

**Summit Scientific**

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

Specific Conductance (EC)	1.69	0.0100	mmhos/cm	1	BHB0899	02/28/24	02/29/24	EPA 120.1
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **02/28/24 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.09			pH Units	1	BHB0900	02/28/24	02/29/24	EPA 9045D	

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BHB0896 - EPA 5030 Soil MS

##### Blank (BHB0896-BLK1)

Prepared: 02/28/24 Analyzed: 02/29/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0376		"	0.0400		94.0	50-150			
<i>Surrogate: Toluene-d8</i>	0.0425		"	0.0400		106	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0425		"	0.0400		106	50-150			

##### LCS (BHB0896-BS1)

Prepared: 02/28/24 Analyzed: 02/29/24

Benzene	0.130	0.0020	mg/kg	0.100		130	70-130			
Toluene	0.125	0.0050	"	0.100		125	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.209	0.010	"	0.200		105	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
1,3,5-Trimethylbenzene	0.0701	0.0050	"	0.100		70.1	70-130			
Naphthalene	0.0969	0.0038	"	0.100		96.9	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0366		"	0.0400		91.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0434		"	0.0400		108	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0422		"	0.0400		105	50-150			

##### Matrix Spike (BHB0896-MS1)

Source: 2402497-07

Prepared: 02/28/24 Analyzed: 02/29/24

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	70-130			
Toluene	0.0959	0.0050	"	0.100	ND	95.9	70-130			
Ethylbenzene	0.0802	0.0050	"	0.100	ND	80.2	70-130			
m,p-Xylene	0.161	0.010	"	0.200	ND	80.4	70-130			
o-Xylene	0.0778	0.0050	"	0.100	ND	77.8	70-130			
1,2,4-Trimethylbenzene	0.0766	0.0050	"	0.100	ND	76.6	70-130			
1,3,5-Trimethylbenzene	0.0767	0.0050	"	0.100	ND	76.7	70-130			
Naphthalene	0.0612	0.0038	"	0.100	ND	61.2	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0387		"	0.0400		96.7	50-150			
<i>Surrogate: Toluene-d8</i>	0.0418		"	0.0400		104	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0425		"	0.0400		106	50-150			

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BHB0896 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BHB0896-MSD1)</b>	<b>Source: 2402497-07</b>			<b>Prepared: 02/28/24 Analyzed: 02/29/24</b>						
Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130	10.8	30	
Toluene	0.110	0.0050	"	0.100	ND	110	70-130	13.4	30	
Ethylbenzene	0.0904	0.0050	"	0.100	ND	90.4	70-130	11.9	30	
m,p-Xylene	0.175	0.010	"	0.200	ND	87.7	70-130	8.64	30	
o-Xylene	0.0881	0.0050	"	0.100	ND	88.1	70-130	12.4	30	
1,2,4-Trimethylbenzene	0.0858	0.0050	"	0.100	ND	85.8	70-130	11.4	30	
1,3,5-Trimethylbenzene	0.0854	0.0050	"	0.100	ND	85.4	70-130	10.7	30	
Naphthalene	0.0604	0.0038	"	0.100	ND	60.4	70-130	1.43	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.4</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0430</i>		<i>"</i>	<i>0.0400</i>		<i>108</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0426</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

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

**Batch BHB0895 - EPA 3550A**

**Blank (BHB0895-BLK1)**

Prepared: 02/28/24 Analyzed: 02/29/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.4		"	12.5		99.5	30-150			

**LCS (BHB0895-BS1)**

Prepared: 02/28/24 Analyzed: 02/29/24

C10-C28 (DRO)	519	50	mg/kg	500	30.0	104	70-130			
Surrogate: <i>o</i> -Terphenyl	11.2		"	12.5		89.8	30-150			

**Matrix Spike (BHB0895-MS1)**

Source: 2402497-07

Prepared: 02/28/24 Analyzed: 02/29/24

C10-C28 (DRO)	438	50	mg/kg	500	30.0	81.6	70-130			
Surrogate: <i>o</i> -Terphenyl	9.68		"	12.5		77.5	30-150			

**Matrix Spike Dup (BHB0895-MSD1)**

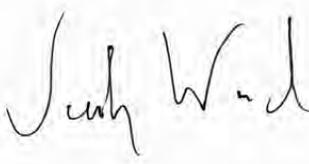
Source: 2402497-07

Prepared: 02/28/24 Analyzed: 02/29/24

C10-C28 (DRO)	418	50	mg/kg	500	30.0	77.7	70-130	4.58	20	
Surrogate: <i>o</i> -Terphenyl	9.40		"	12.5		75.2	30-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHB0903 - EPA 5030 Soil MS**

**Blank (BHB0903-BLK1)**

Prepared & Analyzed: 02/29/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0376		"	0.0333	113	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0293		"	0.0333	87.8	40-150				

**LCS (BHB0903-BS1)**

Prepared & Analyzed: 02/29/24

Acenaphthene	0.0329	0.00500	mg/kg	0.0333	98.7	31-137				
Anthracene	0.0382	0.00500	"	0.0333	115	30-120				
Benzo (a) anthracene	0.0378	0.00500	"	0.0333	113	30-120				
Benzo (a) pyrene	0.0360	0.00500	"	0.0333	108	30-120				
Benzo (b) fluoranthene	0.0373	0.00500	"	0.0333	112	30-120				
Benzo (k) fluoranthene	0.0371	0.00500	"	0.0333	111	30-120				
Chrysene	0.0370	0.00500	"	0.0333	111	30-120				
Dibenz (a,h) anthracene	0.0279	0.00500	"	0.0333	83.8	30-120				
Fluoranthene	0.0376	0.00500	"	0.0333	113	30-120				
Fluorene	0.0373	0.00500	"	0.0333	112	30-120				
Indeno (1,2,3-cd) pyrene	0.0269	0.00500	"	0.0333	80.7	30-120				
Pyrene	0.0386	0.00500	"	0.0333	116	35-142				
1-Methylnaphthalene	0.0395	0.00500	"	0.0333	119	35-142				
2-Methylnaphthalene	0.0265	0.00500	"	0.0333	79.5	35-142				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0297		"	0.0333	89.0	40-150				
<i>Surrogate: Fluoranthene-d10</i>	0.0269		"	0.0333	80.8	40-150				

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHB0903 - EPA 5030 Soil MS**

<b>Matrix Spike (BHB0903-MS1)</b>	<b>Source: 2402497-07</b>			<b>Prepared &amp; Analyzed: 02/29/24</b>							
Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.6	31-137				
Anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120				
Benzo (a) anthracene	0.0203	0.00500	"	0.0333	ND	60.9	30-120				
Benzo (a) pyrene	0.0199	0.00500	"	0.0333	ND	59.8	30-120				
Benzo (b) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.0	30-120				
Benzo (k) fluoranthene	0.0190	0.00500	"	0.0333	ND	57.1	30-120				
Chrysene	0.0205	0.00500	"	0.0333	ND	61.4	30-120				
Dibenz (a,h) anthracene	0.0171	0.00500	"	0.0333	ND	51.2	30-120				
Fluoranthene	0.0198	0.00500	"	0.0333	ND	59.5	30-120				
Fluorene	0.0203	0.00500	"	0.0333	ND	61.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0161	0.00500	"	0.0333	ND	48.3	30-120				
Pyrene	0.0233	0.00500	"	0.0333	ND	69.8	35-142				
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	ND	72.2	15-130				
2-Methylnaphthalene	0.0349	0.00500	"	0.0333	ND	105	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0180</i>		<i>"</i>	<i>0.0333</i>		<i>54.1</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0142</i>		<i>"</i>	<i>0.0333</i>		<i>42.5</i>	<i>40-150</i>				

<b>Matrix Spike Dup (BHB0903-MSD1)</b>	<b>Source: 2402497-07</b>			<b>Prepared &amp; Analyzed: 02/29/24</b>							
Acenaphthene	0.0191	0.00500	mg/kg	0.0333	ND	57.3	31-137	3.89	30		
Anthracene	0.0227	0.00500	"	0.0333	ND	68.2	30-120	0.283	30		
Benzo (a) anthracene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	1.07	30		
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.3	30-120	4.19	30		
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	8.67	30		
Benzo (k) fluoranthene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	7.07	30		
Chrysene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	0.890	30		
Dibenz (a,h) anthracene	0.0175	0.00500	"	0.0333	ND	52.4	30-120	2.27	30		
Fluoranthene	0.0198	0.00500	"	0.0333	ND	59.4	30-120	0.276	30		
Fluorene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	3.64	30		
Indeno (1,2,3-cd) pyrene	0.0165	0.00500	"	0.0333	ND	49.6	30-120	2.52	30		
Pyrene	0.0224	0.00500	"	0.0333	ND	67.2	35-142	3.73	30		
1-Methylnaphthalene	0.0294	0.00500	"	0.0333	ND	88.3	15-130	20.0	50		
2-Methylnaphthalene	0.0290	0.00500	"	0.0333	ND	87.0	15-130	18.5	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0178</i>		<i>"</i>	<i>0.0333</i>		<i>53.3</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0144</i>		<i>"</i>	<i>0.0333</i>		<i>43.1</i>	<i>40-150</i>				

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

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

**Batch BHC0207 - EPA 3050B**

**Blank (BHC0207-BLK1)**

Prepared: 03/08/24 Analyzed: 03/13/24

Boron ND 2.00 mg/L

**LCS (BHC0207-BS1)**

Prepared: 03/08/24 Analyzed: 03/13/24

Boron 4.94 2.00 mg/L 5.00 98.7 80-120

**Duplicate (BHC0207-DUP1)**

Source: 2402371-01

Prepared: 03/08/24 Analyzed: 03/13/24

Boron 0.157 2.00 mg/L 0.183 15.5 20

**Matrix Spike (BHC0207-MS1)**

Source: 2402371-01

Prepared: 03/08/24 Analyzed: 03/13/24

Boron 5.00 2.00 mg/L 5.00 0.183 96.3 75-125

**Matrix Spike Dup (BHC0207-MSD1)**

Source: 2402371-01

Prepared: 03/08/24 Analyzed: 03/13/24

Boron 5.19 2.00 mg/L 5.00 0.183 100 75-125 3.74 25

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHC0007 - EPA 3050B**

**Blank (BHC0007-BLK1)**

Prepared: 03/01/24 Analyzed: 03/04/24

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

**LCS (BHC0007-BS1)**

Prepared: 03/01/24 Analyzed: 03/04/24

Arsenic	44.6	0.200	mg/kg wet	40.0		112	80-120
Barium	44.1	0.400	"	40.0		110	80-120
Cadmium	2.03	0.200	"	2.00		102	80-120
Copper	39.6	0.400	"	40.0		99.0	80-120
Lead	20.1	0.200	"	20.0		100	80-120
Nickel	39.3	0.400	"	40.0		98.2	80-120
Silver	2.00	0.0200	"	2.00		100	80-120
Zinc	39.1	0.400	"	40.0		97.8	80-120
Selenium	4.74	0.260	"	4.00		119	80-120

**Duplicate (BHC0007-DUP1)**

Source: 2402396-01

Prepared: 03/01/24 Analyzed: 03/04/24

Arsenic	2.91	0.200	mg/kg dry	2.78		4.66	20
Barium	75.1	0.400	"	89.2		17.2	20
Cadmium	0.113	0.200	"	0.102		10.1	20
Copper	2.45	0.400	"	2.49		1.68	20
Lead	6.40	0.200	"	5.93		7.70	20
Nickel	3.58	0.400	"	3.27		9.20	20
Silver	0.0312	0.0200	"	0.0308		1.46	20
Zinc	14.0	0.400	"	13.9		0.514	20
Selenium	ND	0.260	"	ND			20

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BHC0007 - EPA 3050B**

**Matrix Spike (BHC0007-MS1)**

Source: 2402396-01

Prepared: 03/01/24 Analyzed: 03/04/24

Arsenic	49.3	0.200	mg/kg dry	45.3	2.78	103	75-125			
Barium	119	0.400	"	45.3	89.2	65.2	75-125			QM-05
Cadmium	2.37	0.200	"	2.26	0.102	100	75-125			
Copper	31.2	0.400	"	45.3	2.49	63.4	75-125			QM-05
Lead	28.5	0.200	"	22.6	5.93	99.8	75-125			
Nickel	32.2	0.400	"	45.3	3.27	63.8	75-125			QM-05
Silver	2.21	0.0200	"	2.26	0.0308	96.4	75-125			
Zinc	43.5	0.400	"	45.3	13.9	65.5	75-125			QM-05
Selenium	7.26	0.260	"	4.53	ND	160	75-125			QM-05

**Matrix Spike Dup (BHC0007-MSD1)**

Source: 2402396-01

Prepared: 03/01/24 Analyzed: 03/04/24

Arsenic	49.8	0.200	mg/kg dry	45.3	2.78	104	75-125	1.06	25	
Barium	122	0.400	"	45.3	89.2	71.7	75-125	2.45	25	QM-05
Cadmium	2.44	0.200	"	2.26	0.102	103	75-125	3.05	25	
Copper	31.3	0.400	"	45.3	2.49	63.6	75-125	0.288	25	QM-05
Lead	29.4	0.200	"	22.6	5.93	104	75-125	2.98	25	
Nickel	32.3	0.400	"	45.3	3.27	64.2	75-125	0.491	25	QM-05
Silver	2.27	0.0200	"	2.26	0.0308	98.9	75-125	2.46	25	
Zinc	43.6	0.400	"	45.3	13.9	65.7	75-125	0.224	25	QM-05
Selenium	7.07	0.260	"	4.53	ND	156	75-125	2.55	25	QM-05

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BHC0306 - 3060A Mod**

**Blank (BHC0306-BLK1)**

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

Chromium, Hexavalent      ND      0.30 mg/kg wet

**LCS (BHC0306-BS1)**

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

Chromium, Hexavalent      25.0      0.30 mg/kg wet      25.0      99.8      80-120

**Duplicate (BHC0306-DUP1)**

**Source: 2402370-01**

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

Chromium, Hexavalent      ND      0.30 mg/kg dry      ND      20

**Matrix Spike (BHC0306-MS1)**

**Source: 2402370-01**

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

Chromium, Hexavalent      29.8      0.30 mg/kg dry      29.9      ND      99.6      75-125

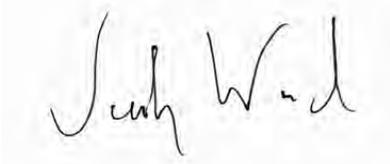
**Matrix Spike Dup (BHC0306-MSD1)**

**Source: 2402370-01**

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

Chromium, Hexavalent      29.3      0.30 mg/kg dry      29.9      ND      98.2      75-125      1.42      20

Summit Scientific



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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHB0898 - General Preparation**

**Blank (BHB0898-BLK1)**

Prepared: 02/28/24 Analyzed: 03/01/24

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

**LCS (BHB0898-BS1)**

Prepared: 02/28/24 Analyzed: 03/01/24

Calcium	5.56	0.0500	mg/L wet	5.00		111	70-130		
Magnesium	5.28	0.0500	"	5.00		106	70-130		
Sodium	5.38	0.0500	"	5.00		108	70-130		

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
 Project Manager: Jacob Whritenour

**Reported:**  
 03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHC0090 - General Preparation**

**Duplicate (BHC0090-DUP1)**

**Source: 2402385-01**

Prepared: 03/05/24 Analyzed: 03/06/24

% Solids	89.3		%		88.7			0.656		20	
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Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHB0899 - General Preparation**

**Blank (BHB0899-BLK1)**

Prepared: 02/28/24 Analyzed: 02/29/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHB0899-BS1)**

Prepared: 02/28/24 Analyzed: 02/29/24

Specific Conductance (EC) 0.148 0.0100 mmhos/cm 0.150 98.5 95-105

**Duplicate (BHB0899-DUP1)**

Source: 2402497-01

Prepared: 02/28/24 Analyzed: 02/29/24

Specific Conductance (EC) 2.20 0.0100 mmhos/cm 2.24 1.44 20

Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

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

**Summit Scientific**

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

**Batch BHB0900 - General Preparation**

**LCS (BHB0900-BS1)**

Prepared: 02/28/24 Analyzed: 02/29/24

pH	9.08	pH Units	9.18	98.9	95-105
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**Duplicate (BHB0900-DUP1)**

Source: 2402497-01

Prepared: 02/28/24 Analyzed: 02/29/24

pH	7.88	pH Units	7.93	0.633	20
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Summit Scientific

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

Project: Noble - Lilli 0-5

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
03/15/24 12:05

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

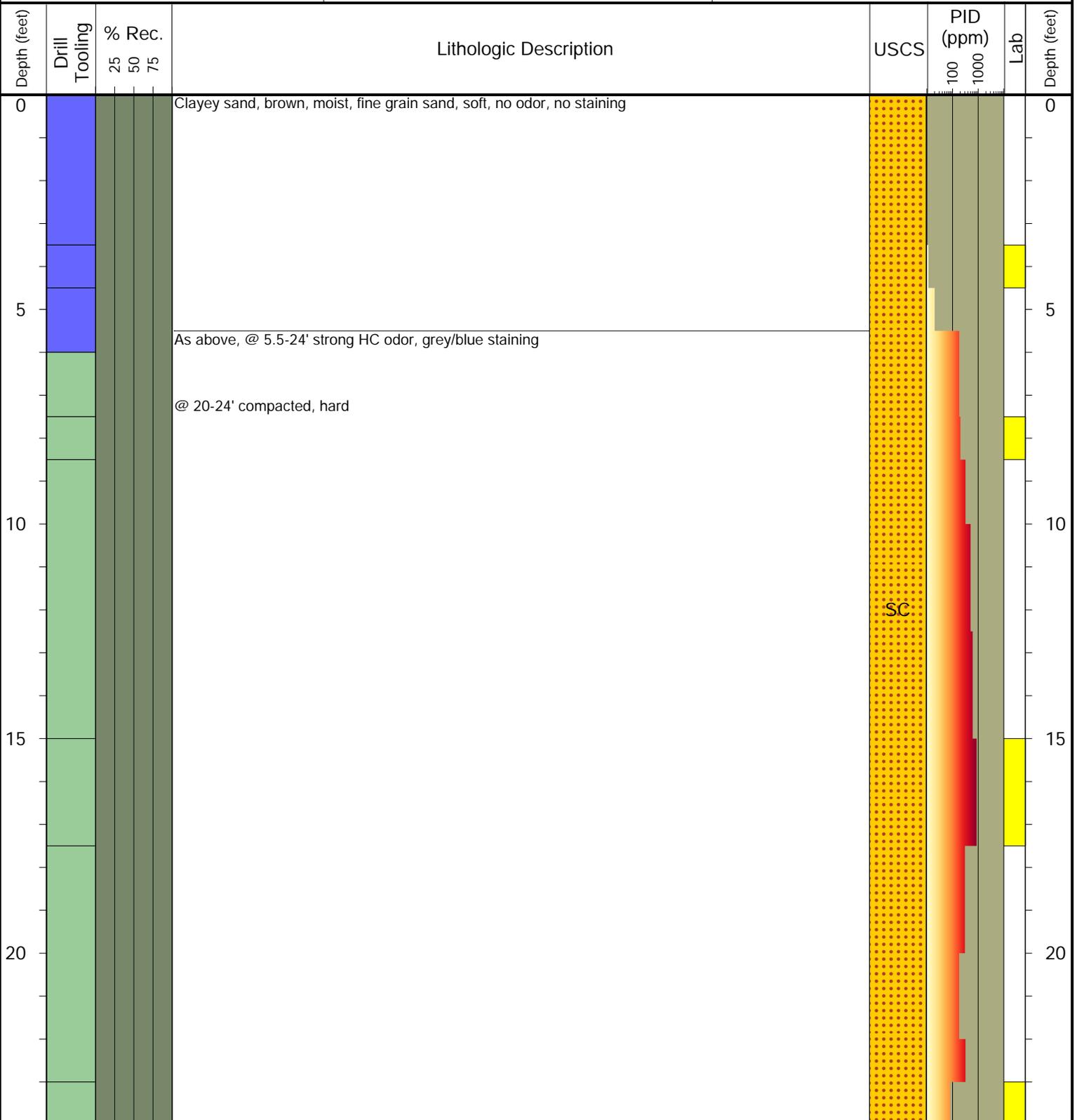
**ATTACHMENT C**  
**BORING LOGS**



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: Geoprobe 7822 DT  
 DRILL BIT SIZE (INCHES): 2.375"  
 DATE STARTED - COMPLETED: 5/24/22 - 5/24/22  
 TOTAL WELL DEPTH (FT. BGS): 24  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility  
 BORING ID: BH01  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.685930107  
 LONGITUDE (WGS 84): -103.888183912  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Grey), No Recovery (Light Grey), Hand Auger (Blue)

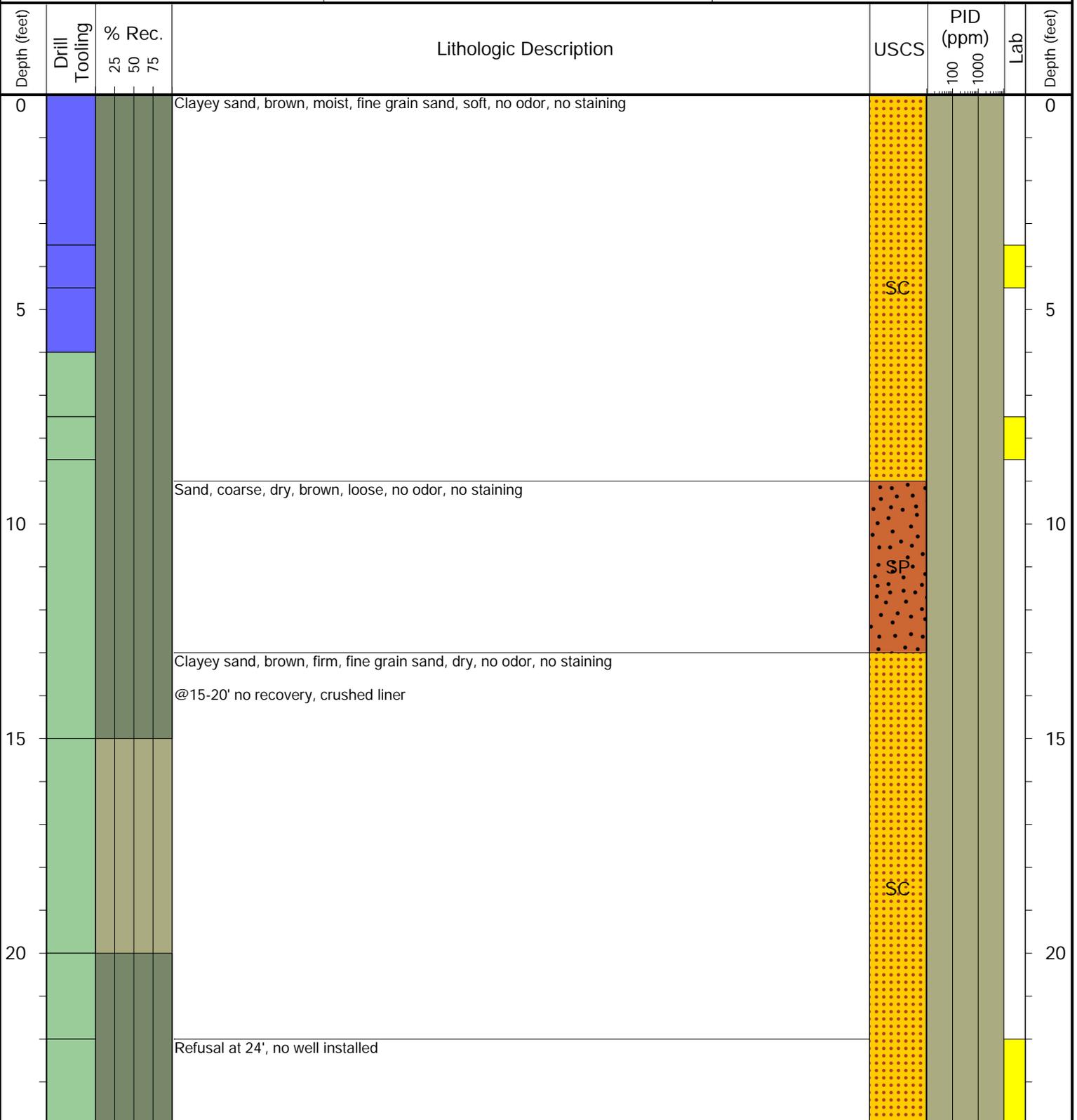
**Laboratory Sample Types:**  
 Geotechnical Lab (Dark Blue), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Diagonal Stripes)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: Geoprobe 7822 DT  
 DRILL BIT SIZE (INCHES): 2.375"  
 DATE STARTED - COMPLETED: 5/24/22 - 5/24/22  
 TOTAL WELL DEPTH (FT. BGS): 24  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility  
 BORING ID: BH02  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.686017113  
 LONGITUDE (WGS 84): -103.888218468  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



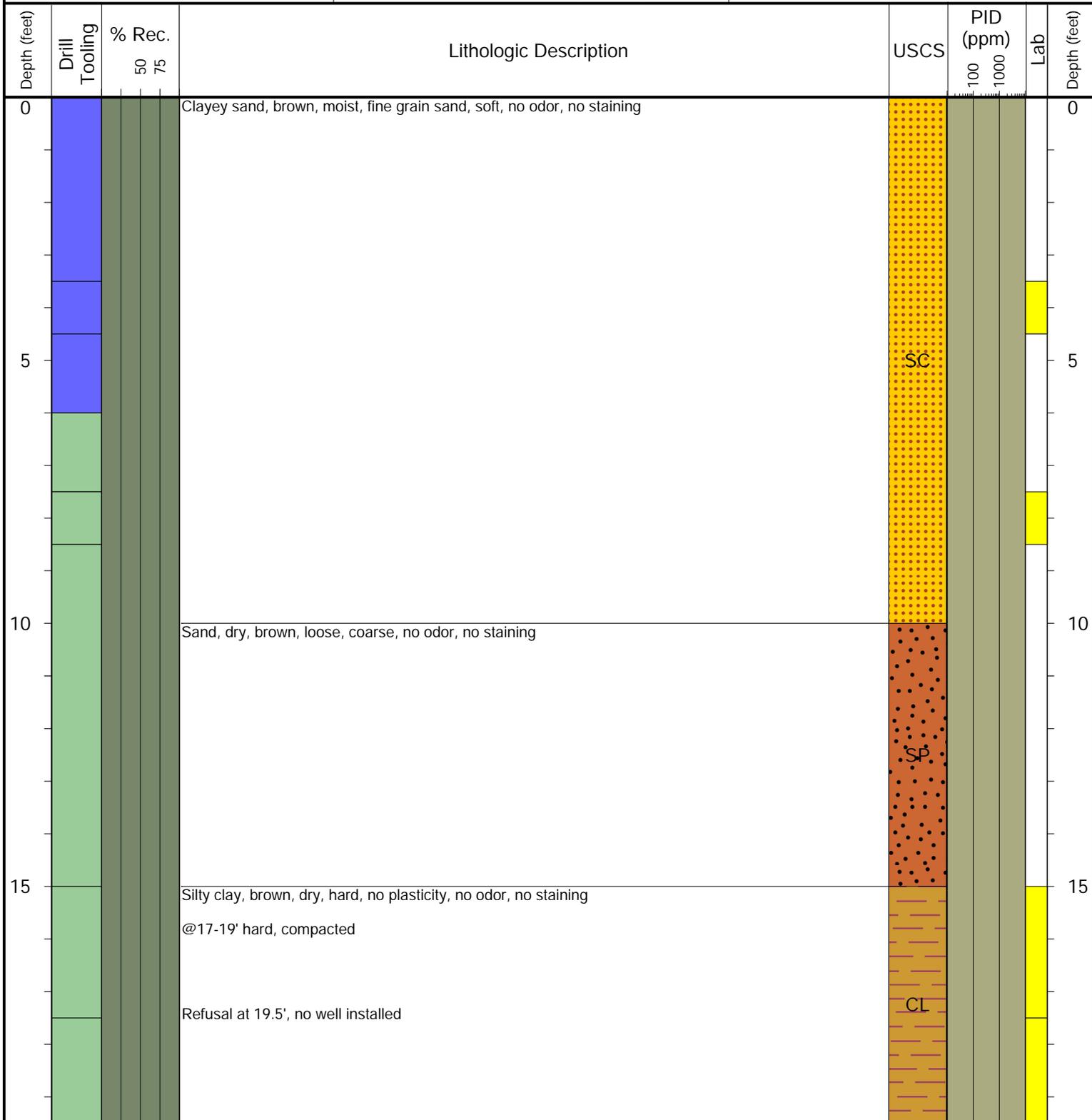
**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Dark Green), No Recovery (Light Green), Hand Auger (Blue)

**Laboratory Sample Types:**  
 Geotechnical Lab (Blue), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble	Lilli Unit N-5 Facility
LOGGED BY: Sarah Quattrochi	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH03
DRILLING CONTRACTOR: Site Services	
DRILLING EQUIPMENT: Geoprobe 7822 DT	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 2.375"	LATITUDE (WGS 84): 40.68599674
DATE STARTED - COMPLETED: 5/24/22 - 5/24/22	LONGITUDE (WGS 84): -103.888111464
TOTAL WELL DEPTH (FT. BGS): 19.5	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**

- Macro-Core
- Hollow Stem Auger
- Hand Auger
- No Recovery

**Laboratory Sample Types:**

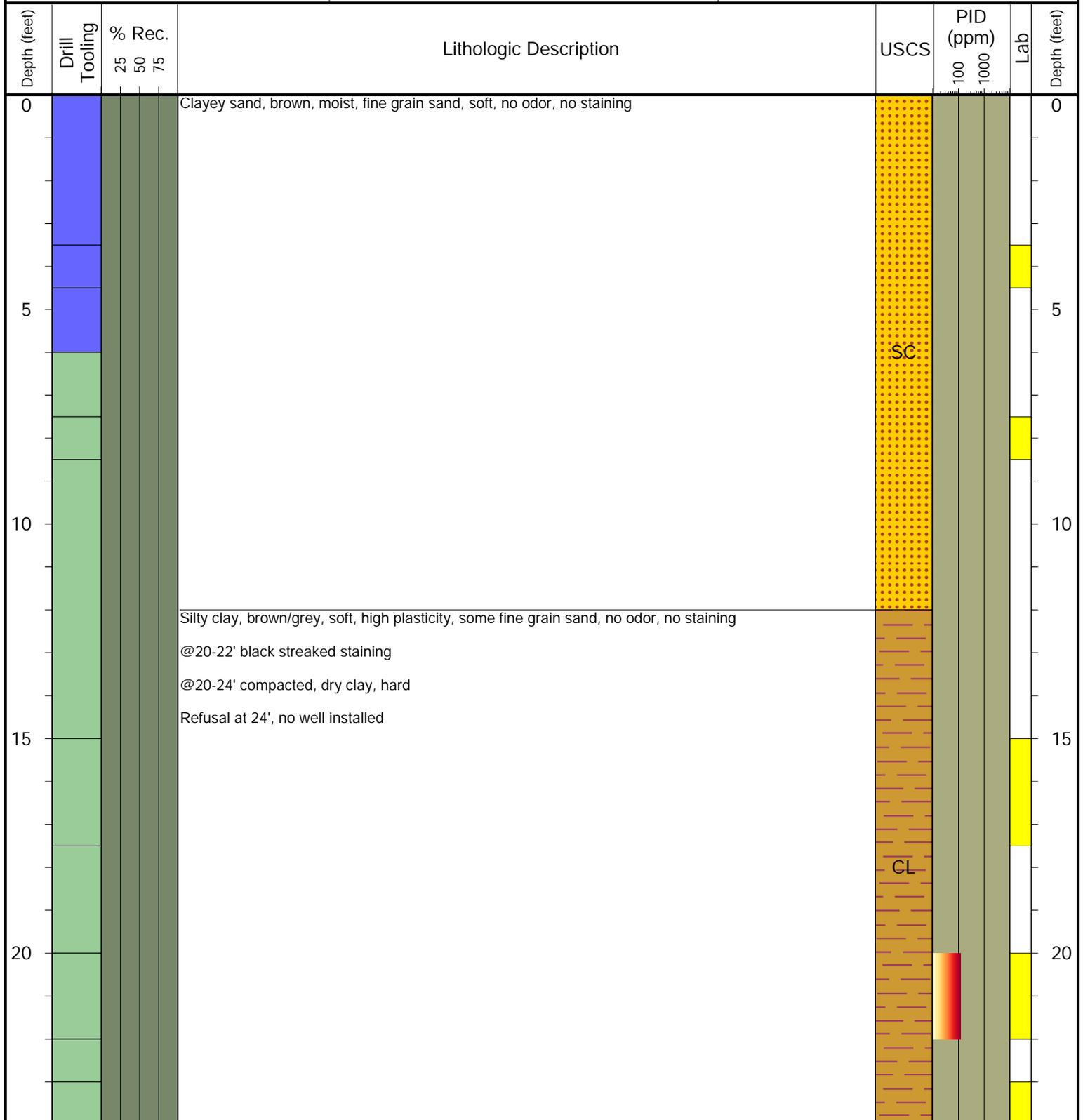
- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: Geoprobe 7822 DT  
 DRILL BIT SIZE (INCHES): 2.375"  
 DATE STARTED - COMPLETED: 5/24/22 - 5/24/22  
 TOTAL WELL DEPTH (FT. BGS): 24  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility  
 BORING ID: BH04  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.685852429  
 LONGITUDE (WGS 84): -103.888180069  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Grey), No Recovery (Light Green), Hand Auger (Blue)

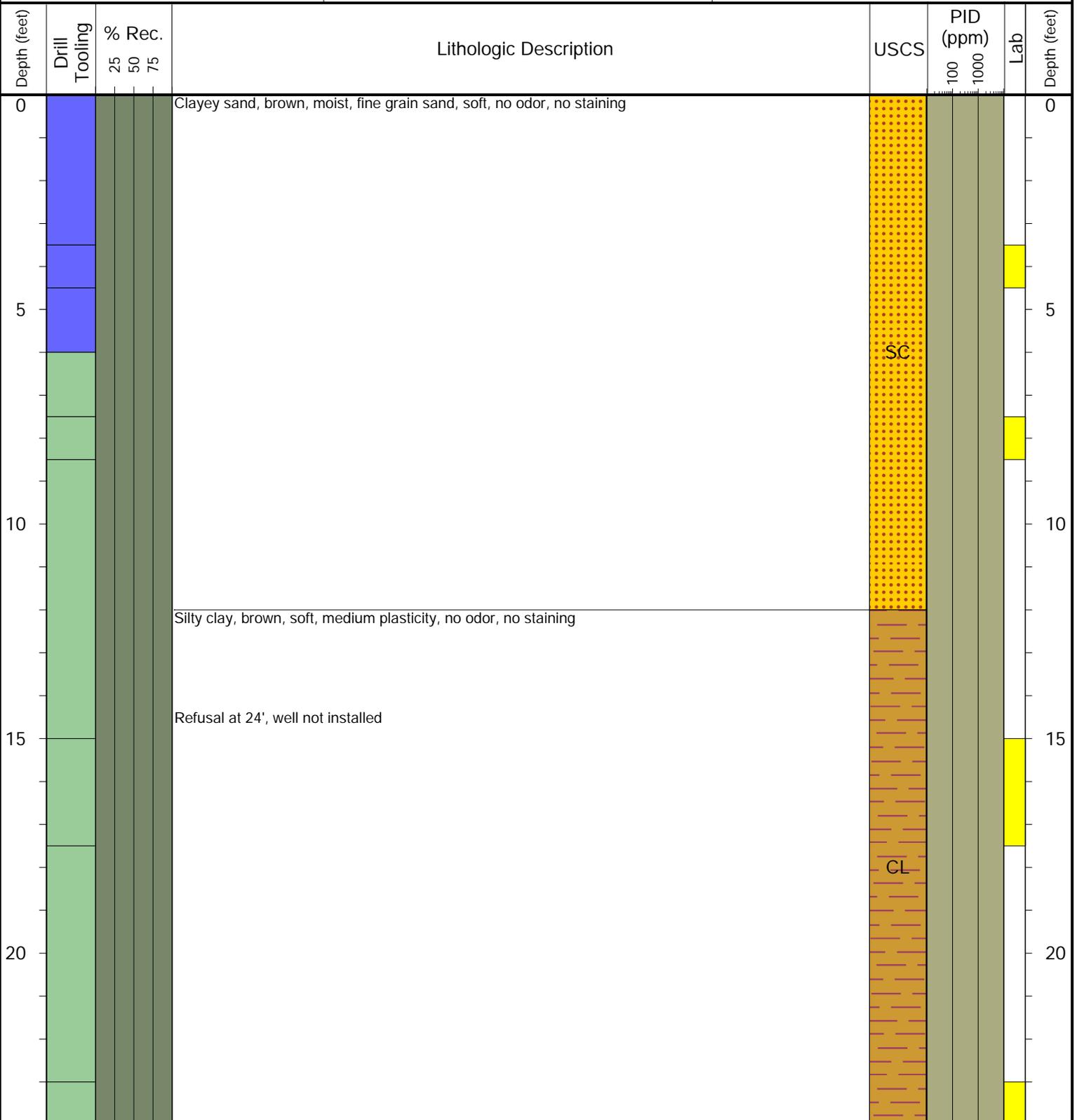
**Laboratory Sample Types:**  
 Geotechnical Lab (Blue), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: Geoprobe 7822 DT  
 DRILL BIT SIZE (INCHES): 2.375"  
 DATE STARTED - COMPLETED: 5/24/22 - 5/24/22  
 TOTAL WELL DEPTH (FT. BGS): 24  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility  
 BORING ID: BH05  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.685930858  
 LONGITUDE (WGS 84): -103.888279704  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Grey), No Recovery (Light Green), Hand Auger (Blue)

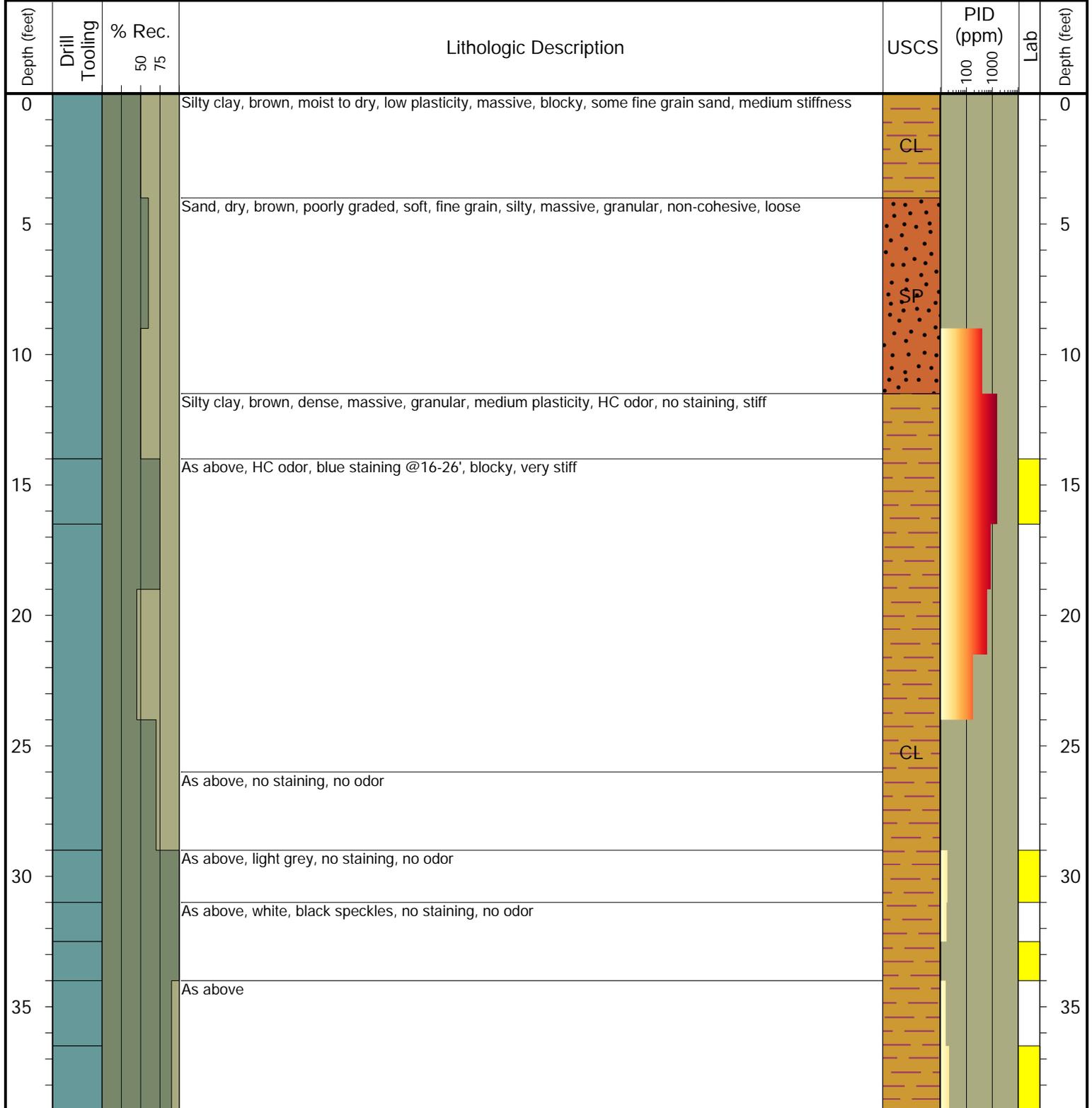
**Laboratory Sample Types:**  
 Geotechnical Lab (Blue), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: CME  
 DRILL BIT SIZE (INCHES): 6"  
 DATE STARTED - COMPLETED: 10/26/22 - 10/26/2022  
 TOTAL WELL DEPTH (FT. BGS): 39  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

**Lilli Unit N-5 Facility**  
**BORING ID: BH06**  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.685925957  
 LONGITUDE (WGS 84): -103.888189645  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Teal), No Recovery (Light Green), Hand Auger (Blue)

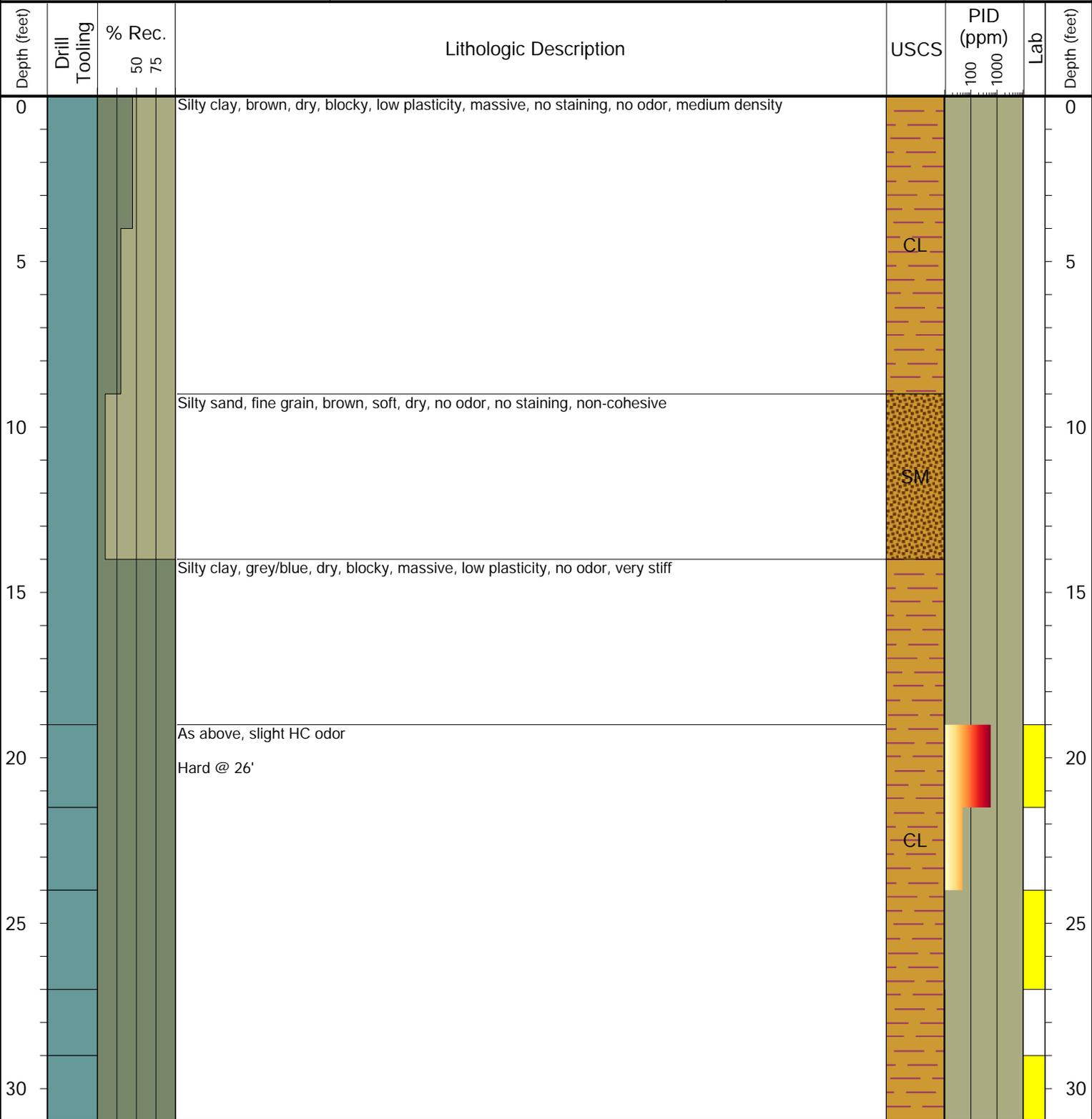
**Laboratory Sample Types:**  
 Geotechnical Lab (Purple), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble  
 LOGGED BY: Sarah Quattrochi  
 PROJECT MANAGER: Jake Whritenour  
 DRILLING CONTRACTOR: Site Services  
 DRILLING EQUIPMENT: CME  
 DRILL BIT SIZE (INCHES): 6"  
 DATE STARTED - COMPLETED: 10/26/22 - 10/26/2022  
 TOTAL WELL DEPTH (FT. BGS): 31  
 DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility  
 BORING ID: BH07  
 LOCATION: Weld County, Colorado  
 LATITUDE (WGS 84): 40.6859323589869  
 LONGITUDE (WGS 84): -103.888487403196  
 GROUND ELEVATION (FT. AMSL): NM  
 ABANDONMENT METHOD: Bentonite



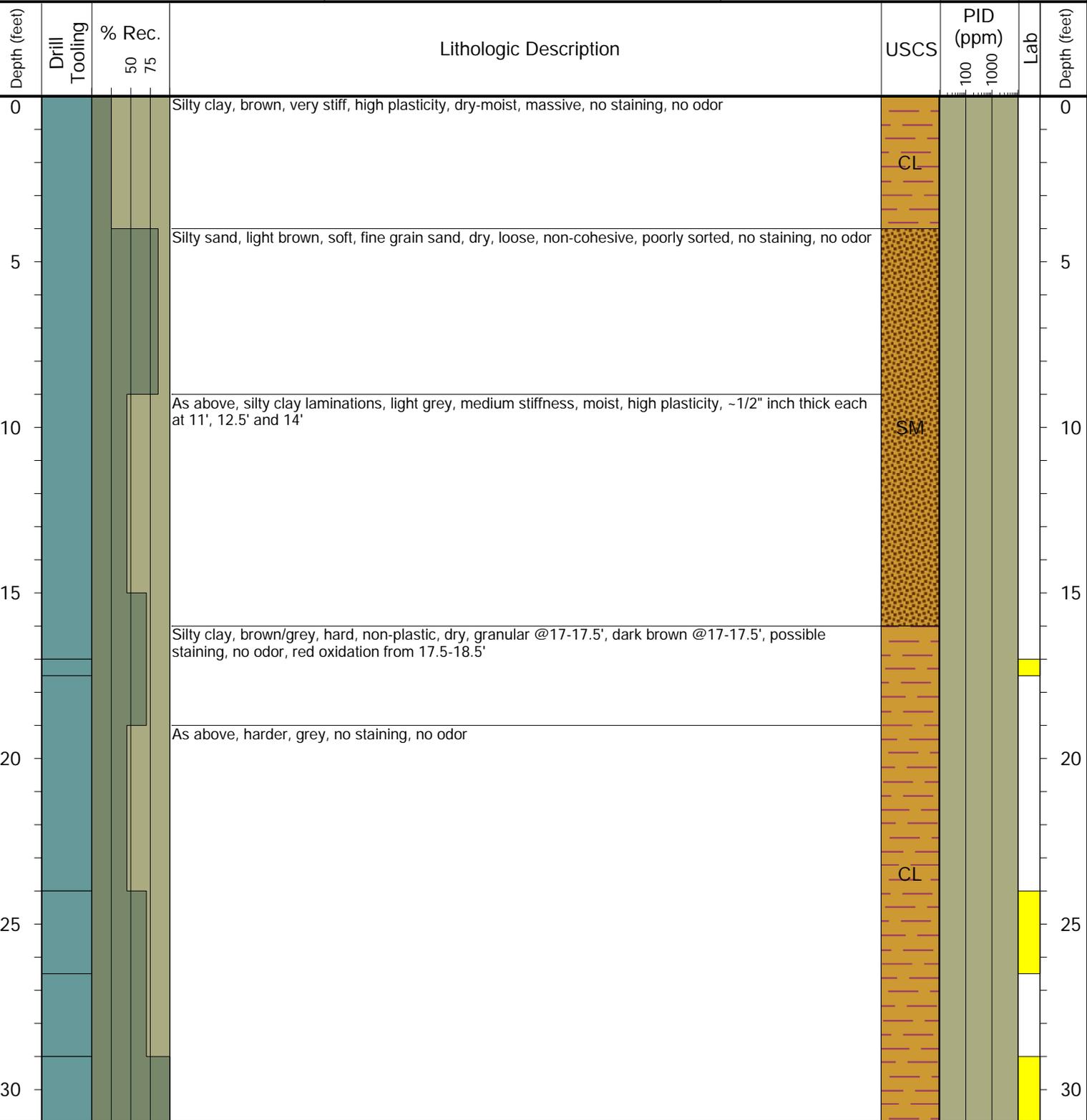
**Drilling / Sample Method:**  
 Macro-Core (Green), Hollow Stem Auger (Teal), No Recovery (Light Green), Hand Auger (Blue)

**Laboratory Sample Types:**  
 Geotechnical Lab (Purple), Analytical Chemistry Lab (Yellow), Geotechnical & Analytical Chemistry Lab (Blue/Yellow)



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble	Lilli Unit N-5 Facility
LOGGED BY: Sarah Quattrochi	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH08
DRILLING CONTRACTOR: Site Services	
DRILLING EQUIPMENT: CME	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 6"	LATITUDE (WGS 84): 40.6858844483418
DATE STARTED - COMPLETED: 10/27/22 - 10/27/2022	LONGITUDE (WGS 84): -103.888332070608
TOTAL WELL DEPTH (FT. BGS): 31	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**

- Macro-Core
- Hollow Stem Auger
- No Recovery
- Hand Auger

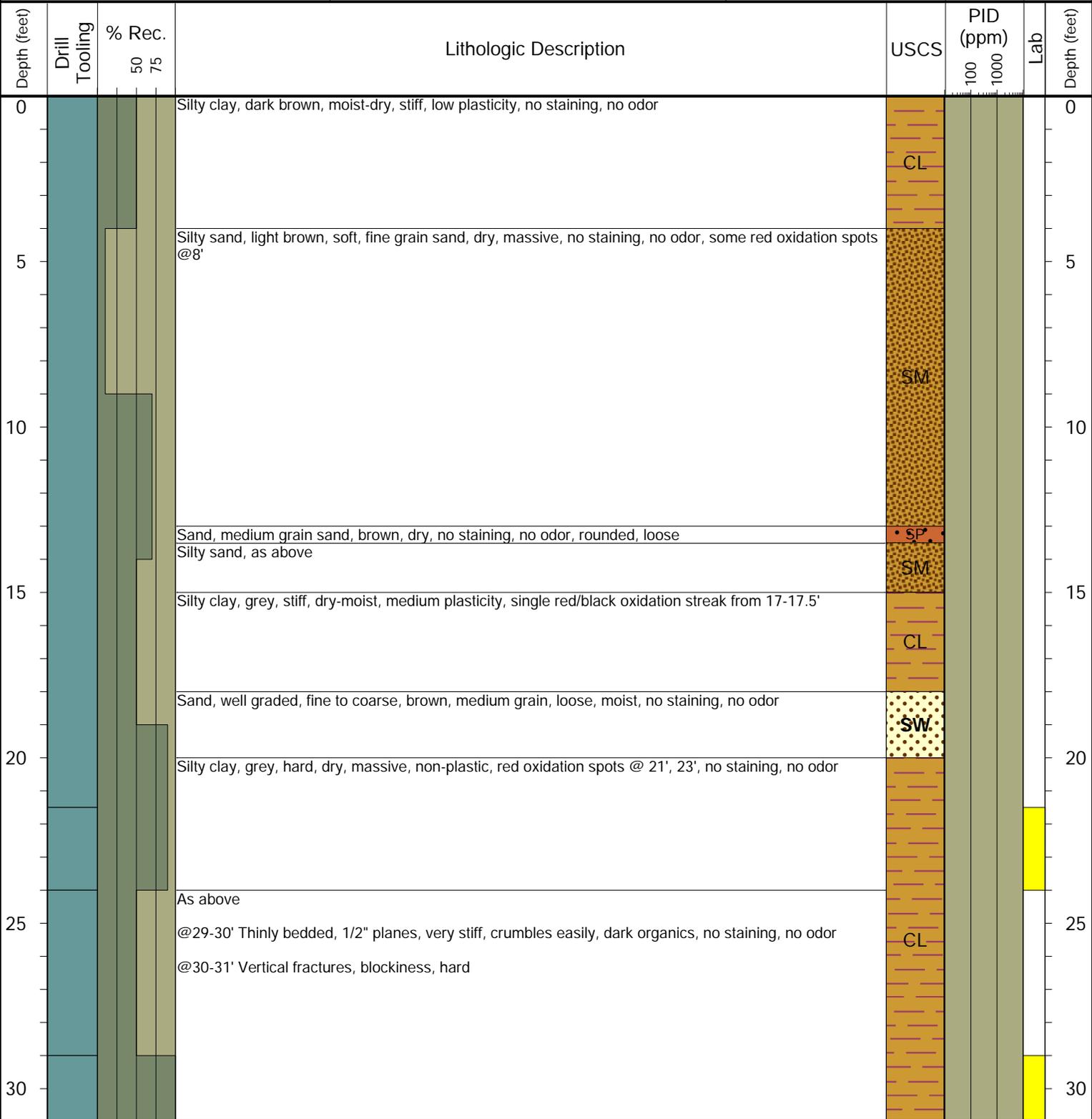
**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble	Lilli Unit N-5 Facility
LOGGED BY: Sarah Quattrochi	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH09
DRILLING CONTRACTOR: Site Services	
DRILLING EQUIPMENT: CME	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 6"	LATITUDE (WGS 84): 40.685854313
DATE STARTED - COMPLETED: 10/27/22 - 10/27/2022	LONGITUDE (WGS 84): -103.888060488
TOTAL WELL DEPTH (FT. BGS): 31	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite

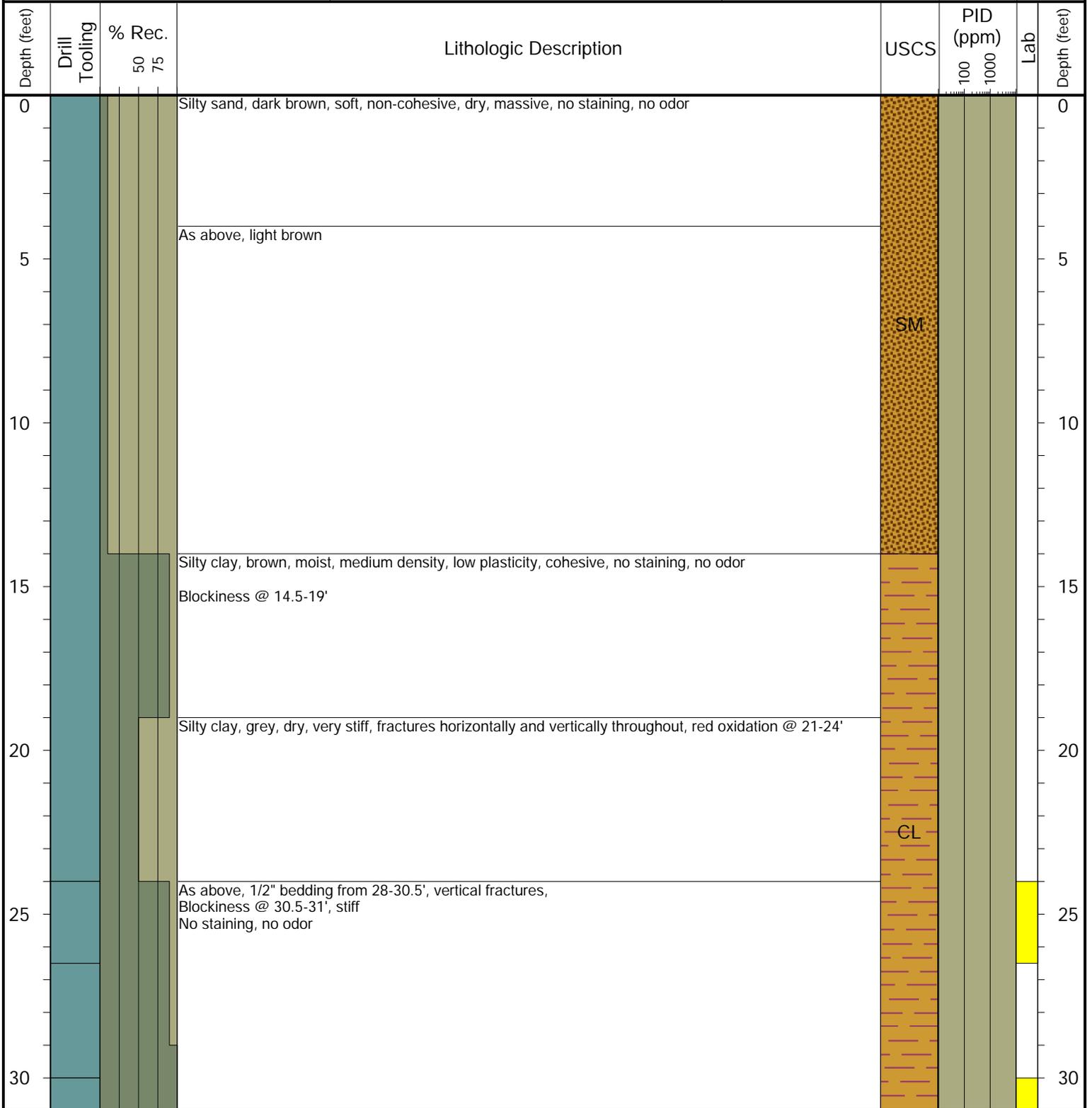


<b>Drilling / Sample Method:</b>		<b>Laboratory Sample Types:</b>	
Macro-Core	Hollow Stem Auger	Geotechnical Lab	Geotechnical & Analytical Chemistry Lab
No Recovery	Hand Auger	Analytical Chemistry Lab	



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Broomfield, CO 80020

CLIENT: Noble	Lilli Unit N-5 Facility
LOGGED BY: Sarah Quattrochi	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH10
DRILLING CONTRACTOR: Site Services	
DRILLING EQUIPMENT: CME	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 6"	LATITUDE (WGS 84): 40.685742497
DATE STARTED - COMPLETED: 10/27/22 - 10/27/2022	LONGITUDE (WGS 84): -103.888198177
TOTAL WELL DEPTH (FT. BGS): 31	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



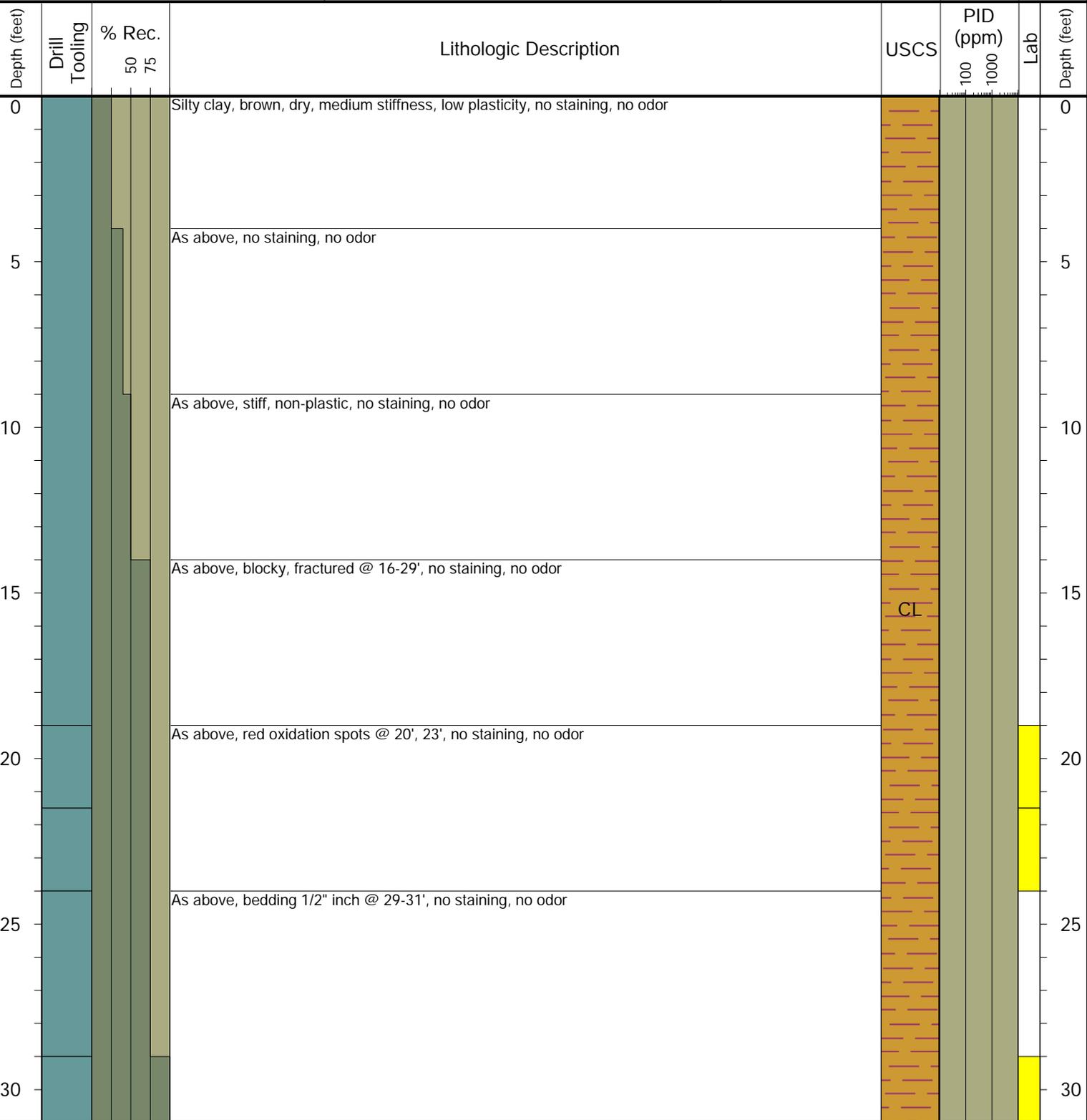
**Drilling / Sample Method:**

- Macro-Core
- Hollow Stem Auger
- Geotechnical Lab
- Geotechnical & Analytical Chemistry Lab
- No Recovery
- Hand Auger
- Analytical Chemistry Lab



6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble	Lilli Unit N-5 Facility
LOGGED BY: Sarah Quattrochi	
PROJECT MANAGER: Jake Whritenour	BORING ID: BH11
DRILLING CONTRACTOR: Site Services	
DRILLING EQUIPMENT: CME	LOCATION: Weld County, Colorado
DRILL BIT SIZE (INCHES): 6"	LATITUDE (WGS 84): 40.685933464
DATE STARTED - COMPLETED: 10/27/22 - 10/27/2022	LONGITUDE (WGS 84): -103.888566534
TOTAL WELL DEPTH (FT. BGS): 31	GROUND ELEVATION (FT. AMSL): NM
DEPTH WATER ENCOUNTERED (FT. BGS): NM	ABANDONMENT METHOD: Bentonite



**Drilling / Sample Method:**

- Macro-Core
- Hollow Stem Auger
- No Recovery
- Hand Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab