

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. 119th Ave
Broomfield, CO 80020

TABLES

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

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2		500		360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038		500		0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@4'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST01@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST02@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL01@3'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL02@4'	04/01/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	490	400	<0.00500	<0.00500	<0.00500	<0.00500	<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	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	0.669	<0.0500	<0.0500	0.658	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.102	<0.0500 ⁽⁴⁾
BH01@7.5-8.5'	05/24/22	0.68	<0.0050	5.2	66	41	12	6.4	1,200	8,700	2,700	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	<0.0500	<0.0500	<0.0500	0.942	<0.0500	<0.0500	<5.00 ⁽⁴⁾	<0.0500	0.735	9.47	18.1
BH01@15-17.5'	05/24/22	25	0.0057	42	220	0.97	0.58	0.59	6,400	13,000	1,900	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	0.410	0.186	<0.0500	0.928	<0.0500	0.186	6.81	<0.0500	0.764	12.0	42.3
BH01@23-24'	05/24/22	0.025	<0.0050	0.25	3.5	0.62	0.12	0.18	17	1,000	520	<0.00500	<0.00500	<0.00500	0.0153	<0.00500	<0.00500	0.0307	<0.00500	0.0827	<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	<0.00500	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	<0.0500	<0.0500	<0.0500 ⁽⁴⁾	0.494	<0.0500	<0.0500	0.927	<0.0500	0.228	2.24	<0.0500	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	<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
BH08@17-17.5'	10/27/22	<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
BH08@24-26.5'	10/27/22	<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
BH08@29-31'	10/27/22	<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 ²		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	03/31/22	8.15	0.153	0.180	0.0379
FS01@4'	03/31/22	7.92	0.141	0.222	0.0353
AST01@0.5'	03/31/22	6.96	0.0507	1.36	0.0468
AST02@0.5'	03/31/22	7.80	0.0733	0.207	0.0400
SEP01-DL01@3'	03/31/22	8.02	0.0750	0.187	0.0212
SEP01-DL02@4'	04/01/22	7.85	0.425	0.902	0.0543
SEP01-DL03@3'	04/01/22	7.88	0.588	0.488	0.0798
BH01@4.5'	05/24/22	7.50	0.709	1.13	0.0902
BH01@7.5-8.5'	05/24/22	8.53	0.991	0.315	0.134
BH01@15-17.5'	05/24/22	8.37	2.95	1.07	0.131
BH01@23-24'	05/24/22	8.22	2.98	1.46	0.0436
BH02@4.5'	05/24/22	7.85	0.245	0.669	0.101
BH02@7.5-8.5'	05/24/22	8.41	0.416	0.415	0.0716
BH02@22-24'	05/24/22	8.48	0.526	0.444	0.0518
BH03@4.5'	05/24/22	8.35	0.694	0.779	0.117
BH03@7.5-8.5'	05/24/22	8.26	2.72	0.992	0.310
BH03@15-17.5'	05/24/22	7.82	3.07	1.73	0.300
BH03@17.5-19'	05/24/22	7.67	5.47	2.39	0.172
BH04@4.5'	05/24/22	8.14	1.12	1.04	0.179
BH04@7.5-8.5'	05/24/22	8.53	1.46	0.800	0.202
BH04@15-17.5'	05/24/22	8.02	1.93	1.33	0.443
BH04@20-22'	05/24/22	8.65	1.95	0.328	0.0604
BH04@23-24'	05/24/22	7.38	2.09	1.92	0.0457
BH05@4.5'	05/24/22	8.28	0.370	0.522	0.0971
BH05@7.5-8.5'	05/24/22	8.54	0.907	0.412	0.230
BH05@15-17.5'	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 ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{1,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SEP01-DL02@4'	04/01/22	2.85	248	0.255	<0.30	7.48	10.2	7.19	1.08	0.128	30.8
BG01@4'	03/31/22	3.77	379	0.252	<0.30	6.54	10.6	8.26	1.06	0.0812	30.9
BH01@4.5'	05/24/22	3.13	244	<0.251	<0.30	8.85	11.7	7.67	1.00	0.0459	30.1
BH01@7.5-8.5'	05/24/22	3.06	232	0.227	<0.30	4.32	10.5	4.35	0.820	<0.0221	16.7
BH01@15-17.5'	05/24/22	4.89	150	0.364	<0.30	8.44	13.6	5.73	1.88	0.0557	25.9
BH01@23-24'	05/24/22	0.514	52.2	<0.258	<0.30	15.1	14.7	4.24	1.22	<0.0258	9.79
BH02@4.5'	05/24/22	2.13	235	0.304	<0.30	8.78	13.1	7.23	1.16	0.0461	33.1
BH02@7.5-8.5'	05/24/22	3.82	158	0.272	<0.30	5.59	12.4	5.54	0.983	<0.0233	21.6
BH02@22-24'	05/24/22	3.02	234	0.233	<0.30	5.11	9.08	4.91	0.763	<0.0221	17.6
BH03@4.5'	05/24/22	2.72	308	<0.226	<0.30	4.99	9.25	4.73	0.889	0.0247	19.0
BH03@7.5-8.5'	05/24/22	3.61	166	<0.232	<0.30	5.39	11.4	5.03	0.898	<0.0232	18.7
BH03@15-17.5'	05/24/22	8.05	195	<0.281	<0.30	9.20	11.9	7.44	1.11	0.0361	29.8
BH03@17.5-19'	05/24/22	2.70	164	<0.302	<0.30	9.90	16.5	2.27	1.55	0.0612	20.3
BH04@4.5'	05/24/22	3.01	373	0.275	<0.30	6.40	12.1	6.32	0.910	0.0322	25.0
BH04@7.5-8.5'	05/24/22	3.07	167	0.234	<0.30	4.62	10.8	4.36	0.777	<0.0226	18.6
BH04@15-17.5'	05/24/22	9.01	282	<0.262	<0.30	9.43	11.4	8.37	1.19	0.0360	30.5
BH04@20-22'	05/24/22	5.92	111	<0.270	<0.30	8.92	8.42	3.60	2.46	0.109	21.0
BH04@23-24'	05/24/22	8.04	42.4	<0.256	<0.30	10.8	18.7	3.14	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 ⁽⁵⁾	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 ⁽⁵⁾	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 ⁽⁵⁾	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 ⁽⁵⁾	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 ⁽⁵⁾	<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 ⁽⁵⁾	<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 ⁽⁵⁾	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 ⁽⁵⁾	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 ⁽⁵⁾	<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 ⁽⁶⁾		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

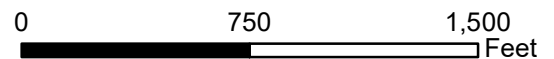
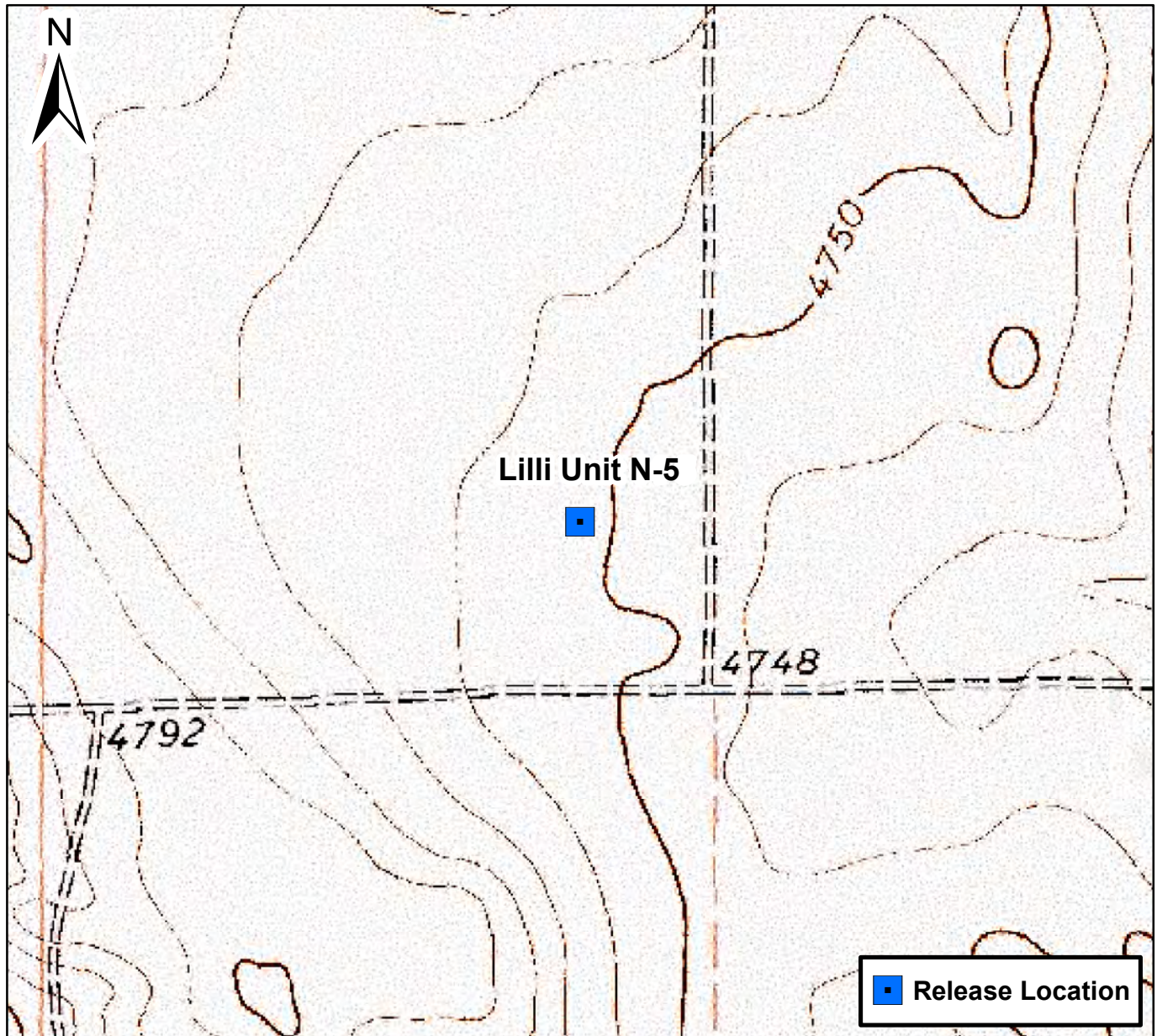
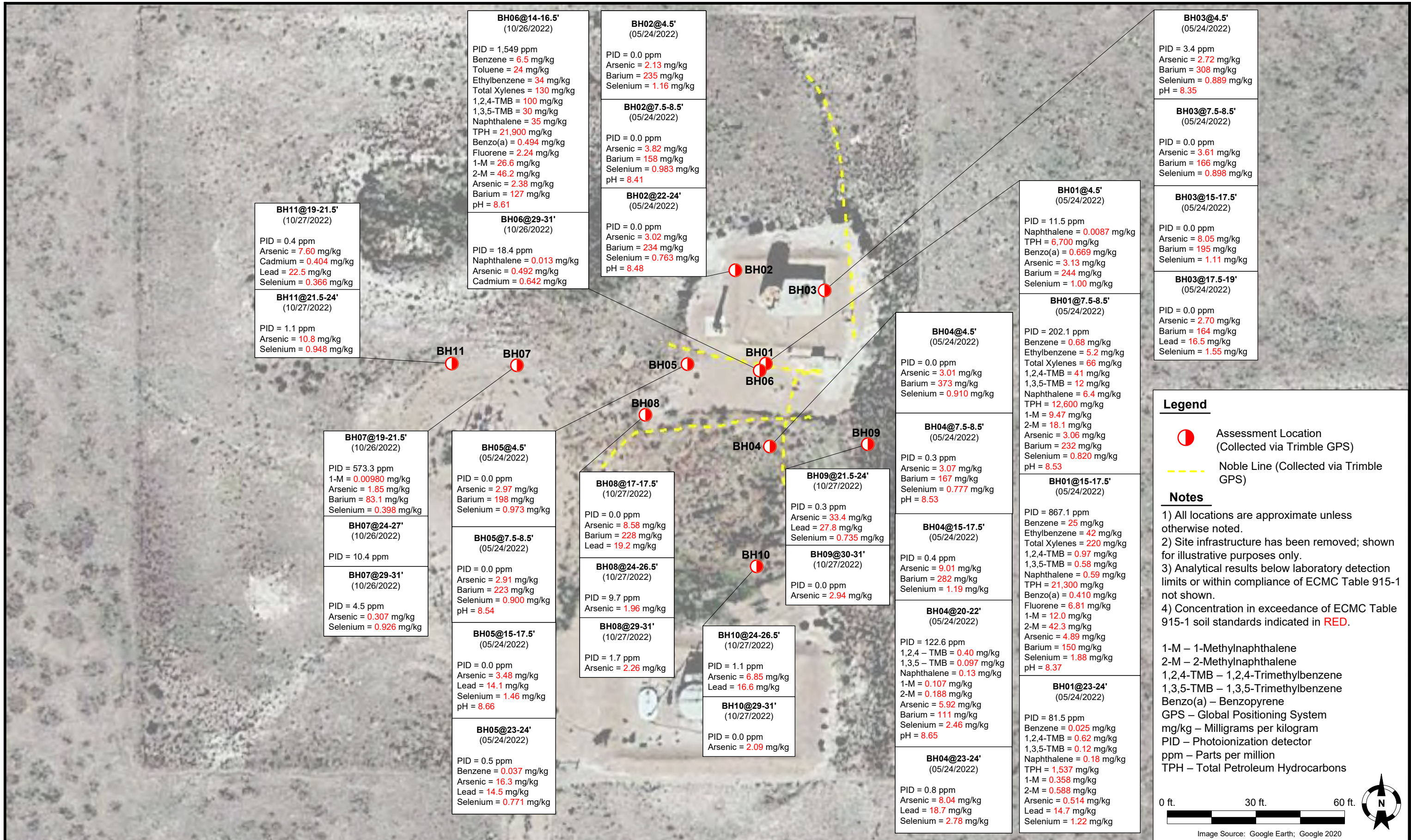


Figure 1

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







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 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

ANALYTICAL REPORT FOR SAMPLES

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

Summit Scientific

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

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S₂

2205382.1

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

Summit Scientific

2205382.2

S₂

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

Page 2 of 2

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

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

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

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

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2205382

Client: Noble FrismanClient Project ID: Lili 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)

8.1

Thermometer #

1

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

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


Custodian Printed Name

S2922

Date/Time



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.0087	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

R-01

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH01@4.5'
2205382-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

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

PAH by EPA Method 8270D SIM

R-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:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

R-01

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

R-01

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

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

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

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

Total Metals by EPA 6020B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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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

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.7	117 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0642	05/27/22	05/29/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH02@4.5'
2205382-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.2	122 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting 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
Boron	0.0716	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

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

Analyte	Result	Reporting 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

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH03@4.5'
2205382-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting 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
Boron	0.310	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

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

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

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



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH03@7.5-8.5'

2205382-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH03@17.5-19'

2205382-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting 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
Boron	0.172	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

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

Analyte	Result	Reporting 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

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.5	108 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting 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
Boron	0.179	0.0100	mg/L	1	BFF0137	06/06/22	06/07/22	EPA 6020B	

Total Metals by EPA 6020B

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH04@4.5'
2205382-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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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

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

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

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

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

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

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

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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@7.5-8.5'

2205382-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

BH05@4.5'
2205382-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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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

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

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Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.037	0.0020	mg/kg	1	BFE0642	05/27/22	05/28/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

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

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

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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@20-22'
2205382-20 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

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

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

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

Extractable Petroleum Hydrocarbons by 8015

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

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

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

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

PAH by EPA Method 8270D SIM

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

PAH by EPA Method 8270D SIM

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0695	05/31/22	06/06/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0162	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	0.0552	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.107	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.188	0.00500	"	"	"	"	"	"	

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

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

Total Metals by EPA 6020B Hot Water Soluble Extraction

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

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

Total Metals by EPA 6020B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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@20-22'
2205382-20 (Soil)

Summit Scientific

Total Metals by EPA 6020B

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

Hexavalent Chromium by EPA Method 7196

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

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

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

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

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

Calculated Analysis

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

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

Physical Parameters by APHA/ASTM/EPA Methods

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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@20-22'
2205382-20 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

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

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

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

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

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

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

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

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFE0642 - EPA 5030 Soil MS

Blank (BFE0642-BLK1)

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

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0285		"	0.0400		71.3	50-150			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0341		"	0.0400		85.4	50-150			

LCS (BFE0642-BS1)

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

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

Matrix Spike (BFE0642-MS1)

Source: 2205382-01

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFE0642 - EPA 5030 Soil MS

Matrix Spike Dup (BFE0642-MSD1)

Source: 2205382-01

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

Benzene	0.0540	0.0020	mg/kg	0.0750	ND	72.0	70-130	2.42	30	
Toluene	0.0589	0.0050	"	0.0750	ND	78.5	70-130	0.711	30	
Ethylbenzene	0.0672	0.0050	"	0.0750	ND	89.6	70-130	1.71	30	
m,p-Xylene	0.144	0.010	"	0.150	ND	96.0	70-130	1.68	30	
o-Xylene	0.0638	0.0050	"	0.0750	ND	85.1	70-130	1.49	30	
1,2,4-Trimethylbenzene	0.0662	0.0050	"	0.0750	ND	88.2	70-130	1.31	30	
1,3,5-Trimethylbenzene	0.0697	0.0050	"	0.0750	ND	92.9	70-130	0.815	30	
Naphthalene	0.0643	0.0038	"	0.0750	0.00870	74.1	70-130	1.32	30	
Surrogate: 1,2-Dichloroethane-d4	0.0301		"	0.0400		75.2	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0373		"	0.0400		93.2	50-150			

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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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFE0643 - EPA 3550A

Blank (BFE0643-BLK1)

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

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

LCS (BFE0643-BS1)

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

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

Source: 2205382-01

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

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

Source: 2205382-01

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFE0695 - EPA 5030 Soil MS

Blank (BFE0695-BLK1)

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

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0331		"	0.0333		99.3	40-150			
Surrogate: Fluoranthene-d10	0.0311		"	0.0333		93.3	40-150			

LCS (BFE0695-BS1)

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFE0695 - EPA 5030 Soil MS

Matrix Spike (BFE0695-MS1)

Source: 2205382-06

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

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

Matrix Spike Dup (BFE0695-MSD1)

Source: 2205382-06

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

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

Batch BFF0137 - EPA 3050B

Blank (BFF0137-BLK1)

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

Boron ND 0.0100 mg/L

LCS (BFF0137-BS1)

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

Boron 5.30 0.0100 mg/L 5.00 106 80-120

Duplicate (BFF0137-DUP1)

Source: 2205382-01

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

Boron 0.0937 0.0100 mg/L 0.0902 3.84 20

Matrix Spike (BFF0137-MS1)

Source: 2205382-01

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

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

Matrix Spike Dup (BFF0137-MSD1)

Source: 2205382-01

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

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

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

Batch BFF0247 - EPA 3050B

Blank (BFF0247-BLK1)

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

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

LCS (BFF0247-BS1)

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

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

Duplicate (BFF0247-DUP1)

Source: 2205382-01

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFF0247 - EPA 3050B

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

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

Summit Scientific

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

Batch BFF0251 - 3060A Mod

Blank (BFF0251-BLK1)

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFF0251-BS1)

Prepared & Analyzed: 06/09/22

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

Duplicate (BFF0251-DUP1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFF0251-MS1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

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

Matrix Spike Dup (BFF0251-MSD1)

Source: 2205382-01

Prepared & Analyzed: 06/09/22

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

Summit Scientific

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

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

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

Batch BFF0122 - General Preparation

Blank (BFF0122-BLK1)

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

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

LCS (BFF0122-BS1)

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

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

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

Batch BFE0745 - General Preparation

Duplicate (BFE0745-DUP1)

Source: 2205382-01

Prepared & Analyzed: 05/31/22

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

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

Batch BFF0126 - General Preparation

Blank (BFF0126-BLK1)

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

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFF0126-BS1)

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

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

Duplicate (BFF0126-DUP1)

Source: 2205382-01

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

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

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
06/13/22 12:46

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

Summit Scientific

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

Batch BFF0125 - General Preparation

LCS (BFF0125-BS1)

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

pH	9.07	pH Units	9.18	98.8	95-105
----	------	----------	------	------	--------

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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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,

A handwritten signature in black ink, appearing to read "Mikayla Axtell". The signature is written in a cursive, flowing style.

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

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

S₂

2210521

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 1

Client: Noble / Tasman

Project Manager: Jake Whitenour

Address: 6855 W 119th Ave

E-Mail: jwhitenour@tasman-geo.com

City/State/Zip: Broomfield CO 80020


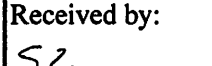
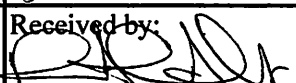


Phone: 303-827-1511

Project Name: Lilli Unit 14-5

Sampler Name: Sarah Wethrochi

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: 	Date/Time: 10/26/12 1741	Received by: 	Date/Time: 10/26/12 1741	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Samples Intact: <input checked="" type="checkbox"/> Yes No	Notes:
Relinquished by: S2	Date/Time: 10/27/12 1600	Received by: 	Date/Time: 10/27/12 1600		
Temperature Upon Receipt: 9.1	Corrected Temperature: 	HNO3 lot #			
IR gun correction: 		IR gun #: 1			

S₂

Sample Receipt Checklist

S2 Work Order# 2210521Client: NodeltasmanClient Project ID: Lilli unit 14-5Shipped 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)

9.1

Thermometer #

1

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

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

Custodian Printed Name

Date/Time

10/27/22 1600



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	"	"	"	"	"	"	
Benzo (a) pyrene	0.494	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Chrysene	0.927	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	0.228	0.0500	"	"	"	"	"	"	
Fluorene	2.24	0.500	"	100	"	"	11/02/22	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	10	"	"	11/01/22	"	
Pyrene	0.533	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	26.6	2.50	"	500	"	"	11/02/22	"	
2-Methylnaphthalene	46.2	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
Boron	0.183	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

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	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.0051	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.013	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.8	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
Boron	0.0634	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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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

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	

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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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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
Boron	0.0593	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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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

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)

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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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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

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.3 %	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@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
Boron	0.156	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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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

Total Metals by EPA 6020B

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

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@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	

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@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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		78.8 %	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:
11/14/22 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	"	"	"	"	"	"	
1-Methylnaphthalene	0.00980	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0115	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
Boron	0.338	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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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

Total Metals by EPA 6020B

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.
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

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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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

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		65.4 %	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:
11/14/22 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
Boron	0.0554	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

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	

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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

Summit Scientific

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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

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
Boron	0.0521	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

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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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0400		92.6	50-150			
Surrogate: Toluene-d8	0.0450		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400		106	50-150			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0446		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0446		"	0.0400		111	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:
11/14/22 12:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

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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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		98.9	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.4	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		95.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	50-150			

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	
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	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:
11/14/22 12:07

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 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: o-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: o-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: o-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: o-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: o-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: o-Terphenyl	11.2		"	12.5		89.4	30-150			

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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

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFK0221 - EPA 3550A

Matrix Spike (BFK0221-MS1)		Source: 2211126-01			Prepared: 11/08/22 Analyzed: 11/09/22					
C10-C28 (DRO)	525	50	mg/kg	500	23.1	100	70-130			
Surrogate: o-Terphenyl	11.4		"	12.5		91.4	30-150			
Matrix Spike Dup (BFK0221-MSD1)		Source: 2211126-01			Prepared: 11/08/22 Analyzed: 11/09/22					
C10-C28 (DRO)	528	50	mg/kg	500	23.1	101	70-130	0.537	20	
Surrogate: o-Terphenyl	11.7		"	12.5		93.5	30-150			

Summit Scientific

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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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0365		"	0.0333		110	40-150			
Surrogate: Fluoranthene-d10	0.0263		"	0.0333		78.9	40-150			

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
Surrogate: 2-Methylnaphthalene-d10	0.0389		"	0.0333	117	40-150
Surrogate: Fluoranthene-d10	0.0403		"	0.0333	121	40-150

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/14/22 12:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFK0002 - EPA 5030 Soil MS

Matrix Spike (BFK0002-MS1)

Source: 2210521-02

Prepared & Analyzed: 11/01/22

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				
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.1	40-150				
Surrogate: Fluoranthene-d10	0.0172		"	0.0333		51.6	40-150				

Matrix Spike Dup (BFK0002-MSD1)

Source: 2210521-02

Prepared & Analyzed: 11/01/22

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		
Surrogate: 2-Methylnaphthalene-d10	0.0198		"	0.0333		59.4	40-150				
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.2	40-150				

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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:
11/14/22 12:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0435		"	0.0333		130	40-150			
Surrogate: Fluoranthene-d10	0.0296		"	0.0333		88.9	40-150			


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			
Surrogate: 2-Methylnaphthalene-d10	0.0364		"	0.0333		109	40-150			
Surrogate: Fluoranthene-d10	0.0348		"	0.0333		104	40-150			

Summit Scientific

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/14/22 12:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFK0201 - EPA 5030 Soil MS

Matrix Spike (BFK0201-MS1)

Source: 2210521-03

Prepared & Analyzed: 11/08/22

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				
Surrogate: 2-Methylnaphthalene-d10	0.0195		"	0.0333		58.5	40-150				
Surrogate: Fluoranthene-d10	0.0176		"	0.0333		52.8	40-150				

Matrix Spike Dup (BFK0201-MSD1)

Source: 2210521-03

Prepared & Analyzed: 11/08/22

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		
Surrogate: 2-Methylnaphthalene-d10	0.0210		"	0.0333		62.9	40-150				
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.1	40-150				

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

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/14/22 12:07

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

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

Batch BFJ0795 - EPA 3050B

Blank (BFJ0795-BLK1)

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

Boron ND 0.0100 mg/L

LCS (BFJ0795-BS1)

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

Boron 5.51 0.0100 mg/L 5.00 110 80-120

Duplicate (BFJ0795-DUP1)

Source: 2210448-08

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

Boron 0.406 0.0100 mg/L 0.414 1.92 20

Matrix Spike (BFJ0795-MS1)

Source: 2210448-08

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

Boron 5.73 0.0100 mg/L 5.00 0.414 106 75-125

Matrix Spike Dup (BFJ0795-MSD1)

Source: 2210448-08

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

Blank (BFK0206-BLK1)

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

Boron ND 0.0100 mg/L

LCS (BFK0206-BS1)

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

Boron 5.19 0.0100 mg/L 5.00 104 80-120

Duplicate (BFK0206-DUP1)

Source: 2210521-03

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

Boron 0.0524 0.0100 mg/L 0.0593 12.3 20

Matrix Spike (BFK0206-MS1)

Source: 2210521-03

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

Boron 5.91 0.0100 mg/L 5.00 0.0593 117 75-125

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

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

Summit Scientific

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

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

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		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFJ0790 - EPA 3050B

Matrix Spike (BFJ0790-MS1)			Source: 2210521-01		Prepared & Analyzed: 10/28/22						
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

Matrix Spike Dup (BFJ0790-MSD1)			Source: 2210521-01		Prepared & Analyzed: 10/28/22						
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

Blank (BFK0223-BLK1)			Prepared: 11/08/22 Analyzed: 11/09/22								
Arsenic	ND	0.200	mg/kg wet								
Barium	ND	0.400	"								
Cadmium	ND	0.200	"								
Copper	ND	0.400	"								
Lead	ND	0.200	"								
Nickel	ND	0.400	"								
Selenium	ND	0.260	"								
Silver	ND	0.0200	"								
Zinc	ND	0.400	"								

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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

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

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFJ0799 - 3060A Mod

Blank (BFJ0799-BLK1)

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFJ0799-BS1)

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent 26.8 0.30 mg/kg wet 25.0 107 80-120

Duplicate (BFJ0799-DUP1)

Source: 2210446-01

Prepared: 10/28/22 Analyzed: 11/02/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFJ0799-MS1)

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

Matrix Spike Dup (BFJ0799-MSD1)

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

Blank (BFK0183-BLK1)

Prepared & Analyzed: 11/07/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFK0183-BS1)

Prepared & Analyzed: 11/07/22

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.4 80-120

Duplicate (BFK0183-DUP1)

Source: 2210521-03

Prepared & Analyzed: 11/07/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFK0183-MS1)

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

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

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		

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

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

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

Batch 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

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:
11/14/22 12:07

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

Summit Scientific

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

Batch BFJ0796 - General Preparation

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

Batch BFK0212 - General Preparation

Duplicate (BFK0212-DUP1)		Source: 2210521-03			Prepared & Analyzed: 11/08/22						
% Solids	83.8		%		83.8			0.0386		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

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

Summit Scientific

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

Batch 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

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

Batch BFJ0829 - General Preparation

LCS (BFJ0829-BS1)

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

pH	9.17		pH Units	9.18		99.9	95-105		
----	------	--	----------	------	--	------	--------	--	--

Duplicate (BFJ0829-DUP1)

Source: 2210285-03

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

pH	7.88		pH Units		7.86			0.254	20
----	------	--	----------	--	------	--	--	-------	----

Batch BFK0274 - General Preparation

LCS (BFK0274-BS1)

Prepared & Analyzed: 11/10/22

pH	9.00		pH Units	9.18		98.0	95-105		
----	------	--	----------	------	--	------	--------	--	--

Duplicate (BFK0274-DUP1)

Source: 2210521-03

Prepared & Analyzed: 11/10/22

pH	8.33		pH Units		8.23			1.21	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

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,

A handwritten signature in black ink, appearing to read "Mikayla Axtell", is written over a light gray rectangular background.

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

S₂

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@tasmangeo.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	boreon	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>S2</u>	Date/Time: <u>10/27/12</u>	Received by: <u>S2</u>	Date/Time: <u>10/27/12</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>S2</u>	Date/Time: <u>10/28/12</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/28/12</u>	Same Day <input type="checkbox"/>	
Temperature Upon Receipt: <u>6.7</u>	Corrected Temperature: <u>6</u>	HNO3 lot #	Sample Integrity:	24 hours <input type="checkbox"/>	
IR gun correction: <u>0</u>	IR gun #: <u>1</u>			48 hours <input type="checkbox"/>	Standard <input checked="" type="checkbox"/>
				Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2210555Client: Noble / Tasman Client Project ID: L11: Mit 145

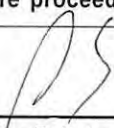
Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

<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) 6.7 Thermometer # 1

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

Additional Comments (if any):

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

 Custodian Printed Name

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
Boron	0.0791	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

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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% 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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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	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 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 09:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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

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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

Total Metals by EPA 6020B

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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% 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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.82			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

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	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 09:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 09:55**

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

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
Boron	0.0871	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

Arsenic	2.26	0.259	mg/kg dry	1	BFJ0864	10/31/22	11/02/22	EPA 6020B
Barium	9.97	0.518	"	"	"	"	"	"
Cadmium	ND	0.259	"	"	"	"	"	"
Copper	5.42	0.518	"	"	"	"	"	"
Lead	12.2	0.259	"	"	"	"	"	"
Nickel	1.63	0.518	"	"	"	"	"	"
Selenium	ND	0.337	"	"	"	"	"	"
Silver	ND	0.0259	"	"	"	"	"	"
Zinc	4.12	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
Calcium	76.2	0.0648	mg/L dry	1	BFJ0849	10/31/22	11/02/22	EPA 6020B	
Magnesium	39.1	0.0648	"	"	"	"	"	"	
Sodium	6.44	0.0648	"	"	"	"	"	"	

Calculated Analysis

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.150	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@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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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

Volatile Organic Compounds by EPA Method 8260B

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

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 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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
Boron	0.103	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

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)	0.826	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	8.02		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	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 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		73.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: 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
Boron	0.0306	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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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

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	

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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

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

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

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
Boron	0.0293	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

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

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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	

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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)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/27/22 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 13:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		67.3 %	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:
11/07/22 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
Boron	0.0662	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

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.
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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	

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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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 15:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		68.7 %	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:
11/07/22 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
Boron	0.0235	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

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	

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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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 15:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		76.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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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)

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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
Boron	0.0151	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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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)

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Total Metals by EPA 6020B

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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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)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	74.1	%	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
Specific Conductance (EC)	1.77	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
pH	6.88		pH Units	1	BFK0010	11/01/22	11/01/22	EPA 9045D	

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0441		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	50-150			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0384		"	0.0400		96.1	50-150			
Surrogate: Toluene-d8	0.0350		"	0.0400		87.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0	50-150			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0456		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0503		"	0.0400		126	50-150			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	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:
11/07/22 16:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0014 - EPA 5030 Soil MS

Matrix Spike Dup (BFK0014-MSD1)

Source: 2210529-01

Prepared: 11/01/22 Analyzed: 11/03/22

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	
Surrogate: 1,2-Dichloroethane-d4	0.0520		"	0.0400		130	50-150			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	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:
11/07/22 16:27

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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: o-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: o-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: o-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: o-Terphenyl	6.81		"	12.5		54.5	30-150			

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0365		"	0.0333		110	40-150			
Surrogate: Fluoranthene-d10	0.0263		"	0.0333		78.9	40-150			

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			
Surrogate: 2-Methylnaphthalene-d10	0.0389		"	0.0333		117	40-150			
Surrogate: Fluoranthene-d10	0.0403		"	0.0333		121	40-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/07/22 16:27

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0002 - EPA 5030 Soil MS

Matrix Spike (BFK0002-MS1)

Source: 2210521-02

Prepared & Analyzed: 11/01/22

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				
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.1	40-150				
Surrogate: Fluoranthene-d10	0.0172		"	0.0333		51.6	40-150				

Matrix Spike Dup (BFK0002-MSD1)

Source: 2210521-02

Prepared & Analyzed: 11/01/22

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		
Surrogate: 2-Methylnaphthalene-d10	0.0198		"	0.0333		59.4	40-150				
Surrogate: Fluoranthene-d10	0.0177		"	0.0333		53.2	40-150				

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 14-5

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/07/22 16:27

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	

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

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source Result	%REC		RPD		Notes
		Limit	Units			%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

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 01, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

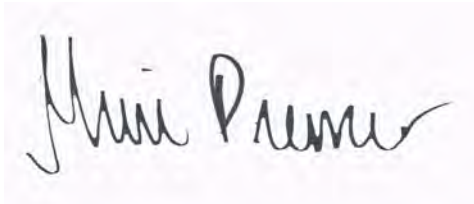
Broomfield, CO 80020

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, reading "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier 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

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2205034.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403
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:	UWBWFE-A2632-ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	SAR, EC, PH	Boron - HWS	HOLD				Special Instructions
1	SS01@2.5'	5/3/22	14:25	2			X			X			X	X	X	X	X					SAR,EC,PH By saturated paste
2	SS02@2.5'		14:30				X			X			X	X	X	X	X	X				HOLD
3	SS03@2.5'		14:35															X				HOLD
4	SS04@2.5'		14:40															X				HOLD
5	F301@3.5'		14:45																			
6	AST01@0.5'		14:10																			
7	AST02@0.5'		14:15																			
8	AST03@0.5'		14:20																			
9	SEP01-FLG3'		14:55																			
10	SEP01-DLG3'		14:50																			
Relinquished by:		Date/Time:		Received by:		Date/Time:						Turn Around Time		(Check)								Notes:
[Signature]		5/3/22 17:36		Tasman's Lock Box		5/3/22 17:36						Same Day —		72 hours								
Relinquished by: Tasman's Lock Box		Date/Time: 5/3/22 17:36		Received by: [Signature]		Date/Time: 5/3/22 17:36						24 hours —		Standard X								
Relinquished by:		Date/Time:		Received by:		Date/Time:						48 hours —				Sample Integrity:						
																Temperature Upon Receipt: 7.0						
																Samples Intact: Yes No						

Summit Scientific

S₂

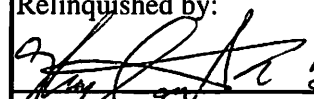

2205034.2

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

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	SAR, EC, PH	Boron - HWS	HOLD			
1	BG016 2.5'	5/3/22	14:58	1			X			X			X	X	X	X	X	X			HOLD
2	BG016 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) Same Day — 72 hours 24 hours — Standard <input checked="" type="checkbox"/> 48 hours — Sample Integrity: Temperature Upon Receipt: <u>7.0</u> Samples Intact: <input checked="" type="radio"/> Yes No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 5/3/22 1736	Received by: 	Date/Time: 5/3/22 1736		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2205034

Client: Nodeltman 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) 7.0 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

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 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 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		106 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 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
Boron	0.146	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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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

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

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	

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

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

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

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
Calcium	606	0.0637	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
Magnesium	136	0.0637	"	"	"	"	"	"	
Sodium	231	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

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

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
Calcium	841	0.0723	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
Magnesium	167	0.0723	"	"	"	"	"	"	
Sodium	170	0.0723	"	"	"	"	"	"	

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

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

Summit Scientific

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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
Calcium	1000	0.0636	mg/L dry	1	BFE0497	05/23/22	05/27/22	EPA 6020B	
Magnesium	180	0.0636	"	"	"	"	"	"	
Sodium	327	0.0636	"	"	"	"	"	"	

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

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	"	"	"	"	"	"	
Xylenes (total)	0.023	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.027	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.0078	0.0050	"	"	"	"	"	"	
Naphthalene	0.0070	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.62	0.50	"	"	"	"	"	"	

Date Sampled: **05/03/22 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		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
<i>Surrogate: o-Terphenyl</i>		104 %	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

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
Boron	0.0837	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

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

% Solids	74.3	%	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
Specific Conductance (EC)	1.22	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
pH	7.91		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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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
Boron	0.0915	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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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

AST01@0.5'
2205034-06 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

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	

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

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

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

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
Boron	0.0659	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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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

AST02@0.5'
2205034-07 (Soil)

Summit Scientific

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

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	

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

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

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

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
Boron	0.0945	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

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	

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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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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

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
Boron	0.226	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

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	

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-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
C10-C28 (DRO)	51	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

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-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
Boron	0.0765	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

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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 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 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	5.02	0.00100	units	1	BFE0647	05/27/22	05/27/22	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 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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.5			%	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

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0377		"	0.0400		94.2	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.2	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0353		"	0.0400		88.3	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0379		"	0.0400		94.6	50-150			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	50-150			
Surrogate: 4-Bromofluorobenzene	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	
	Result	Limit	Units	Level		Result		%REC	Limits	RPD	Notes

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 Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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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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 Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0289		"	0.0333		86.7	40-150			
Surrogate: Fluoranthene-d10	0.0245		"	0.0333		73.6	40-150			

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				
Surrogate: 2-Methylnaphthalene-d10	0.0323		"	0.0333	96.8	40-150				
Surrogate: Fluoranthene-d10	0.0302		"	0.0333	90.6	40-150				

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFE0060 - EPA 5030 Soil MS

Matrix Spike (BFE0060-MS1)

Source: 2205032-01

Prepared: 05/04/22 Analyzed: 05/05/22

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				
Surrogate: 2-Methylnaphthalene-d10	0.0208		"	0.0333		62.5	40-150				
Surrogate: Fluoranthene-d10	0.0187		"	0.0333		56.1	40-150				

Matrix Spike Dup (BFE0060-MSD1)

Source: 2205032-01

Prepared: 05/04/22 Analyzed: 05/05/22

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		
Surrogate: 2-Methylnaphthalene-d10	0.0204		"	0.0333		61.3	40-150				
Surrogate: Fluoranthene-d10	0.0192		"	0.0333		57.6	40-150				

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0289		"	0.0333		86.6	40-150			
Surrogate: Fluoranthene-d10	0.0300		"	0.0333		89.9	40-150			

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
Surrogate: 2-Methylnaphthalene-d10	0.0316		"	0.0333	94.8	40-150
Surrogate: Fluoranthene-d10	0.0332		"	0.0333	99.6	40-150

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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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFE0344 - EPA 5030 Soil MS

Matrix Spike (BFE0344-MS1)

Source: 2205034-02

Prepared: 05/17/22 Analyzed: 05/18/22

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				
Surrogate: 2-Methylnaphthalene-d10	0.0207		"	0.0333		62.0	40-150				
Surrogate: Fluoranthene-d10	0.0189		"	0.0333		56.6	40-150				

Matrix Spike Dup (BFE0344-MSD1)

Source: 2205034-02

Prepared: 05/17/22 Analyzed: 05/18/22

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		
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.5	40-150				
Surrogate: Fluoranthene-d10	0.0216		"	0.0333		64.9	40-150				

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 Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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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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 Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

Batch BFE0067 - General Preparation

Duplicate (BFE0067-DUP1)

Source: 2205022-01

Prepared & Analyzed: 05/04/22

% Solids	86.7	%		84.3		2.78	20
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Batch BFE0607 - General Preparation

Duplicate (BFE0607-DUP1)

Source: 2205034-02

Prepared: 05/26/22 Analyzed: 05/27/22

% Solids	78.8	%		78.5		0.369	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 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	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

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: 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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 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,

A handwritten signature in black ink, appearing to read "Mikayla Axtell". The signature is written in a cursive, flowing style.

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

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

S₂

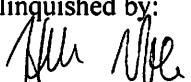
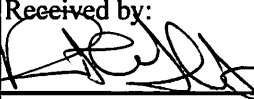
2208149.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 2

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:

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Arsenic, Barium, Selenium	SAR	pH, EC, SAR by saturated paste	
1	BG02@3.5'	8/10/22	1300	1			X			X										X	X	
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	✓			✓			✓									✓	✓		

Relinquished by: 	Date/Time: 8/10/22 17:05	Received by: Tasman's Lock Box	Date/Time: 8/10/22 17:05	Turn Around Time (Check) 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"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/10/22 1722	Received by: 	Date/Time: 8/10/22 1722	Sample Integrity: Temperature Upon Receipt: 10.1	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Summit Scientific

S₂

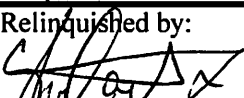
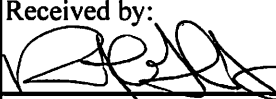
2208149.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 2 of 2

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: Lilli Unit 0-5
Sampler Name: Stanley Gilbert Project Number:

					Preservative				Matrix				Analysis Requested							Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	SAR	pH, EC, SAR by saturated paste	
1	BH0105'	8/10/22	1350	1			X			X									X		
2	BH0203'		1355	1																	
3	BH0205'		1400	1																	
4	BH0303'		1405	1																	
5	BH0305'		1410	1																	
6	BH0403'		1415	1																	
7	BH0405'		1420	1																	
8	BH0503'		1425	1																	
9	BH0505'		1430	1																	
10																					

Relinquished by: 	Date/Time: 8/10/22 17:05	Received by: Tasman's Lock Box	Date/Time: 8/10/22 17:05	Turn Around Time (Check) 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"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/10/22 1722	Received by: 	Date/Time: 8/10/22 1722	Sample Integrity: Temperature Upon Receipt: 10.1	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂2/2
Sample Receipt Checklist

S2 Work Order # 2208149

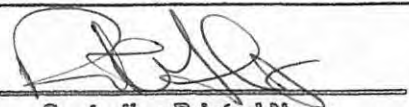
Client: Noble/Tasman Client Project ID: Milli unit 0-5Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #:

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 10.1Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name
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	2.49	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	183	0.400	"	"	"	"	"	"	
Selenium	0.710	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	9.31	0.0563	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	3.60	0.0563	"	"	"	"	"	"	
Sodium	57.2	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	4.03	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	88.8		%	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	3.84	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	269	0.400	"	"	"	"	"	"	
Selenium	0.844	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	11.3	0.0573	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	5.93	0.0573	"	"	"	"	"	"	
Sodium	167	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	10.0	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	87.3		%	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

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

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

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						
Arsenic	3.38	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	218	0.400	"	"	"	"	"	"	
Selenium	0.808	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						
Calcium	14.7	0.0583	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	7.16	0.0583	"	"	"	"	"	"	
Sodium	161	0.0583	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	8.61	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						
% Solids	85.8		%	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

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	2.95	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	312	0.400	"	"	"	"	"	"	
Selenium	0.708	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	11.5	0.0567	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	4.68	0.0567	"	"	"	"	"	"	
Sodium	89.1	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	5.60	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	88.2		%	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

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	

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

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

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

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	3.08	0.200	mg/kg dry	1	BFH0264	08/12/22	08/13/22	EPA 6020B	
Barium	247	0.400	"	"	"	"	"	"	
Selenium	0.691	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	9.04	0.0572	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	3.86	0.0572	"	"	"	"	"	"	
Sodium	78.7	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	5.52	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/10/22 13:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.4		%	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

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

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

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

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

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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	196	0.0623		mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	16.1	0.0623		"	"	"	"	"	"	
Sodium	32.7	0.0623		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	0.604	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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.3			%	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

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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	11.6	0.0619		mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	4.49	0.0619		"	"	"	"	"	"	
Sodium	40.2	0.0619		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	2.54	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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.8			%	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

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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@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						
Calcium	365	0.0602	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	173	0.0602	"	"	"	"	"	"	
Sodium	242	0.0602	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 14:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	2.61	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						
% Solids	83.1		%	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@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						
Calcium	318	0.0600	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	148	0.0600	"	"	"	"	"	"	
Sodium	761	0.0600	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	8.84	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						
% Solids	83.4		%	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

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						
Calcium	59.9	0.0631	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	26.1	0.0631	"	"	"	"	"	"	
Sodium	204	0.0631	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	5.54	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						
% Solids	79.3		%	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

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

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

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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	80.4			%	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

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						
Calcium	351	0.0627	mg/L dry	1	BFH0235	08/11/22	08/13/22	EPA 6020B	
Magnesium	19.1	0.0627	"	"	"	"	"	"	
Sodium	116	0.0627	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/10/22 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	1.63	0.00100	units	1	BFH0315	08/16/22	08/16/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/10/22 14:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	79.8		%	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

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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
Selenium	5.28	0.260	"	4.70	1.35	83.8	75-125

QM-05

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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0289 - General Preparation

Duplicate (BFH0289-DUP1)

Source: 2207429-02

Prepared & Analyzed: 08/15/22

% Solids	83.1	%		83.4		0.396	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5 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.

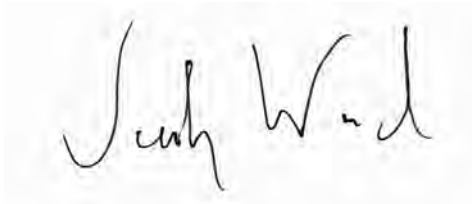
Broomfield, CO 80020

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, appearing to read "Jacob Wood", is displayed on a light gray rectangular background.

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.

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: <u>Chevron</u>	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location:	
Phone:		Project Name: <u>Lilli O-S</u>		AFE#:	
Sampler Name: <u>Shannon WCLUS</u>		Project Number:		PO/Billing Codes:	
				Contact: <u>Dan Peterson</u> <u>Keith McLean</u>	

				Preservative				Matrix				Analysis Requested				Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 & 1,3,5-TMBs	TDS, Cl, SO4	
1	SS35 @ 6'	2/20/12	1156	2			X			X						X METALS-915
2	SS36 @ 15'		1152				X			X						X VOC-915
3	SS37 @ 10'		1154				X			X						X PAH-915
4	SS38 @ 15'		1156				X			X						X SAR, EC, PH
5	SS39 @ 15'		1158				X			X						X BORON-HMS
6	SS40 @ 15'		1200				X			X						
7	SS41 @ 6'		1202				X			X						
8	SS42 @ 15'		1204				X			X						
9	RG107 @ 6'		1249				X			X						
10	RG107 @ 15'		1253				X			X						
11	RG107 @ 18'		1259				X			X						
12																
13																
14																
15																

Relinquished by: <u>Shannon WCLUS</u>	Date/Time: <u>2/20/12 1630</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>2/20/12 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>2/20/12 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>2/20/12 1730</u>	1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days <input type="checkbox"/>	Field Temp.	
				Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>7.6</u>		Corrected Temperature <u>8</u>		IR gun #:	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2402449Client: Nidek TasmannClient Project ID: L11 05Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #: _____

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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

7.6

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on 7/25
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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.
AS
Custodian Printed Name

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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5
Project Number: 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

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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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

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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0359	89.7 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0410	103 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/24 11:52**

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 11:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	5.32	42.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5
Project Number: 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	
Anthracene	0.0100	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	0.0480	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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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

Total Metals by EPA 6020B

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	

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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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/24 11:54**

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 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	6.28	50.3 %	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 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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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

Total Metals by EPA 6020B

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

% Solids	65.9	%	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
Specific Conductance (EC)	1.84	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
pH	8.12		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

SS38@15'
2402449-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/24 11:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0338	84.5 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>	0.0373	93.3 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0375	93.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/24 11:56**

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 11:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<i>Surrogate: o-Terphenyl</i>	8.06	64.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
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Project: 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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5
Project Number: 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

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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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

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	

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

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

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

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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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

Total Metals by EPA 6020B

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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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

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	

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/24 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	0.047	0.0020	mg/kg	1	BHB0817	02/26/24	02/26/24	EPA 8260B	
Toluene	0.054	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.020	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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5
Project Number: 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

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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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

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 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.80	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 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	4.69		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

SS41@6'
2402449-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/24 12:02**

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 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 12:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.94	79.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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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

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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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

SS41@6'
2402449-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	71.0	%	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
Specific Conductance (EC)	4.51	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
pH	7.27		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

SS42@15'
2402449-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/24 12:04**

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 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.46	75.6 %	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

SS42@15'
2402449-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/26/24 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit 0-5
Project Number: 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

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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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

SS42@15'
2402449-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	73.0	%	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
Specific Conductance (EC)	2.56	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
pH	4.61		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@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						
Arsenic	5.34	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
Barium	122	0.400	"	"	"	"	"	"	
Lead	18.2	0.200	"	"	"	"	"	"	
Selenium	ND	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						
Calcium	98.3	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	4.02	0.0500	"	"	"	"	"	"	
Sodium	2.66	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/26/24 12:49**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.0715	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						
% Solids	75.2		%	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						
Specific Conductance (EC)	0.131	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@6'
2402449-09 (Soil)

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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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.24			pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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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@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)

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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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.71			pH Units	1	BHB0823	02/26/24	02/28/24	EPA 9045D	

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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

Total Metals by EPA 6020B

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.07	0.200	mg/kg dry	1	BHB0829	02/27/24	02/28/24	EPA 6020B	
Barium	17.3	0.400	"	"	"	"	"	"	
Lead	18.5	0.200	"	"	"	"	"	"	
Selenium	ND	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						
Calcium	8.97	0.0500	mg/L dry	1	BHB0822	02/26/24	03/01/24	EPA 6020B	
Magnesium	2.51	0.0500	"	"	"	"	"	"	
Sodium	48.4	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	3.68	0.00100	units	1	BHC0150	03/06/24	03/06/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/26/24 12:59**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	78.8		%	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						
Specific Conductance (EC)	0.279	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
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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		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.73			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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.6	50-150			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0352		"	0.0400		88.0	50-150			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.7	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0368		"	0.0400		91.9	50-150			
Surrogate: Toluene-d8	0.0381		"	0.0400		95.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.7	50-150			

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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

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BHB0817 - EPA 5030 Soil MS

Matrix Spike Dup (BHB0817-MSD1)	Source: 2402447-02			Prepared: 02/26/24 Analyzed: 02/27/24						
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	
Surrogate: 1,2-Dichloroethane-d4	0.0364		"	0.0400		90.9	50-150			
Surrogate: Toluene-d8	0.0367		"	0.0400		91.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0368		"	0.0400		92.1	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

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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: o-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: o-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: o-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: o-Terphenyl	7.06		"	12.5		56.5	30-150			

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0358		"	0.0333		108	40-150			
Surrogate: Fluoranthene-d10	0.0297		"	0.0333		89.2	40-150			

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			
Surrogate: 2-Methylnaphthalene-d10	0.0330		"	0.0333		99.0	40-150			
Surrogate: Fluoranthene-d10	0.0307		"	0.0333		92.0	40-150			

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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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BHB0832 - EPA 5030 Soil MS

Matrix Spike (BHB0832-MS1)			Source: 2402447-01		Prepared & Analyzed: 02/27/24					
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
Surrogate: 2-Methylnaphthalene-d10	0.0282		"	0.0333		84.7	40-150			
Surrogate: Fluoranthene-d10	0.0237		"	0.0333		71.2	40-150			

Matrix Spike Dup (BHB0832-MSD1)			Source: 2402447-01		Prepared & Analyzed: 02/27/24					
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
Surrogate: 2-Methylnaphthalene-d10	0.0199		"	0.0333		59.8	40-150			
Surrogate: Fluoranthene-d10	0.0189		"	0.0333		56.8	40-150			

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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

Reporting				Spike	Source	%REC		RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	

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

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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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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

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

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 15, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

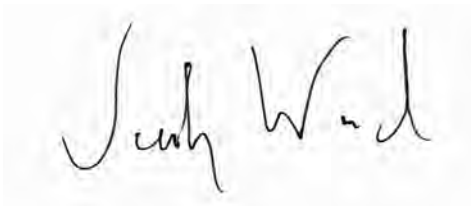
Broomfield, CO 80020

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, appearing to read "Jacob Wood", is displayed within a light gray rectangular box.

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

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.

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: <u>Cherron</u>	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location:	
Phone:		Project Name: <u>Lilli O-5</u>		AFE#:	
Sampler Name: <u>Shannon Woods</u>		Project Number:		PO/Billing Codes:	
				Contact: <u>Dan Peterson</u> <u>ew hett mclan</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	BTEXN	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil				1,2,4 & 1,3,5-TMBs	TDS, Cl, SO4	metals - 915	PAH - 915	PH - 915	5-AR ECPH	
1	BE108 @ 6'	2/28/24	1044				X			X									X	X
2	BE108 @ 15'		1046																X	X
3	BE108 @ 18'		1048																	
4	BE109 @ 6'		1050																	
5	BE109 @ 15'		1052																	
6	BE109 @ 18'		1054																	
7	TP08 @ 6'		1056													X	X	X	X	
8	TP08 @ 15'		1058													X	X	X	X	
9	TP08 @ 18'		1100													X	X	X	X	
10	BE11 @ 6'		1102															X	X	
11	BE11 @ 15'		1104															X	X	
12	BE11 @ 18'		1106															X	X	
13																				
14																				
15																				


Relinquished by: <u>Shannon Woods</u>	Date/Time: <u>2/28/24 10:34</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>2/28/24 16:34</u>	TAT Business Days	Field DO	Notes: *arsenic, barium, cadmium, lead, selenium
Relinquished by: <u>Paul Tuf</u>	Date/Time: <u>2/28/24</u>	Received by: <u>Cherron</u>	Date/Time: <u>2/28/24 16:35</u>	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: <u>9.5</u>	Corrected Temperature	IR gun #: <u>2</u>	HNO3 lot #:	Standard	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 24 02497Client: Noble/Tasman Client Project ID: Lilli 0-5Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ ☐ ☐ ☐ ☐ Airbill #: _____Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 9.5 Thermometer # 2

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	in cooler
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any): <u>Missing # of containers - 2 each</u>				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				


 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

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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@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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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						

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

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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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						

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

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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli 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

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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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

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	

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@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

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@15'
2402497-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/28/24 10:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli 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

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	

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@18'
2402497-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/28/24 11:00**

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 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	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 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.62	69.0 %	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@18'
2402497-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **02/28/24 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
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	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli 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

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	

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

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						

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

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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		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

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						
Arsenic	7.92	0.200	mg/kg dry	1	BHC0007	03/01/24	03/04/24	EPA 6020B	
Barium	31.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Lead	11.2	0.200	"	"	"	"	"	"	
Selenium	4.06	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						
Calcium	88.4	0.0500	mg/L dry	1	BHB0898	02/28/24	03/01/24	EPA 6020B	
Magnesium	37.2	0.0500	"	"	"	"	"	"	
Sodium	195	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **02/28/24 11:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	4.39	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						
% Solids	76.3		%	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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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@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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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@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 Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0376		"	0.0400		94.0	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	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			
Surrogate: 1,2-Dichloroethane-d4	0.0366		"	0.0400		91.5	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	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
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0400		96.7	50-150			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0425		"	0.0400		106	50-150			

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

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BHB0896 - EPA 5030 Soil MS

Matrix Spike Dup (BHB0896-MSD1)	Source: 2402497-07			Prepared: 02/28/24 Analyzed: 02/29/24						
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
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0400		95.4	50-150			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0426		"	0.0400		106	50-150			

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

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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: o-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		104	70-130			
Surrogate: o-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: o-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: o-Terphenyl	9.40		"	12.5		75.2	30-150			

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0376		"	0.0333		113	40-150			
Surrogate: Fluoranthene-d10	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			
Surrogate: 2-Methylnaphthalene-d10	0.0297		"	0.0333		89.0	40-150			
Surrogate: Fluoranthene-d10	0.0269		"	0.0333		80.8	40-150			

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

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BHB0903 - EPA 5030 Soil MS

Matrix Spike (BHB0903-MS1)

Source: 2402497-07

Prepared & Analyzed: 02/29/24

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		
Surrogate: 2-Methylnaphthalene-d10	0.0180		"	0.0333		54.1	40-150		
Surrogate: Fluoranthene-d10	0.0142		"	0.0333		42.5	40-150		

Matrix Spike Dup (BHB0903-MSD1)

Source: 2402497-07

Prepared & Analyzed: 02/29/24

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
Surrogate: 2-Methylnaphthalene-d10	0.0178		"	0.0333		53.3	40-150		
Surrogate: Fluoranthene-d10	0.0144		"	0.0333		43.1	40-150		

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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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

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

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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 Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

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

Reporting				Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	

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

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch 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

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

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch 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

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

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



TASMAN

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

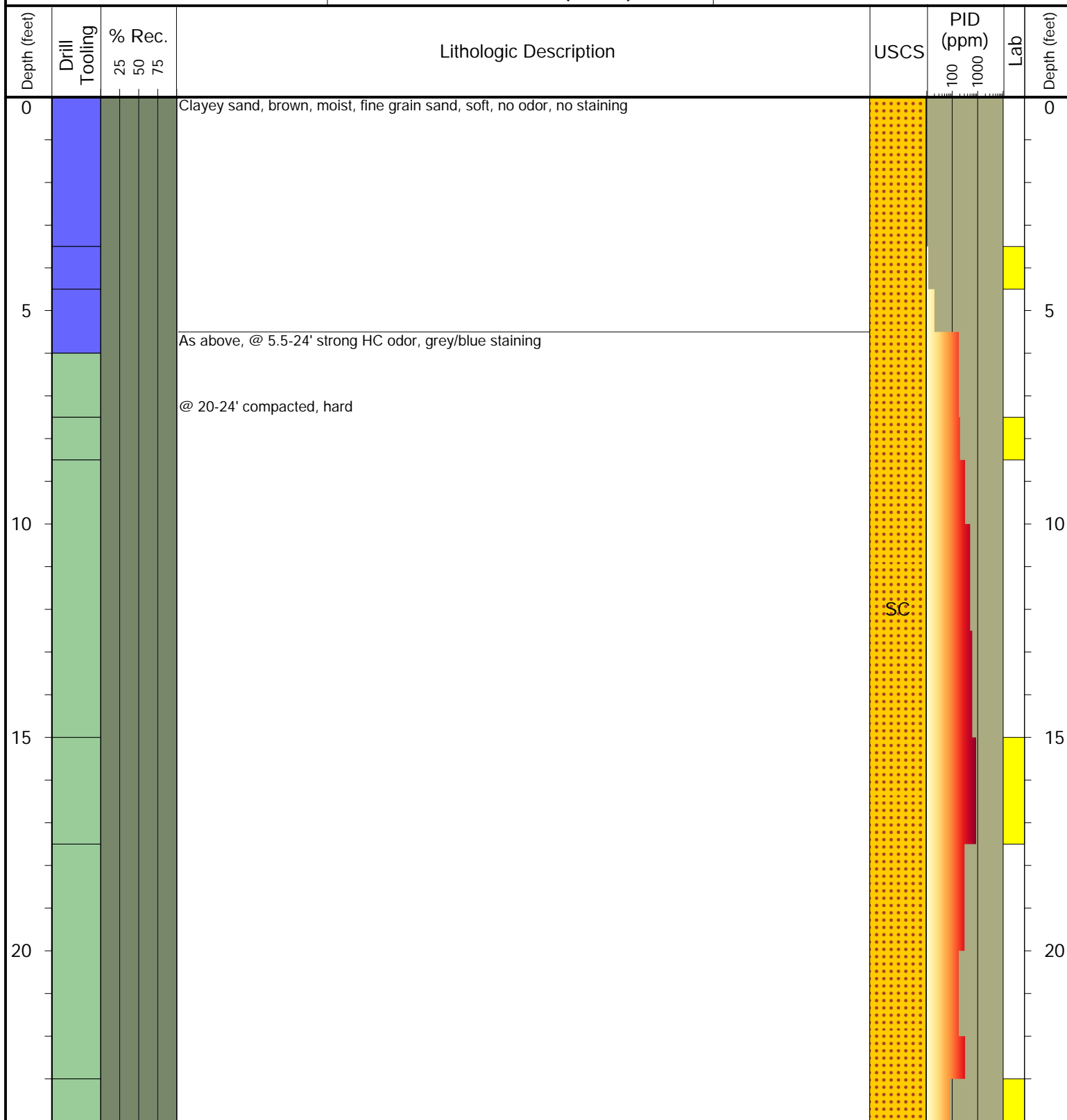
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685930107

LONGITUDE (WGS 84): -103.888183912

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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

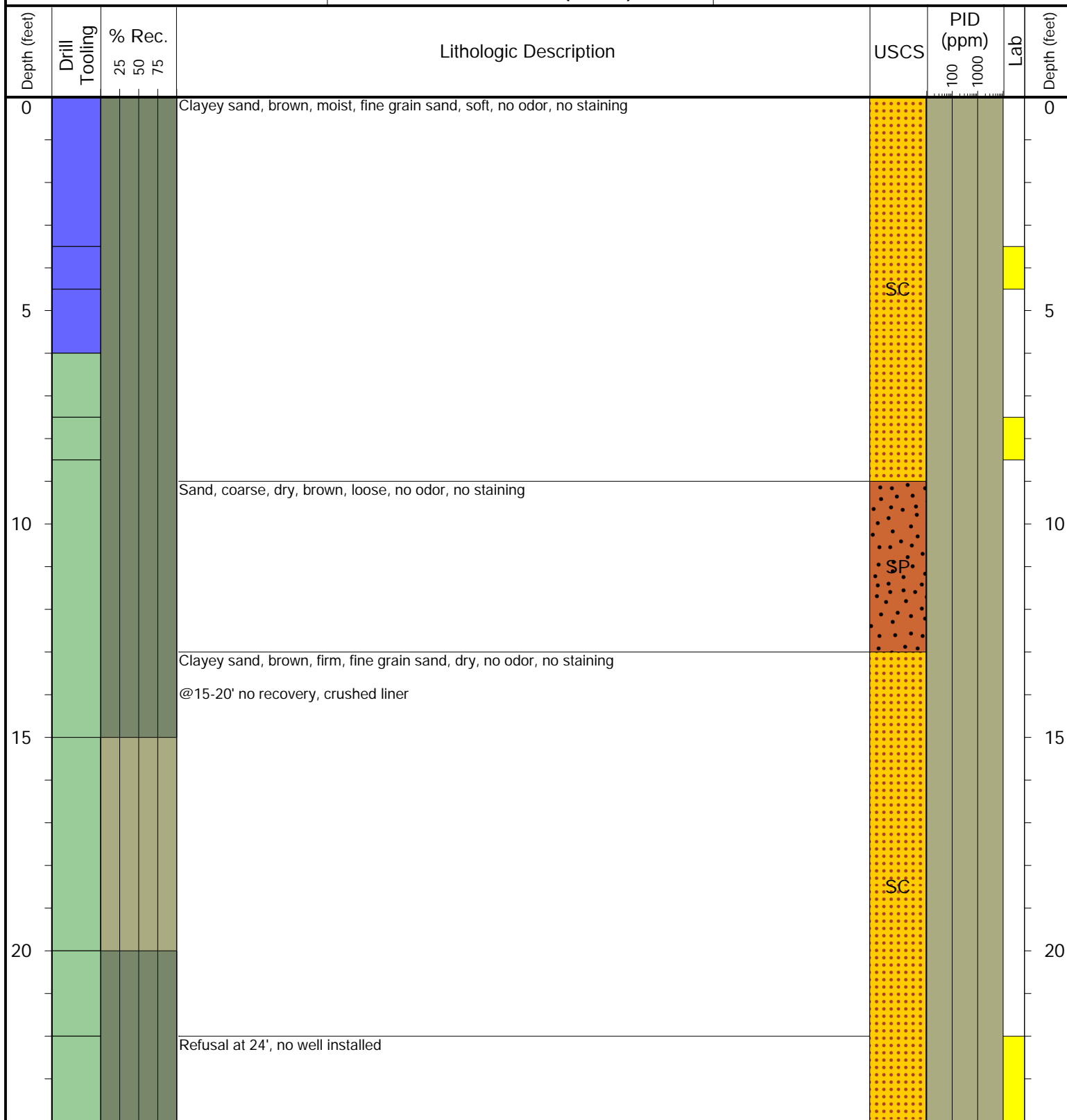
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.686017113

LONGITUDE (WGS 84): -103.888218468

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

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): 19.5

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility

BORING ID: BH03

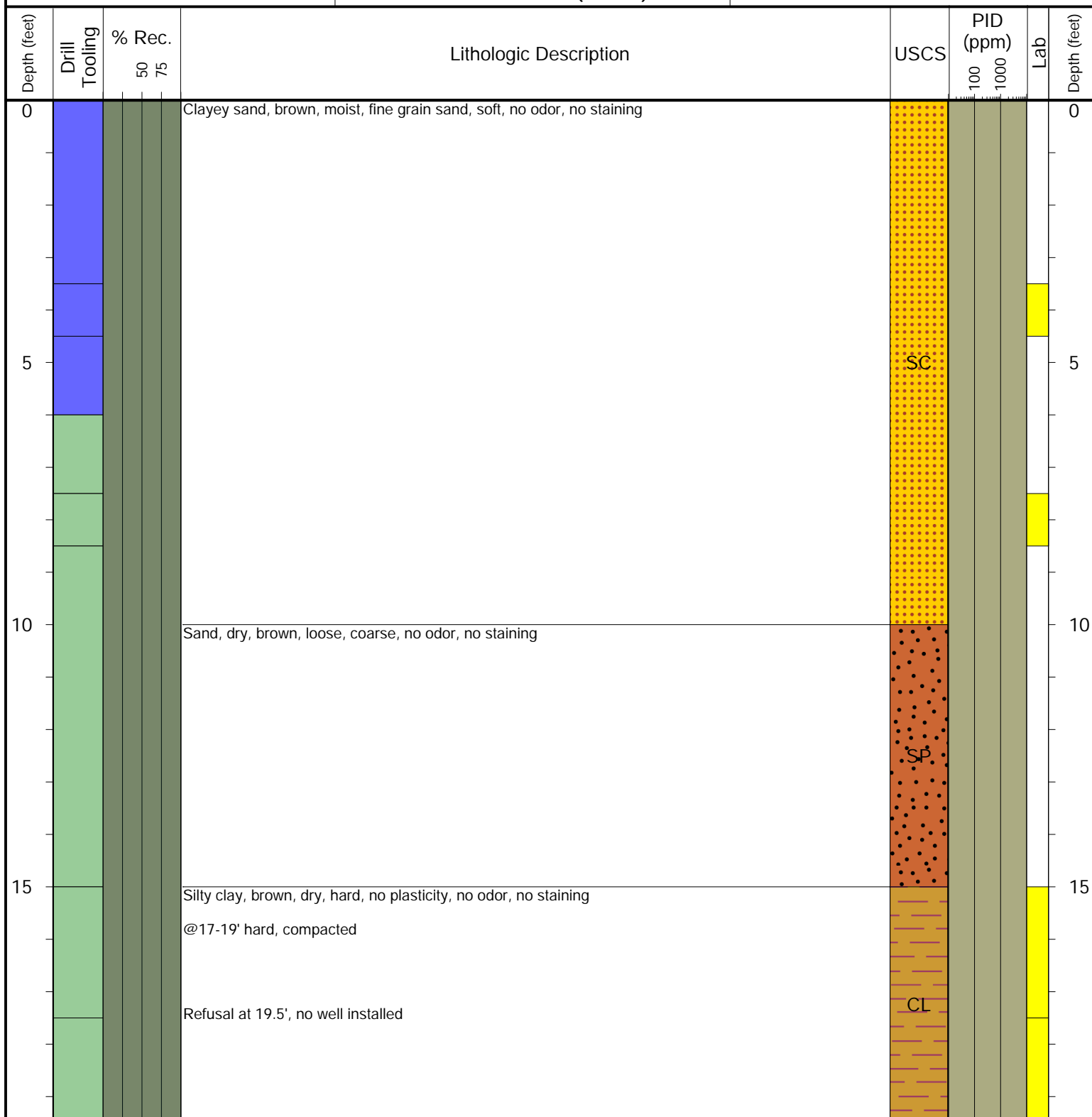
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.68599674

LONGITUDE (WGS 84): -103.888111464

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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

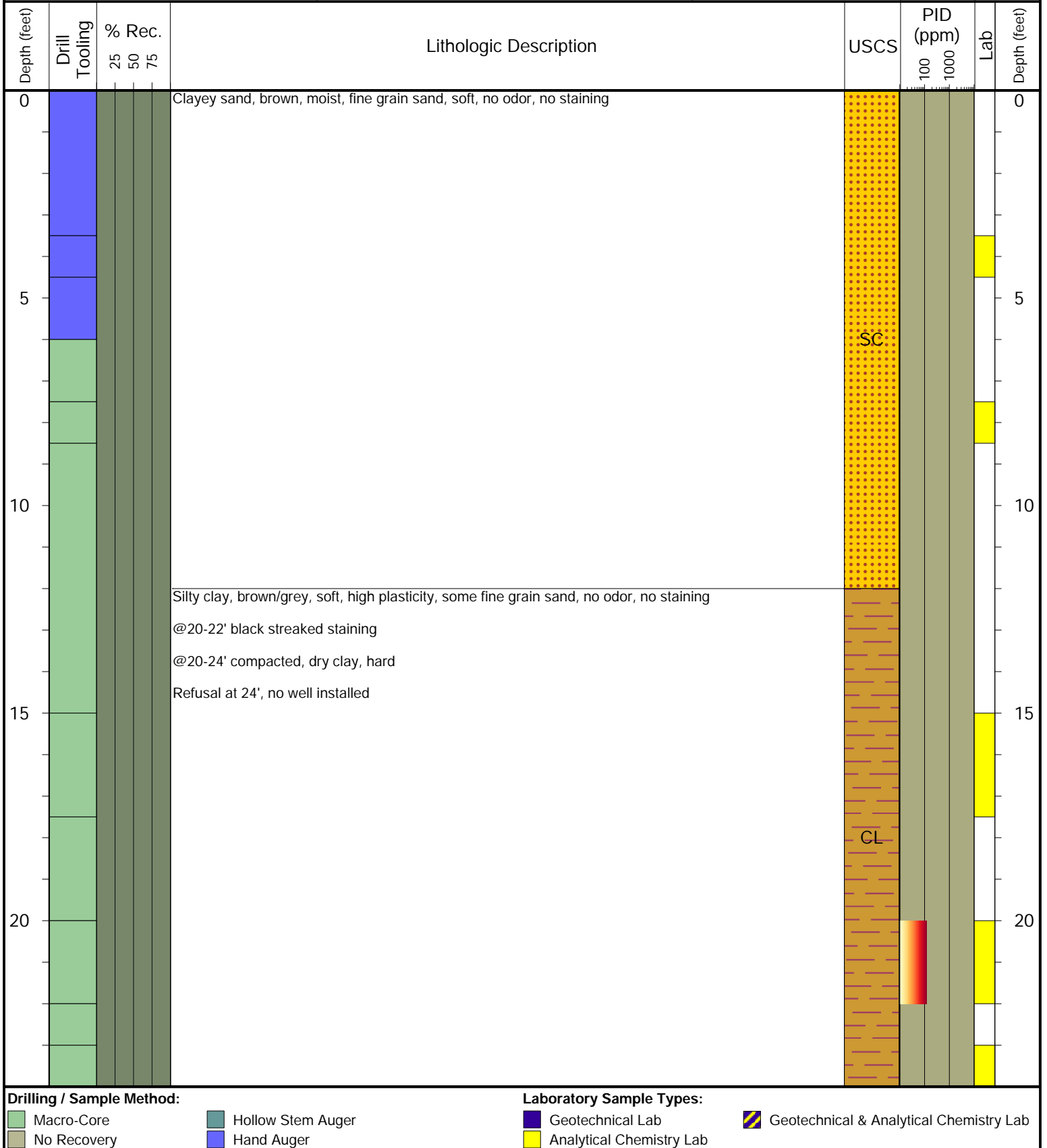
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685852429

LONGITUDE (WGS 84): -103.888180069

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite





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

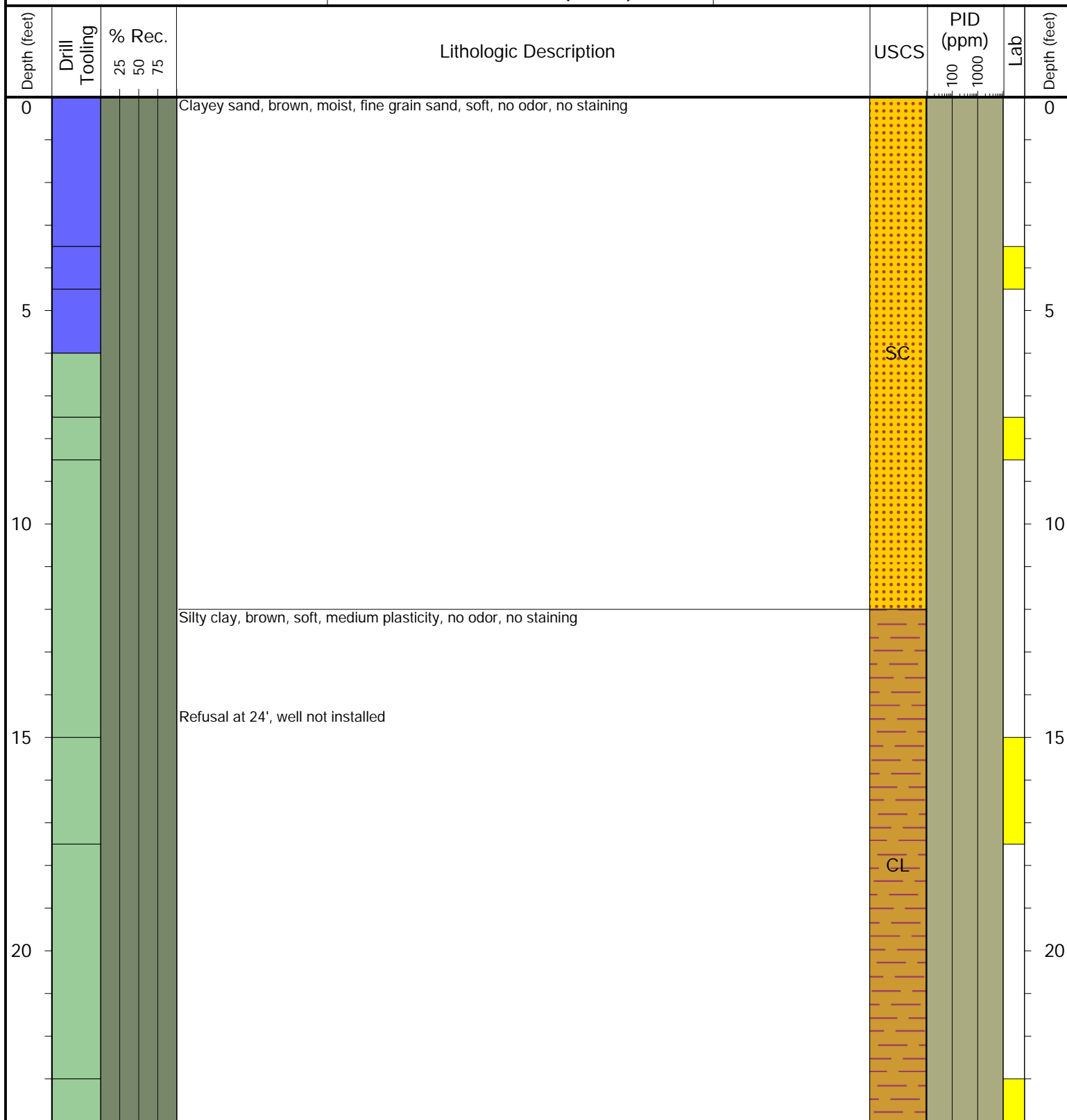
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685930858

LONGITUDE (WGS 84): -103.888279704

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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

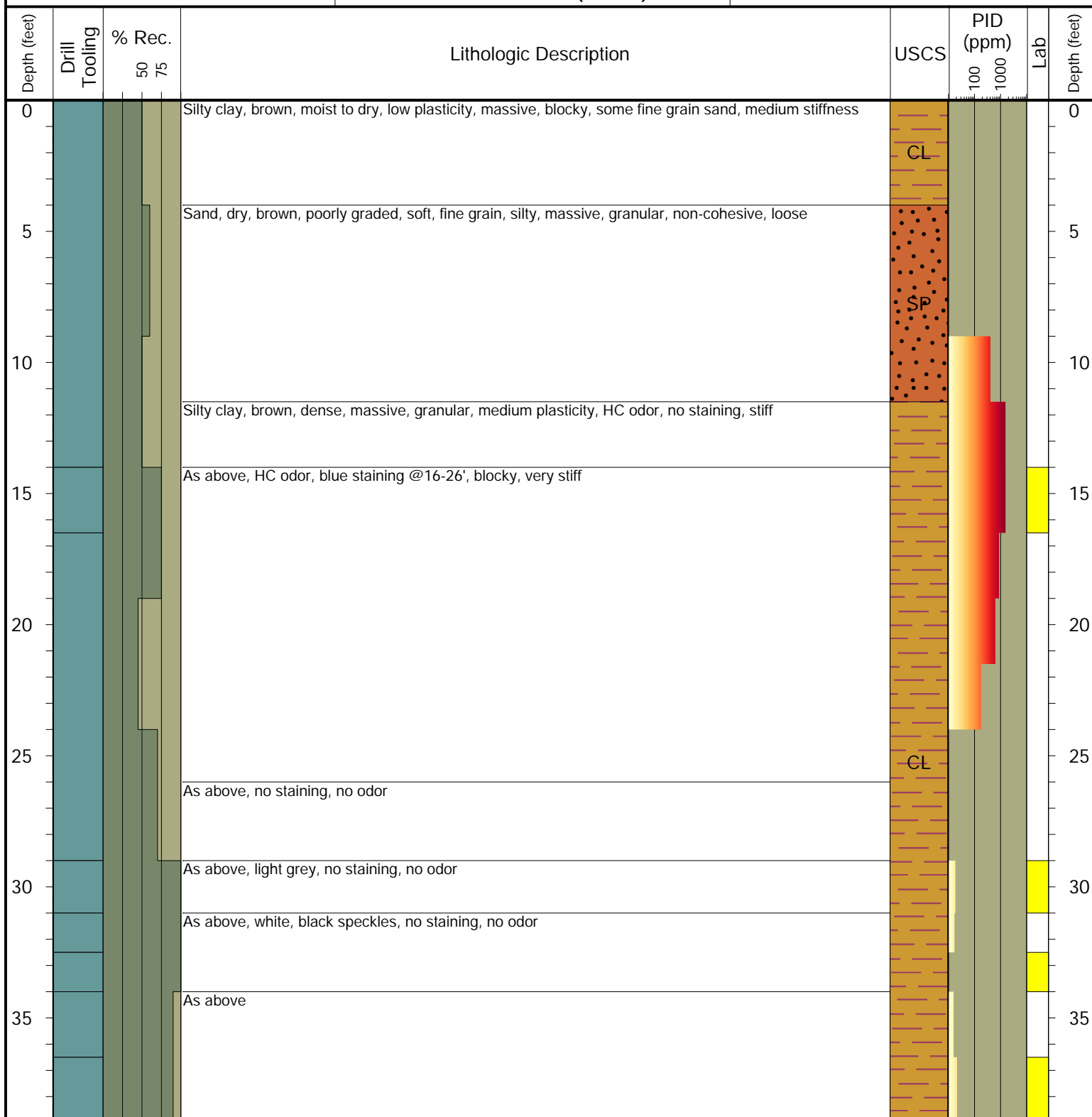
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685925957

LONGITUDE (WGS 84): -103.888189645

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
 No Recovery

Hollow Stem Auger
 Hand Auger

Laboratory Sample Types:

Geotechnical Lab
 Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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

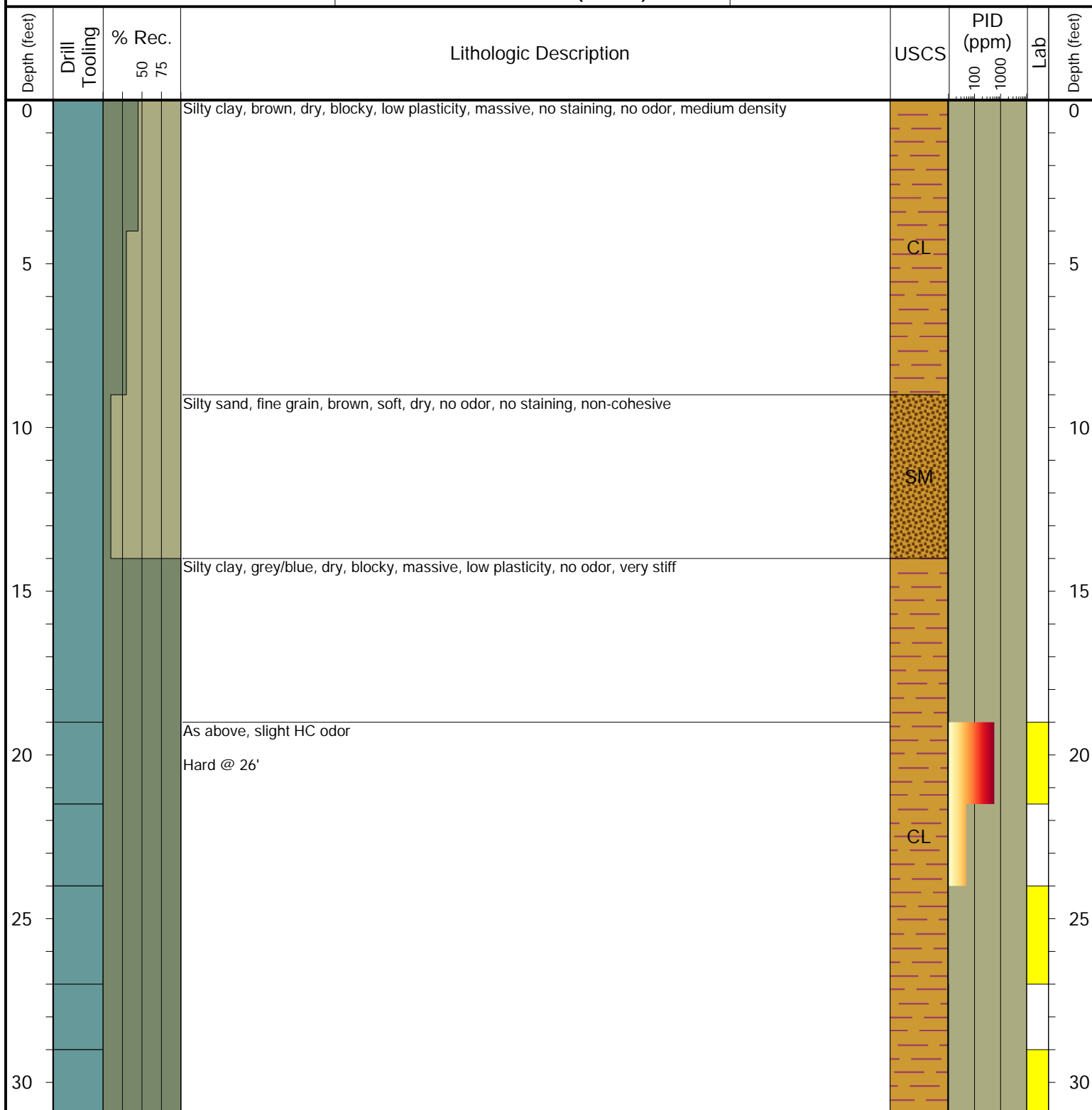
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.6859323589869

LONGITUDE (WGS 84): -103.888487403196

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
 No Recovery

Hollow Stem Auger
 Hand Auger

Laboratory Sample Types:

Geotechnical Lab
 Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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: 10/27/22 - 10/27/2022

TOTAL WELL DEPTH (FT. BGS): 31

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility

BORING ID: BH08

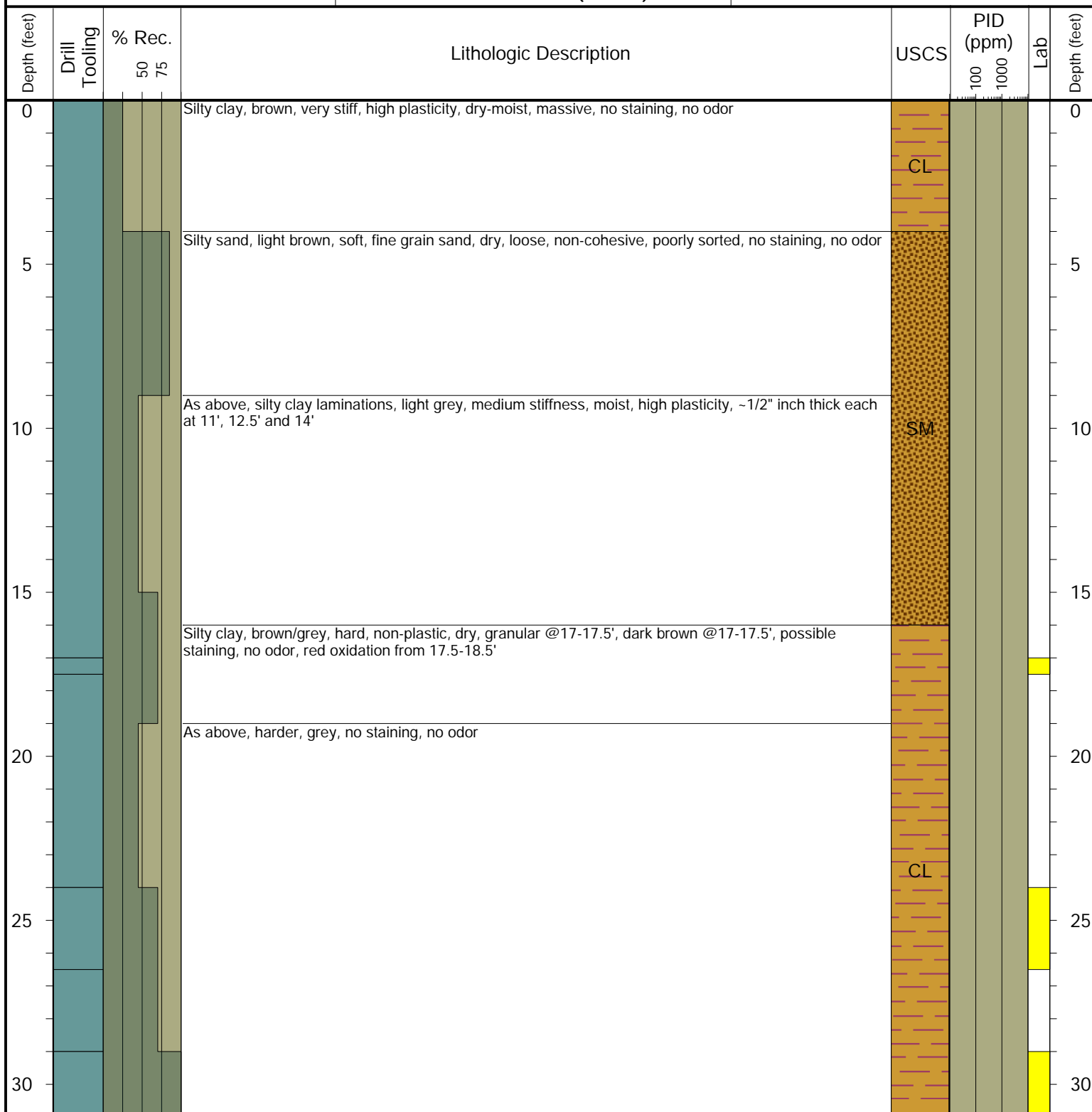
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.6858844483418

LONGITUDE (WGS 84): -103.888332070608

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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: 10/27/22 - 10/27/2022

TOTAL WELL DEPTH (FT. BGS): 31

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility

BORING ID: BH09

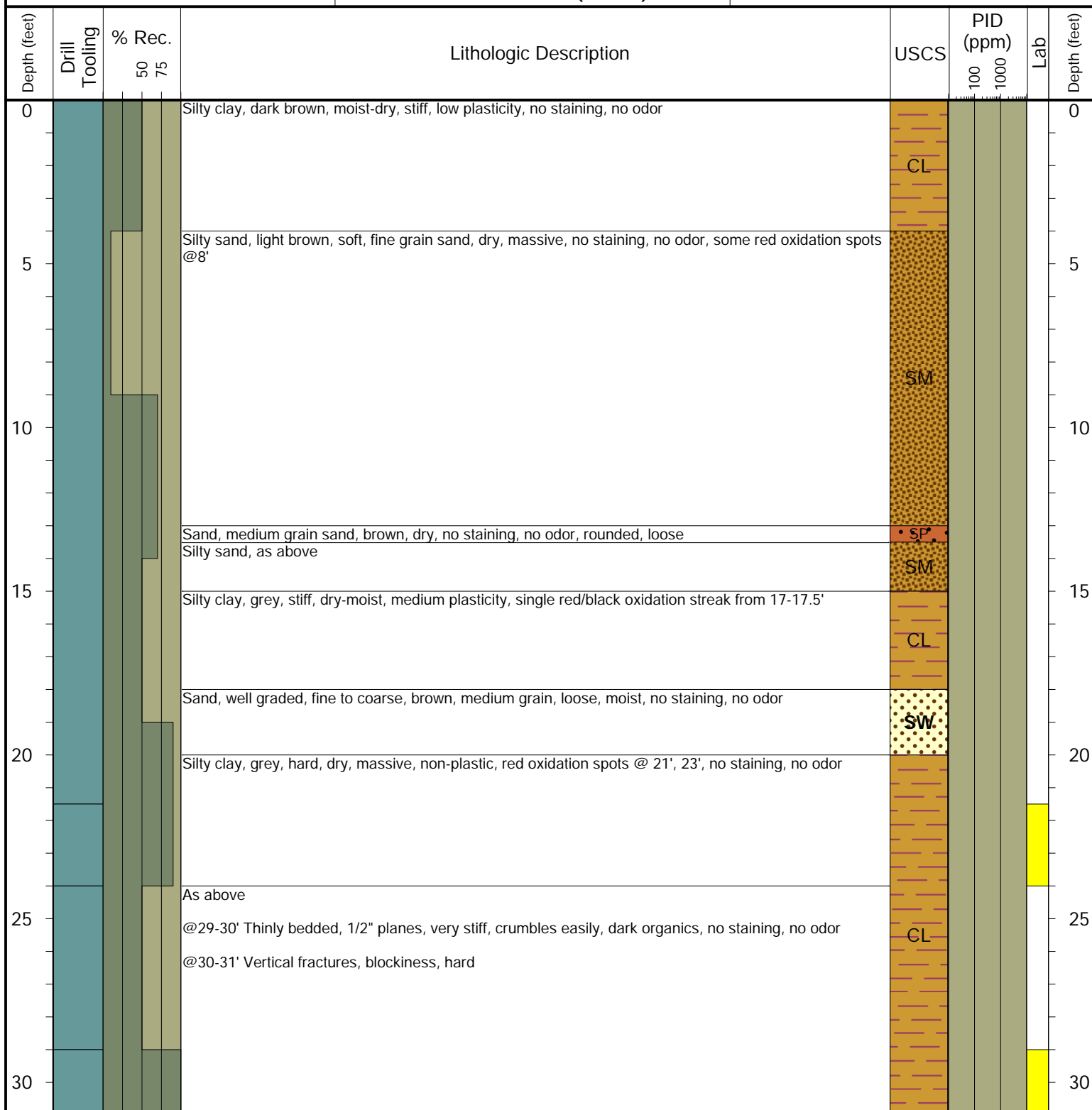
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685854313

LONGITUDE (WGS 84): -103.888060488

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

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: CME

DRILL BIT SIZE (INCHES): 6"

DATE STARTED - COMPLETED: 10/27/22 - 10/27/2022

TOTAL WELL DEPTH (FT. BGS): 31

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility

BORING ID: BH10

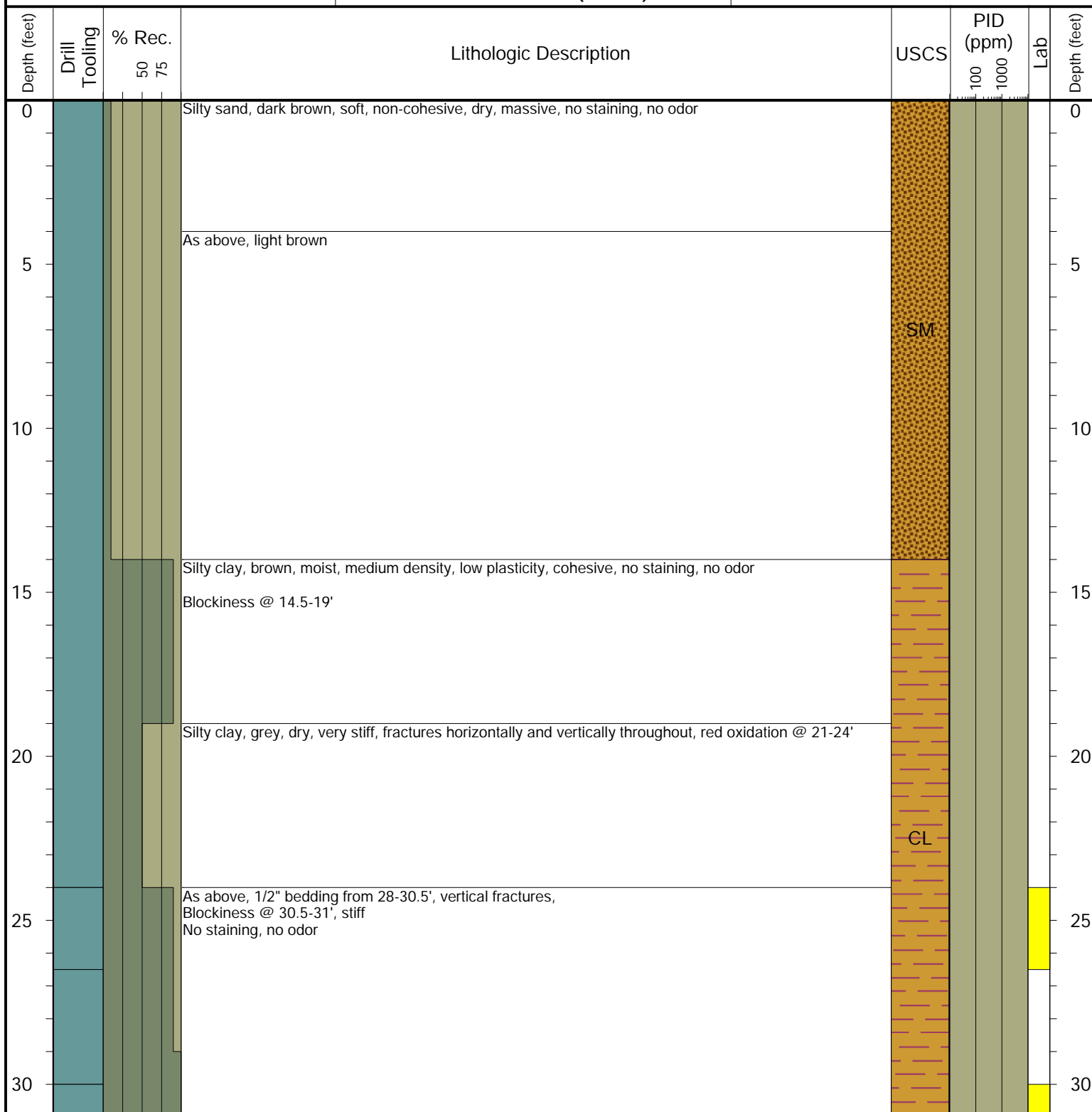
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685742497

LONGITUDE (WGS 84): -103.888198177

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



TASMAN

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: 10/27/22 - 10/27/2022

TOTAL WELL DEPTH (FT. BGS): 31

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit N-5 Facility

BORING ID: BH11

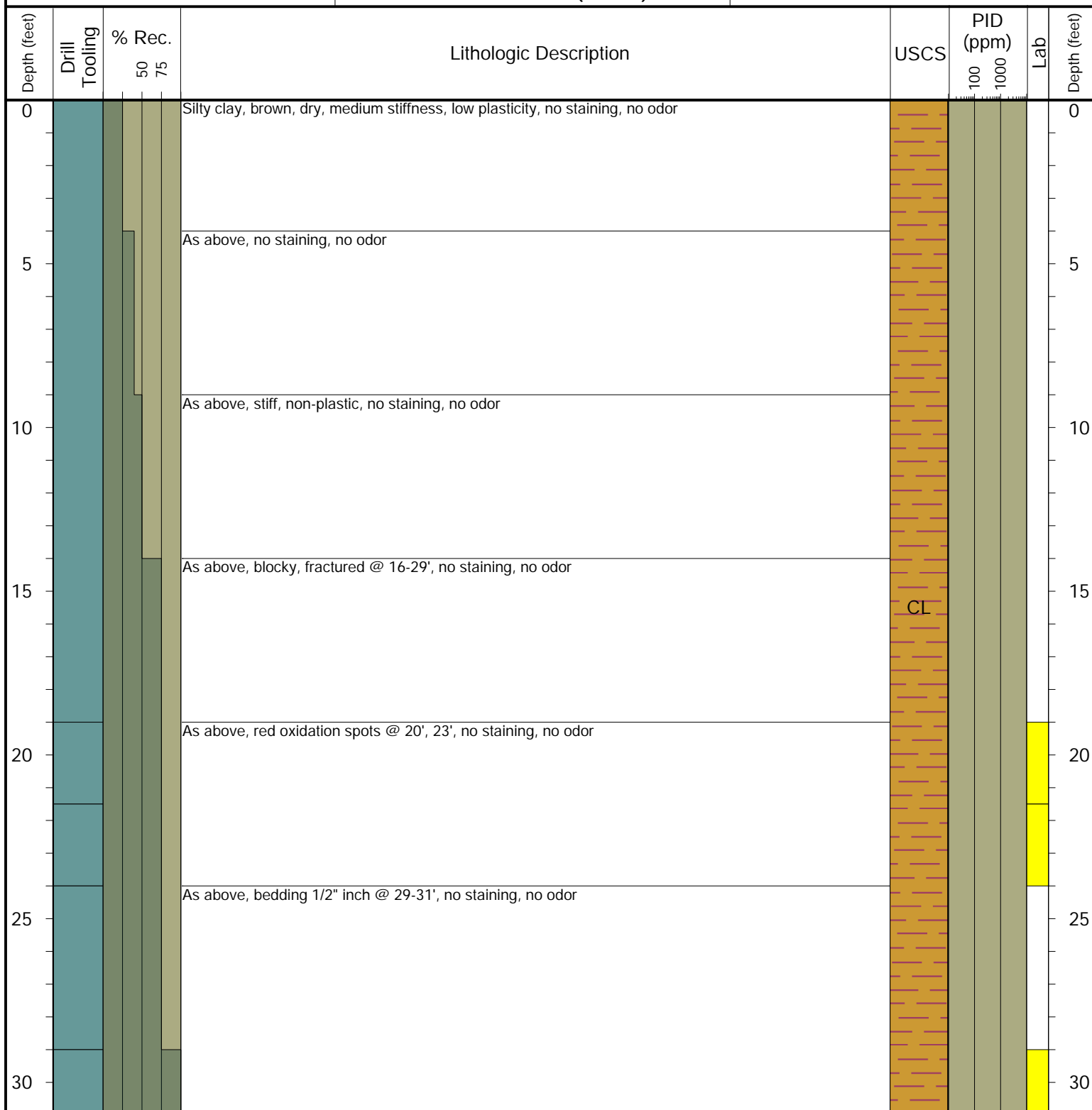
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.685933464

LONGITUDE (WGS 84): -103.888566534

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core
No Recovery

Hollow Stem Auger
Hand Auger

Laboratory Sample Types:

Geotechnical Lab
Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab