

**SITE ASSESSMENT REPORT**  
**LILLI UNIT 10-12 FACILITY**  
**COGCC SPILL TRACKING # 482024**  
**COGCC REMEDIATION # 20978**

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



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

June 22, 2022

Ms Erica Zuniga  
Environmental Specialist, Chevron Rockies Business Unit  
Noble Energy Inc.  
2115 117<sup>th</sup> Avenue  
Greeley, CO 80631

**Re: Site Assessment Report**  
**Lilli Unit 10-12 Facility**  
Spill/Release Point ID: 482024  
Remediation #: 20978  
NWSE S12 T8N R59W  
Weld County, Colorado

Dear Ms. Zuniga,

Below please find a copy of the above referenced Site Assessment Report (Report) for the Lilli Unit 10-12 facility (Site) in Weld County, Colorado. The text below describes decommissioning, assessment, and associated soil sampling conducted by Tasman, Inc. (Tasman), on behalf of Noble Energy, Inc. (Noble) between March 31, 2022, and May 23, 2022.

## Introduction

This document describes the results of soil sampling activities conducted at the Site to evaluate potential subsurface impacts. The activities described below were performed in response to the discovery of impacted material adjacent to the wellhead during decommissioning activities at the Site on April 18, 2022.

## Facility Background

The Site is located approximately 6.19 miles northwest of Raymer in Weld County, Colorado. The Site legal description is the southwest quarter of the northeast quarter of Section 12, Township 8 North, Range 59 West, 6<sup>th</sup> Principal Meridian. The Site is on terrain that slopes gradually to the southwest, at latitude 40.677693° and longitude -103.922322° [North American Datum of 1983(NAD83)] and is approximately 3.88 miles west-southwest of the intersection of County Road 97 and County Road 127.5 (Figure 1).

Tasman was retained by Noble on March 31, 2022, to complete soil sampling and documentation during Site decommissioning and abandonment activities. As reported in the initial Form 19, historical impacts were confirmed adjacent to the wellhead on April 18, 2022. The Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on April 19, 2022. The COGCC subsequently issued Spill/Release Point ID Number 482024 for this event. The COGCC assigned Remediation Number 20978 for the project.

## Site Decommissioning Activities

On March 31, 2022, Tasman completed decommissioning soil sampling and documentation for the Lilli Unit 10-12 facility. Soil samples were collected from the excavation of the partially buried vault along all four sidewalls (SS01@2.5', SS02@2.5', SS03@2.5' SS04@2.5') and excavation base (FS01@5'). An additional excavation was completed to collect soil samples from the separator end of the flowline (SEP01-FL01@3') and the dump line (SEP01-DL01@3'). Soil surface samples were taken from the footprint of the above ground storage tank (AST01@0.5', AST02@0.5', AST03@0.5') and the meter house (MH01@0.5'). Two background soil samples (BG01@3', BG01@5') were collected from native soil upgradient of the site to the south.

All soil samples collected were field screened for volatile organic compounds (VOC) using a photoionization detector (PID) and standard headspace sampling techniques. All soil samples were submitted to Summit Scientific (Summit) in Golden, Colorado for laboratory analysis, with the background samples submitted on hold. The samples were submitted for laboratory analysis of the COGCC Table 915-1 list of organics in soil using United States Environmental Protection Agency (USEPA) Method 8260B and USEPA Method 8270D, and total petroleum hydrocarbons (TPH) using USEPA Methods 8260B and 8015. The samples were also submitted for laboratory analysis of pH, electrical conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using the hot water-soluble soil extract method. After laboratory results indicated organic exceedances present in soil samples AST02@0.5' and AST03@0.5', soil sample AST03@0.5' was submitted for laboratory analysis of COGCC Table 915-1 metals in soil using USEPA Method 6020B, along with background soil sample BG01@3'. Groundwater was not encountered during decommissioning activities at the Site. Decommissioning soil analytical results are summarized in Table 1 shown on Figure 2. Decommissioning soil laboratory analytical reports are included in Attachment A.

## Site Assessment Activities

Tasman completed site assessment activities on May 23, 2022, to delineate potential subsurface soil and groundwater impacts identified during decommissioning activities at the facility (SA). During the SA, Tasman advanced six boreholes (BH01 through BH06) in the area of the previous facility decommissioning excavation (Figure 3) to 15 feet below ground surface (ft bgs). Boreholes BH01 and BH02 were advanced to 20 ft bgs and boreholes BH03 through BH06 were advanced to 12' bgs using an AMS Power Probe via direct push, operated by Site Services Drilling, Inc. Tasman also collected background soil samples, BG01@2' through BG05@2,' via hand auger from native soil adjacent to the Site. During soil boring operations, soil samples were collected, and field screened for VOCs using a PID and standard headspace sampling techniques. The following soil samples were collected at depths corresponding to initial observed impacts, where elevated PID readings were observed, and the terminal depth of the borings: BH01@0.5-1.5', BH01@4-5', BH01@18-20', BH02@0.5-1.5', BH02@4-5', BH02@18-20', BH03@0.5-1.5', BH03@4-5', BH03@10-12', BH04@0.5-1.5', BH04@4-5', BH04@10-12', BH05@0.5-1.5', BH05@4-5', BH05@10-12'; BH06@0.5-1.5', BH06@4-5', and BH06@10-12'.

The SA soil boring samples were submitted to Summit for laboratory analysis of the COGCC Table 915-1 list of organics in soil using USEPA Methods 8260B and 8270D, TPH using USEPA Methods 8260B and 8015D, COGCC Table 915-1 metals in soil using USEPA Method 6020B, pH, electrical

conductivity (EC), sodium absorption ratio (SAR) using USEPA saturated paste extraction method, and boron using the hot water-soluble soil extract method. Site assessment soil analytical results are summarized in Table 1 and shown on Figure 3. Laboratory analytical reports are included in Attachment A and the borings logs are included in Attachment B.

Groundwater was not encountered during SA soil boring activities. Monitoring wells were not installed and all boreholes were backfilled with 10-20 silica sand from the bottom of the boring up to 1 ft bgs, and bentonite chips from 1 ft bgs to ground surface.

## Results

Laboratory analytical results for soil samples collected during initial decommissioning and the subsequent SA indicate all samples are compliant with COGCC Table 915-1 Protection of Groundwater Soil Screening Levels (GW SSL) for hydrocarbon compounds except for TPH, benzanthracene, benzo(a)fluoranthene and dibenzo(a)anthracene in facility decommissioning samples AST02@0.5' and AST03@0.5', as well as TPH in facility SA sample BH01@0.5-1.5'. Laboratory analytical results for facility decommissioning sample AST03@0.5' also indicate arsenic, barium and selenium are in exceedance of applicable COGCC Table 915-1 Soil Screening Level (SSL) and/or GW SSL standards. Laboratory analytical results for all 18 soil samples collected during the facility SA indicate arsenic was in exceedance of its COGCC Table 915-1 GW SSL and SSL standards, and barium and selenium were in exceedance of their COGCC Table 915-1 GW SSL standards. Additionally, laboratory analytical results for 13 out of the 18 facility SA samples indicate pH was in exceedance of its COGCC Table 915-1 Soil Suitability for Reclamation (SSR) standard.

Laboratory analytical results from the background soil samples collected during decommissioning (BG01@3') and SA activities (BG01@2', BG02@2', BG03@2', BG04@2', BG05@2') indicate barium, arsenic and selenium are present in adjacent native soil at elevated levels comparable to those observed in the source area.

## Conclusions

Soil hydrocarbon impacts first identified during facility decommissioning have been delineated vertically and horizontally by the Facility SA soil boring samples. Soil hydrocarbon impacts were not detected above COGCC Table 915-1 standards in the five soil borings bounding the previously decommissioned facility (Figure 3). Laboratory results from the background soil sample collected during facility decommissioning indicate that adjacent native soils contain elevated metal concentrations comparable to those observed in the source area. Groundwater was not encountered during wellhead decommissioning or site assessment activities and monitoring wells were not installed. Soil impacts will be addressed through excavation for off-site disposal, during which confirmation soil samples will be collected.

## Remarks

The discussion and conclusions contained in this report represent the professional opinions of Tasman, Inc. These opinions are based on currently available information and are arrived at in accordance with currently accepted geologic and engineering practices.

Please contact me at (720) 616-8383 or at [jwhritenour@tasman-geo.com](mailto:jwhritenour@tasman-geo.com) if you require additional information.

Sincerely,  
Tasman, Inc.



Jake Whritenour, Program Manager

Attachments:

Table 1 – Soil Analytical Data

Figure 1 – Site Location Map

Figure 2 – Wellhead Decommissioning Soil Analytical Results Map (3/31/2022)

Figure 3 – Wellhead Site Assessment Soil Analytical Results Map (5/23/2022)

Attachment A – Laboratory Soil Analytical Data Reports

Attachment B – Boring Logs

## **TABLES**

TABLE 1  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - LILLI UNIT 10-12 FAC

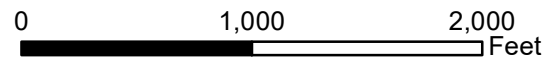
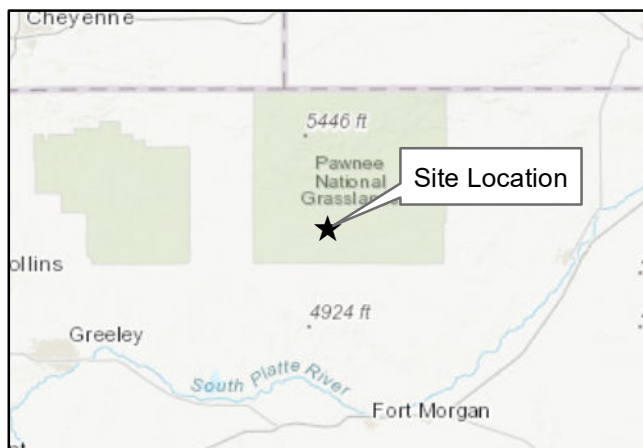
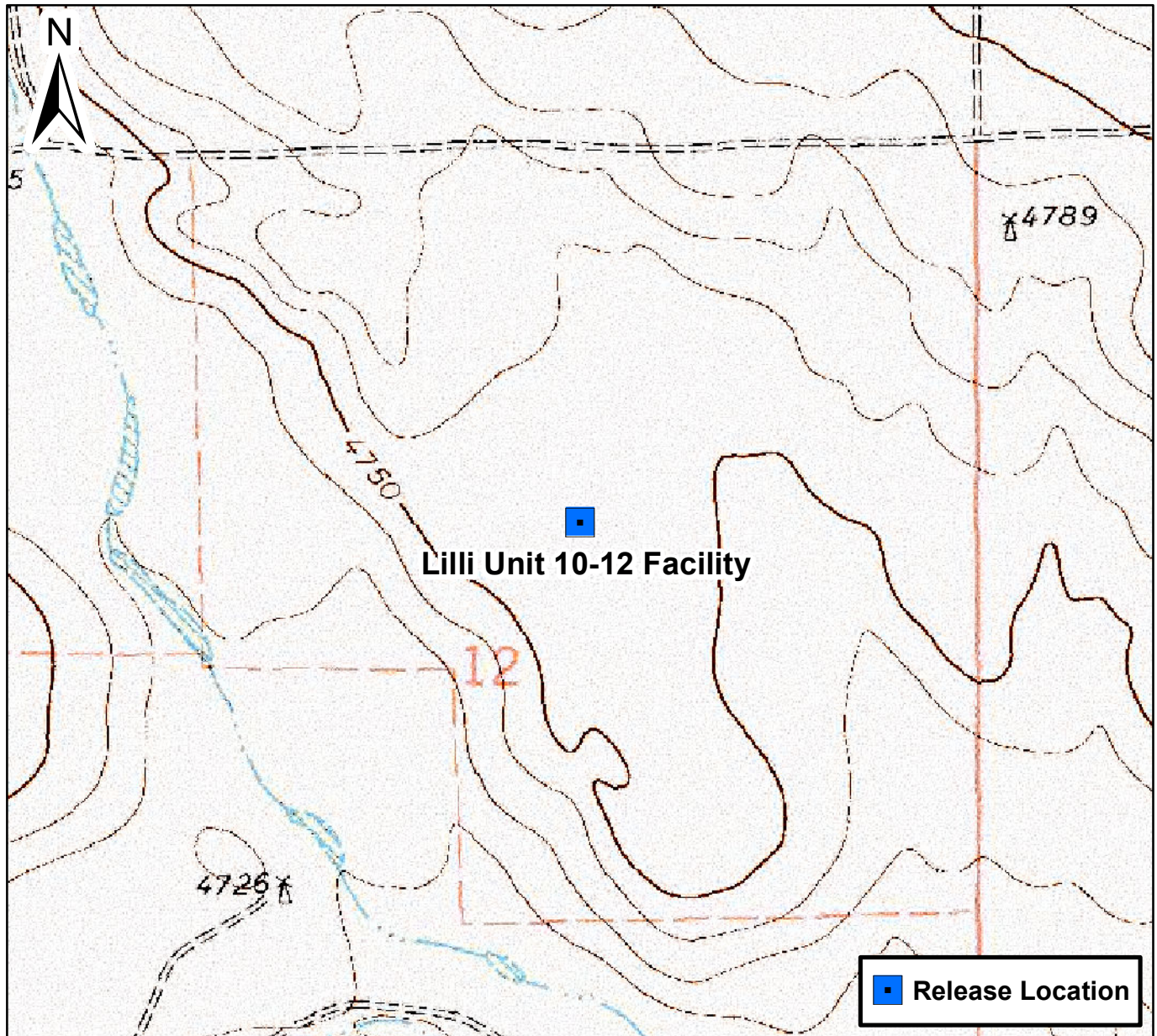
Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	94	<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	350	81	<0.0500	<0.0500	<0.0500 <sup>4</sup>	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 <sup>4</sup>	<0.0500 <sup>4</sup>
AST02@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	1200	330	<0.0500	<0.0500	<0.0500 <sup>4</sup>	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 <sup>4</sup>	<0.0500 <sup>4</sup>
AST03@0.5'	03/31/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	2700	710	<0.0500	<0.0500	0.625	0.584	0.159	<0.0500	0.768	0.104	<0.0500	<0.0500	0.0858	0.188	<0.0500 <sup>4</sup>	<0.0500 <sup>4</sup>
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	0.00654	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL01@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
BH01@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	1800	890	0.0219	<0.00500	<0.00500	0.0161	0.121	0.0935	0.523	0.0228	<0.00500	0.0264	<0.00500	0.118	<0.00500	<0.00500
BH01@4-5'	05/23/22	<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@18-20'	05/23/22	<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@0.5-1.5'	05/23/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	51	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@4-5'	05/23/22	<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@18-20'	05/23/22	<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	0.00582	<0.00500	<0.00500
BH03@0.5-1.5'	05/23/22	<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'	05/23/22	<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@10-12'	05/23/22	<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@0.5-1.5'	05/23/22	<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'	05/23/22	<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@10-12'	05/23/22	<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@0.5-1.5'	05/23/22	<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'	05/23/22	<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@10-12'	05/23/22	<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
BH06@0.5-1.5'	05/23/22	<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
BH06@4-5'	05/23/22	<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
BH06@10-12'	05/23/22	<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

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	03/31/22	7.43	0.786	0.278	0.0176
FS01@5'	03/31/22	7.66	0.219	0.959	0.0573
AST01@0.5'	03/31/22	7.54	0.400	0.776	0.0395
AST02@0.5'	03/31/22	7.47	0.193	0.164	0.0275
AST03@0.5'	03/31/22	7.98	0.365	0.956	0.0335
SEP01-DL01@3'	03/31/22	7.97	1.800	1.090	0.1970
SEP01-FL01@3'	03/31/22	7.91	0.292	0.293	0.0273
BH01@0.5-1.5'	05/23/22	7.88	0.503	0.978	0.0686
BH01@4-5'	05/23/22	8.75	0.980	0.500	0.1460
BH01@18-20'	05/23/22	8.42	2.450	0.968	0.1550
BH02@0.5-1.5'	05/23/22	8.13	0.312	0.535	0.0394
BH02@4-5'	05/23/22	8.38	0.311	0.424	0.0318
BH02@18-20'	05/23/22	8.95	2.870	0.408	0.1390
BH03@0.5-1.5'	05/23/22	8.54	0.284	0.407	0.0731
BH03@4-5'	05/23/22	8.50	0.350	0.438	0.0459
BH03@10-12'	05/23/22	8.83	2.640	0.410	0.2060
BH04@0.5-1.5'	05/23/22	8.24	0.461	0.506	0.0729
BH04@4-5'	05/23/22	8.69	0.848	0.428	0.0764
BH04@10-12'	05/23/22	8.53	2.720	0.770	0.2380
BH05@0.5-1.5'	05/23/22	8.13	0.324	0.513	0.0920
BH05@4-5'	05/23/22	8.57	0.436	0.420	0.0648
BH05@10-12'	05/23/22	8.78	2.610	0.435	0.1060
BH06@0.5-1.5'	05/23/22	7.70	0.552	0.515	0.0884
BH06@4-5'	05/23/22	8.51	0.530	0.513	0.0772
BH06@10-12'	05/23/22	8.62	3.040	0.612	0.2850

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 SSL2		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST03@0.5'	3/31/2022	3.03	159	<0.224	<0.30	4.49	7.89	3.70	0.761	0.0508	16.7
BG01@3'	3/31/2022	3.30	163	<0.216	<0.30	4.89	8.15	4.17	0.840	0.0404	15.6
BH01@0.5-1.5'	05/23/22	3.63	184	<0.238	<0.30	3.84	7.23	3.54	0.829	<0.0238	5.52
BH01@4-5'	05/23/22	3.10	125	<0.225	<0.30	3.01	7.02	3.38	0.748	<0.0225	6.38
BH01@18-20'	05/23/22	3.45	102	<0.246	<0.30	4.29	9.05	4.38	0.801	<0.0246	10.2
BH02@0.5-1.5'	05/23/22	2.53	138	<0.234	<0.30	2.73	5.08	2.54	0.544	<0.0234	2.67
BH02@4-5'	05/23/22	2.67	303	<0.224	<0.30	2.23	6.04	2.43	0.659	<0.0224	2.93
BH02@18-20'	05/23/22	3.10	92.2	<0.236	<0.30	3.53	7.99	3.56	0.761	<0.0236	7.44
BH03@0.5-1.5'	05/23/22	2.81	201	<0.226	<0.30	3.08	6.26	2.81	0.646	<0.0226	3.54
BH03@4-5'	05/23/22	2.60	344	<0.227	<0.30	2.53	6.20	2.69	0.553	<0.0227	4.06
BH03@10-12'	05/23/22	3.53	166	<0.242	<0.30	5.25	8.77	5.57	0.874	0.0324	15.2
BH04@0.5-1.5'	05/23/22	2.52	186	<0.228	<0.30	3.49	7.43	3.39	0.703	<0.0228	6.12
BH04@4-5'	05/23/22	2.47	257	<0.222	<0.30	2.07	5.46	2.19	0.593	<0.0222	2.63
BH04@10-12'	05/23/22	3.45	140	<0.246	<0.30	5.48	7.84	5.76	0.858	0.0272	15.0
BH05@0.5-1.5'	05/23/22	2.06	129	<0.233	<0.30	4.05	6.85	3.62	0.710	0.0258	7.32
BH05@4-5'	05/23/22	2.83	132	<0.224	<0.30	2.63	5.95	2.87	0.706	<0.0224	5.17
BH05@10-12'	05/23/22	3.43	165	<0.244	<0.30	5.16	7.96	5.33	0.877	0.0258	14.1
BH06@0.5-1.5'	05/23/22	2.24	183	<0.238	<0.30	4.74	9.17	4.30	0.908	0.0400	11.7
BH06@4-5'	05/23/22	3.26	511	<0.229	<0.30	2.76	6.21	3.15	0.688	<0.0229	5.73
BH06@10-12'	05/23/22	3.59	124	<0.248	<0.30	5.41	8.54	5.68	0.911	0.0294	15.0
BG01@2'	05/23/22	2.59	365	NA	<0.30	NA	NA	NA	0.573	NA	NA
BG02@2'	05/23/22	2.24	183	NA	<0.30	NA	NA	NA	0.548	NA	NA
BG03@2'	05/23/22	1.99	160	NA	<0.30	NA	NA	NA	0.423	NA	NA
BG04@2'	05/23/22	2.76	154	NA	<0.30	NA	NA	NA	0.695	NA	NA
BG05@2'	05/23/22	2.16	197	NA	<0.30	NA	NA	NA	0.775	NA	NA



## **FIGURES**




## Figure 1

Site Location Map  
Lilli Unit 10-12 Facility  
NWSE S12 T8N R59W  
Weld County, Colorado

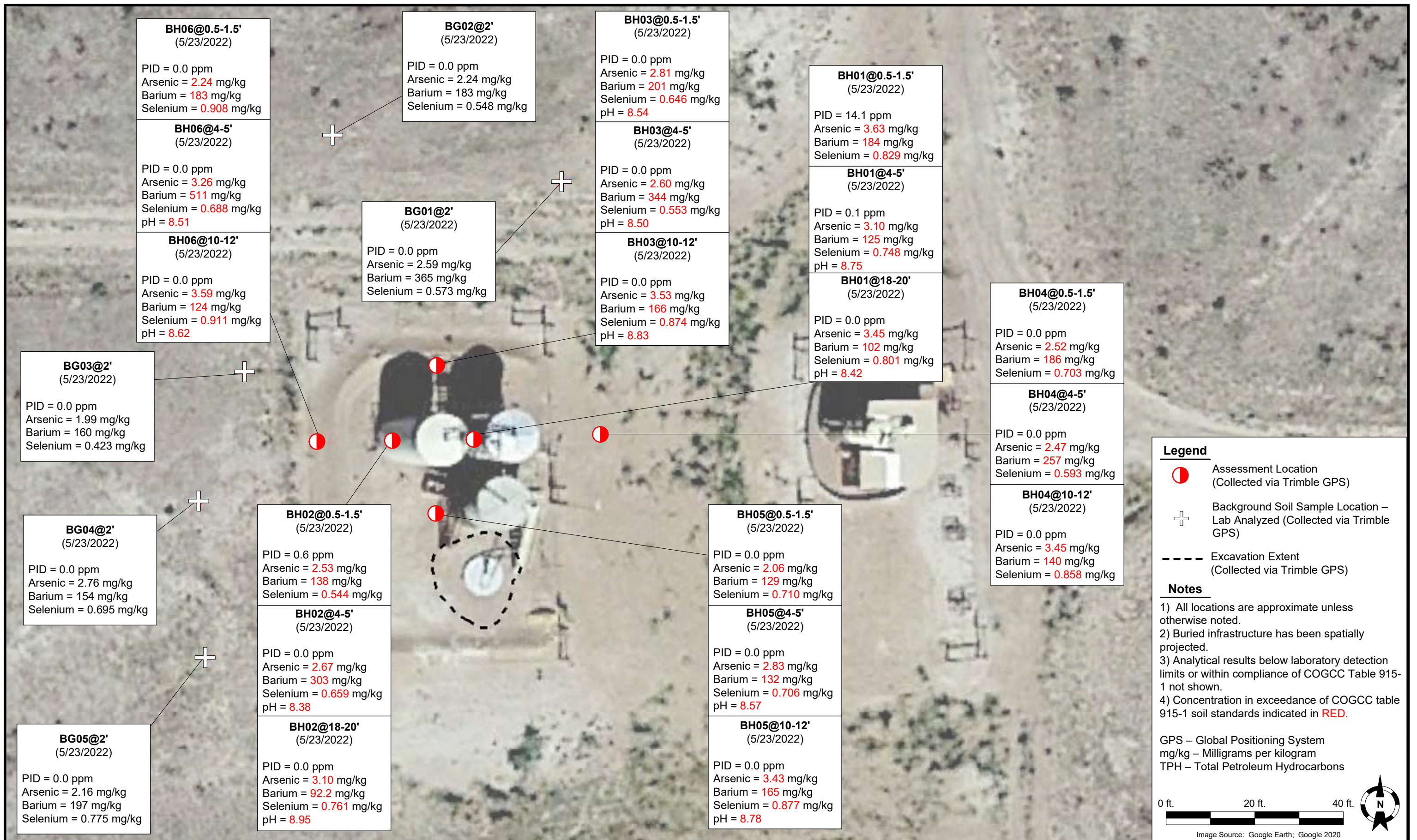






DATE:	4/18/2022	 <b>TASMAN</b> Tasman, Inc. 6855 W 119 <sup>th</sup> Avenue Broomfield, CO 80020	<b>Noble Energy, Inc. – DJ Basin</b> <b>Lilli Unit 10-12 Facility</b> NWSE, Section 12, Township 8 North, Range 59 West Weld County, Colorado	Facility Decommissioning Soil Analytical Results Map (3/31/2022)	<b>FIGURE</b> 2
DESIGNED BY:	JW				
DRAWN BY:	JC				





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

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 02, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 10-12 (Fac)

Work Order #2204029

Enclosed are the results of analyses for samples received by Summit Scientific on 04/01/22 09:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury

President



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2.5'	2204029-01	Soil	03/31/22 10:00	04/01/22 09:30
FS01@5'	2204029-05	Soil	03/31/22 10:08	04/01/22 09:30
AST01@0.5'	2204029-06	Soil	03/31/22 10:10	04/01/22 09:30
AST02@0.5'	2204029-07	Soil	03/31/22 10:12	04/01/22 09:30
AST03@0.5'	2204029-08	Soil	03/31/22 10:14	04/01/22 09:30
SEP01-DL01@3'	2204029-09	Soil	03/31/22 14:35	04/01/22 09:30
SEP01-FL01@3'	2204029-10	Soil	03/31/22 14:38	04/01/22 09:30
BG01@3'	2204029-11	Soil	03/31/22 14:40	04/01/22 09:30

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.*

# Summit Scientific

S<sub>2</sub>

2204029.1

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

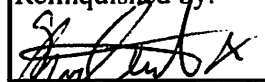
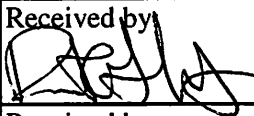
Phone: 303261-6246

Project Name: Lilli Unit 10-12 (FAC)

Sampler Name: Stanley Gilbert

Project Number: UWBWE - A1788 - ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD		
1	SS01 @ 2.5'	3/31/22	10:00	2			X			X				X	X	X	X	X		3AR, EC, PH By saturated paste
2	SS02 @ 2.5'		10:02				X			X				X	X	X	X	X		HOLD
3	SS03 @ 2.5'		10:04				X			X				X	X	X	X	X		HOLD
4	SS04 @ 2.5'		10:06				X			X				X	X	X	X	X		HOLD
5	FS01 @ 5'		10:08				X			X				X	X	X	X	X		
6	AST01 @ 0.5'		10:10				X			X				X	X	X	X	X		
7	AST02 @ 0.5'		10:12				X			X				X	X	X	X	X		
8	AST03 @ 0.5'		10:14				X			X				X	X	X	X	X		
9	SEP01 - DL01 @ 3'		14:35				X			X				X	X	X	X	X		
10	SEP01 - FL01 @ 3'		14:38				X			X				X	X	X	X	X		

Relinquished by: 	Date/Time: 3/31/22 14:25	Received by: Tasman's Lock Box	Date/Time: 3/31/22 14:25	<b>Turn Around Time</b> (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: <u>4.1</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box	Date/Time: 4/1/22 09:30	Received by: 	Date/Time: 4/2/22 09:30		
Relinquished by:	Date/Time:	Received by:	Date/Time:		



# Summit Scientific

S<sub>2</sub>

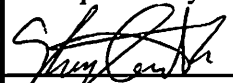

2204029.2

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: 303261-6246 Project Name: Lilli Unit 10-12 (FAC)  
Sampler Name: Stanley Gilbert Project Number: UWRWE-A1788-ABN

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD		
1	B60163'	3/31/22	14:40	1			X			X						X	X	X	SAR, EC, PH By Saturated paste	
2	B60165'	3/31/22	14:42	1			X			X						X	X	X	HOLD	
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 3/31/22 18:25	Received by: Tasman's Lock Box	Date/Time: 3/31/22 18:25	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 72 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 4:22 0430	Received by: 	Date/Time: 4:22 0430	Sample Integrity: Temperature Upon Receipt: 4.1	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S<sub>2</sub>

## Sample Receipt Checklist

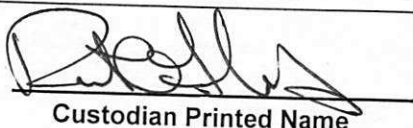
S2 Work Order# 2204029Client: Noble/Tosman Client Project ID: Lilli unit 10-12 (FAC)

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

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 4.1 Thermometer # 

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

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


Custodian Printed Name

 RAH  
 3-4-1-22  
 Date/Time



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SS01@2.5'**  
**2204029-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		140 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		86.7 %	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SS01@2.5'**  
**2204029-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0046	04/04/22	04/05/22	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: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.9 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0176</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 10:00**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SS01@2.5'**  
**2204029-01 (Soil)**

### Summit Scientific

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

Calcium	21.2	0.0546	mg/L dry	1	BFD0233	04/12/22	04/16/22	EPA 6020B
Magnesium	5.04	0.0546	"	"	"	"	"	"
Sodium	15.5	0.0546	"	"	"	"	"	"

#### Calculated Analysis

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.786	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.6		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.278	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.43		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**FS01@5'**  
**2204029-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 10:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		144 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	94	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.2 %	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**FS01@5'**  
**2204029-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0046	04/04/22	04/05/22	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: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.8 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0573</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 10:08**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**FS01@5'**  
**2204029-05 (Soil)**

**Summit Scientific**

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

Calcium	84.8	0.0567	mg/L dry	1	BFD0233	04/12/22	04/16/22	EPA 6020B
Magnesium	13.3	0.0567	"	"	"	"	"	"
Sodium	8.22	0.0567	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.219	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.959	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 10:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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





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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST01@0.5'**  
**2204029-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		143 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	350	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	81	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.5 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

**R-01**

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST01@0.5'**  
**2204029-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

**R-01**

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFD0046	04/04/22	04/05/22	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	ND	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	ND	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.3 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0395</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 10:10**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST01@0.5'**  
**2204029-06 (Soil)**

**Summit Scientific**

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

Calcium	65.6	0.0544	mg/L dry	1	BFD0233	04/12/22	04/16/22	EPA 6020B
Magnesium	14.9	0.0544	"	"	"	"	"	"
Sodium	13.7	0.0544	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.400	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.8		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.776	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.54		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST02@0.5'**  
**2204029-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		145 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1200	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	330	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:12**

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

**PAH by EPA Method 8270D SIM**

**R-01**

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST02@0.5'**  
**2204029-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

**R-01**

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFD0046	04/04/22	04/05/22	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	ND	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	ND	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		84.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		59.6 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0275</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 10:12**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST02@0.5'**  
**2204029-07 (Soil)**

**Summit Scientific**

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

Calcium	19.4	0.0569	mg/L dry	1	BFD0233	04/12/22	04/16/22	EPA 6020B
Magnesium	5.15	0.0569	"	"	"	"	"	"
Sodium	3.70	0.0569	"	"	"	"	"	"

**Calculated Analysis**

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.193	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.9		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.164	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.47		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST03@0.5'**  
**2204029-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		135 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	2700	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	710	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

**R-01**

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST03@0.5'**  
**2204029-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

**R-01**

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFD0046	04/04/22	04/05/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
<b>Benzo (a) anthracene</b>	<b>0.625</b>	0.0500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.584</b>	0.0500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.159</b>	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.768</b>	0.0500	"	"	"	"	"	"	
<b>Dibenz (a,h) anthracene</b>	<b>0.104</b>	0.0500	"	"	"	"	"	"	
Fluoranthene	ND	0.0500	"	"	"	"	"	"	
Fluorene	ND	0.0500	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0858</b>	0.0500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.188</b>	0.0500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.0500	"	"	"	"	"	"	

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	128 %	40-150	"	"	"	"	"	"	S-02
Surrogate: Fluoranthene-d10	72.8 %	40-150	"	"	"	"	"	"	S-02

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

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0335</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/31/22 10:14**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST03@0.5'**  
**2204029-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.03	0.224	mg/kg dry	1	BFD0538	04/25/22	04/30/22	EPA 6020B
Barium	159	0.448	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	4.49	0.448	"	"	"	"	"	"
Lead	7.89	0.224	"	"	"	"	"	"
Nickel	3.70	0.448	"	"	"	"	"	"
Selenium	0.761	0.291	"	"	"	"	"	"
Silver	0.0508	0.0224	"	"	"	"	"	"
Zinc	16.7	0.448	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0388	04/19/22	04/19/22	EPA 7196A	

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

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	131	0.0560	mg/L dry	1	BFD0233	04/12/22	04/16/22	EPA 6020B	
Magnesium	22.5	0.0560	"	"	"	"	"	"	
Sodium	17.2	0.0560	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.365	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 10:14**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**AST03@0.5'**  
**2204029-08 (Soil)**

**Summit Scientific**

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

% Solids	89.2	%	1	BFD0201	04/11/22	04/11/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.956	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 10:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-DL01@3'**  
**2204029-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		146 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		104 %	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-DL01@3'**  
**2204029-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0046	04/04/22	04/05/22	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	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.00654</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		71.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.3 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.197</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 14:35**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-DL01@3'**  
**2204029-09 (Soil)**

### Summit Scientific

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

Calcium	68.2	0.0570	mg/L dry	1	BFD0233	04/12/22	04/17/22	EPA 6020B
Magnesium	12.0	0.0570	"	"	"	"	"	"
Sodium	61.4	0.0570	"	"	"	"	"	"

#### Calculated Analysis

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.80	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.8		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.09	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-FL01@3'**  
**2204029-10 (Soil)**

### Summit Scientific

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

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFD0043	04/04/22	04/05/22	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: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		138 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	50-150		"	"	"	"	

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFD0044	04/04/22	04/05/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.5 %	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-FL01@3'**  
**2204029-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFD0046	04/04/22	04/05/22	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: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		86.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		90.0 %	40-150		"	"	"	"	

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

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0273</b>	0.0100	mg/L	1	BFD0140	04/07/22	04/14/22	EPA 6020B	

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

Date Sampled: **03/31/22 14:38**

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

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**SEP01-FL01@3'**  
**2204029-10 (Soil)**

### Summit Scientific

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

Calcium	29.9	0.0564	mg/L dry	1	BFD0233	04/12/22	04/17/22	EPA 6020B
Magnesium	5.07	0.0564	"	"	"	"	"	"
Sodium	6.57	0.0564	"	"	"	"	"	"

#### Calculated Analysis

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.292	0.00100	units	1	BFD0332	04/17/22	04/17/22	Calculation	

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

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.6		%	1	BFD0201	04/11/22	04/11/22	Calculation	

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

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.293	0.0100	mmhos/cm	1	BFD0251	04/13/22	04/13/22	EPA 120.1	

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

Date Sampled: **03/31/22 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BFD0252	04/13/22	04/13/22	EPA 9045D	

Summit Scientific

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





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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**BG01@3'**  
**2204029-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **03/31/22 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>3.30</b>	0.216	mg/kg dry	1	BFD0538	04/25/22	04/30/22	EPA 6020B	
Barium	<b>163</b>	0.432	"	"	"	"	"	"	
Cadmium	ND	0.216	"	"	"	"	"	"	
Copper	<b>4.89</b>	0.432	"	"	"	"	"	"	
Lead	<b>8.15</b>	0.216	"	"	"	"	"	"	
Nickel	<b>4.17</b>	0.432	"	"	"	"	"	"	
Selenium	<b>0.840</b>	0.281	"	"	"	"	"	"	
Silver	<b>0.0404</b>	0.0216	"	"	"	"	"	"	
Zinc	<b>15.6</b>	0.432	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/31/22 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFD0388	04/19/22	04/19/22	EPA 7196A	

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

Date Sampled: **03/31/22 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>92.5</b>		%	1	BFD0421	04/20/22	04/20/22	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

## 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 BFD0043 - EPA 5030 Soil MS

##### Blank (BFD0043-BLK1)

Prepared & Analyzed: 04/04/22

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	0.0556		"	0.0400		139	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	50-150			

##### LCS (BFD0043-BS1)

Prepared & Analyzed: 04/04/22

Benzene	0.0836	0.0020	mg/kg	0.100		83.6	70-130			
Toluene	0.0996	0.0050	"	0.100		99.6	70-130			
Ethylbenzene	0.0940	0.0050	"	0.100		94.0	70-130			
m,p-Xylene	0.196	0.010	"	0.200		97.8	70-130			
o-Xylene	0.0980	0.0050	"	0.100		98.0	70-130			
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100		107	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
Naphthalene	0.107	0.0038	"	0.100		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0500		"	0.0400		125	50-150			
Surrogate: Toluene-d8	0.0424		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0424		"	0.0400		106	50-150			

##### Matrix Spike (BFD0043-MS1)

Source: 2204022-01

Prepared & Analyzed: 04/04/22

Benzene	0.0919	0.0020	mg/kg	0.100	ND	91.9	70-130			
Toluene	0.104	0.0050	"	0.100	ND	104	70-130			
Ethylbenzene	0.0968	0.0050	"	0.100	ND	96.8	70-130			
m,p-Xylene	0.200	0.010	"	0.200	ND	100	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
Naphthalene	0.129	0.0038	"	0.100	ND	129	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0509		"	0.0400		127	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	50-150			

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 10-12 (Fac)

Project Number: UWRWE-A1788-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

## 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 BFD0043 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFD0043-MSD1)

Source: 2204022-01

Prepared & Analyzed: 04/04/22

Benzene	0.0948	0.0020	mg/kg	0.100	ND	94.8	70-130	3.12	30	
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	2.54	30	
Ethylbenzene	0.0975	0.0050	"	0.100	ND	97.5	70-130	0.710	30	
m,p-Xylene	0.205	0.010	"	0.200	ND	102	70-130	2.40	30	
o-Xylene	0.103	0.0050	"	0.100	ND	103	70-130	1.44	30	
1,2,4-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	0.985	30	
1,3,5-Trimethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130	1.77	30	
Naphthalene	0.123	0.0038	"	0.100	ND	123	70-130	4.82	30	
Surrogate: 1,2-Dichloroethane-d4	0.0514		"	0.0400		128	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	50-150			

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0044 - EPA 3550A**

**Blank (BFD0044-BLK1)**

Prepared & Analyzed: 04/04/22

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

**LCS (BFD0044-BS1)**

Prepared & Analyzed: 04/04/22

C10-C28 (DRO)	477	50	mg/kg	500	95.3	70-130
---------------	-----	----	-------	-----	------	--------

**Matrix Spike (BFD0044-MS1)**

Source: 2204022-01

Prepared & Analyzed: 04/04/22

C10-C28 (DRO)	451	50	mg/kg	500	28.3	84.5	70-130
---------------	-----	----	-------	-----	------	------	--------

**Matrix Spike Dup (BFD0044-MSD1)**

Source: 2204022-01

Prepared & Analyzed: 04/04/22

C10-C28 (DRO)	453	50	mg/kg	500	28.3	84.9	70-130	0.384	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

## 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 BFD0046 - EPA 5030 Soil MS

##### Blank (BFD0046-BLK1)

Prepared & Analyzed: 04/04/22

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	0.0178		"	0.0333		53.5	40-150			
Surrogate: Fluoranthene-d10	0.0161		"	0.0333		48.3	40-150			

##### LCS (BFD0046-BS1)

Prepared: 04/04/22 Analyzed: 04/05/22

Acenaphthene	0.0202	0.00500	mg/kg	0.0333		60.5	31-137			
Anthracene	0.0198	0.00500	"	0.0333		59.5	30-120			
Benzo (a) anthracene	0.0208	0.00500	"	0.0333		62.5	30-120			
Benzo (a) pyrene	0.0188	0.00500	"	0.0333		56.4	30-120			
Benzo (b) fluoranthene	0.0197	0.00500	"	0.0333		59.2	30-120			
Benzo (k) fluoranthene	0.0202	0.00500	"	0.0333		60.5	30-120			
Chrysene	0.0193	0.00500	"	0.0333		57.9	30-120			
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333		60.6	30-120			
Fluoranthene	0.0204	0.00500	"	0.0333		61.2	30-120			
Fluorene	0.0177	0.00500	"	0.0333		53.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0295	0.00500	"	0.0333		88.4	30-120			
Pyrene	0.0212	0.00500	"	0.0333		63.6	35-142			
1-Methylnaphthalene	0.0211	0.00500	"	0.0333		63.2	35-142			
2-Methylnaphthalene	0.0188	0.00500	"	0.0333		56.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0194		"	0.0333		58.2	40-150			
Surrogate: Fluoranthene-d10	0.0201		"	0.0333		60.4	40-150			

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

## 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 BFD0046 - EPA 5030 Soil MS

##### Matrix Spike (BFD0046-MS1)

Source: 2204021-01

Prepared: 04/04/22 Analyzed: 04/05/22

Acenaphthene	0.0541	0.00500	mg/kg	0.0333	ND	162	31-137			S-02
Anthracene	0.0236	0.00500	"	0.0333	ND	70.7	30-120			
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120			
Benzo (a) pyrene	0.0549	0.00500	"	0.0333	0.0645	NR	30-120			S-02
Benzo (b) fluoranthene	0.0352	0.00500	"	0.0333	ND	106	30-120			
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.1	30-120			
Chrysene	0.0518	0.00500	"	0.0333	0.0488	9.27	30-120			S-02
Dibenz (a,h) anthracene	0.0346	0.00500	"	0.0333	ND	104	30-120			
Fluoranthene	0.0166	0.00500	"	0.0333	ND	49.7	30-120			
Fluorene	0.0444	0.00500	"	0.0333	ND	133	30-120			S-02
Indeno (1,2,3-cd) pyrene	0.0394	0.00500	"	0.0333	ND	118	30-120			
Pyrene	0.0390	0.00500	"	0.0333	0.00703	95.9	35-142			
1-Methylnaphthalene	0.0265	0.00500	"	0.0333	ND	79.6	15-130			
2-Methylnaphthalene	0.0222	0.00500	"	0.0333	ND	66.6	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0222		"	0.0333		66.7	40-150			
Surrogate: Fluoranthene-d10	0.0174		"	0.0333		52.2	40-150			

##### Matrix Spike Dup (BFD0046-MSD1)

Source: 2204021-01

Prepared: 04/04/22 Analyzed: 04/05/22

Acenaphthene	0.0174	0.00500	mg/kg	0.0333	ND	52.1	31-137	103	30	S-02
Anthracene	0.0246	0.00500	"	0.0333	ND	73.9	30-120	4.34	30	
Benzo (a) anthracene	0.0270	0.00500	"	0.0333	ND	81.1	30-120	14.1	30	
Benzo (a) pyrene	0.0735	0.00500	"	0.0333	0.0645	26.9	30-120	28.9	30	S-02
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	ND	102	30-120	3.96	30	
Benzo (k) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	34.1	30	S-02
Chrysene	0.0814	0.00500	"	0.0333	0.0488	98.0	30-120	44.4	30	S-02
Dibenz (a,h) anthracene	0.0331	0.00500	"	0.0333	ND	99.4	30-120	4.19	30	
Fluoranthene	0.0183	0.00500	"	0.0333	ND	54.8	30-120	9.86	30	
Fluorene	0.00687	0.00500	"	0.0333	ND	20.6	30-120	146	30	S-02
Indeno (1,2,3-cd) pyrene	0.0604	0.00500	"	0.0333	ND	181	30-120	42.2	30	S-02
Pyrene	0.0453	0.00500	"	0.0333	0.00703	115	35-142	15.1	30	
1-Methylnaphthalene	0.0252	0.00500	"	0.0333	ND	75.6	15-130	5.08	50	
2-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.1	15-130	10.7	50	
Surrogate: 2-Methylnaphthalene-d10	0.0243		"	0.0333		72.9	40-150			
Surrogate: Fluoranthene-d10	0.0171		"	0.0333		51.4	40-150			

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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0140 - EPA 3050B**

**Blank (BFD0140-BLK1)**

Prepared: 04/07/22 Analyzed: 04/14/22

Boron ND 0.0100 mg/L

**LCS (BFD0140-BS1)**

Prepared: 04/07/22 Analyzed: 04/14/22

Boron 5.09 0.0100 mg/L 5.00 102 80-120

**Duplicate (BFD0140-DUP1)**

**Source: 2204024-01**

Prepared: 04/07/22 Analyzed: 04/14/22

Boron 0.106 0.0100 mg/L 0.115 7.93 20

**Matrix Spike (BFD0140-MS1)**

**Source: 2204024-01**

Prepared: 04/07/22 Analyzed: 04/14/22

Boron 5.50 0.0100 mg/L 5.00 0.115 108 75-125

**Matrix Spike Dup (BFD0140-MSD1)**

**Source: 2204024-01**

Prepared: 04/07/22 Analyzed: 04/14/22

Boron 5.38 0.0100 mg/L 5.00 0.115 105 75-125 2.23 25

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0538 - EPA 3050B**

**Blank (BFD0538-BLK1)**

Prepared: 04/25/22 Analyzed: 04/30/22

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 (BFD0538-BS1)**

Prepared: 04/25/22 Analyzed: 04/30/22

Arsenic	45.2	0.200	mg/kg wet	40.0	113	80-120
Barium	39.4	0.400	"	40.0	98.5	80-120
Cadmium	2.28	0.200	"	2.00	114	80-120
Copper	41.0	0.400	"	40.0	103	80-120
Lead	20.9	0.200	"	20.0	105	80-120
Nickel	40.3	0.400	"	40.0	101	80-120
Selenium	4.00	0.260	"	4.00	100	80-120
Silver	2.06	0.0200	"	2.00	103	80-120
Zinc	44.6	0.400	"	40.0	112	80-120

**Duplicate (BFD0538-DUP1)**

Source: 2204029-08

Prepared: 04/25/22 Analyzed: 04/30/22

Arsenic	3.08	0.224	mg/kg dry	3.03	1.84	20
Barium	155	0.448	"	159	2.02	20
Cadmium	0.160	0.224	"	0.168	4.88	20
Copper	4.36	0.448	"	4.49	2.90	20
Lead	7.68	0.224	"	7.89	2.69	20
Nickel	3.58	0.448	"	3.70	3.33	20
Selenium	0.763	0.291	"	0.761	0.200	20
Silver	0.0448	0.0224	"	0.0508	12.5	20
Zinc	16.6	0.448	"	16.7	0.551	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0538 - EPA 3050B**

Matrix Spike (BFD0538-MS1)			Source: 2204029-08		Prepared: 04/25/22 Analyzed: 04/30/22					
Arsenic	57.1	0.224	mg/kg dry	44.8	3.03	121	75-125			
Barium	238	0.448	"	44.8	159	176	75-125			QM-05
Cadmium	2.78	0.224	"	2.24	0.168	117	75-125			
Copper	47.0	0.448	"	44.8	4.49	94.9	75-125			
Lead	32.5	0.224	"	22.4	7.89	110	75-125			
Nickel	50.2	0.448	"	44.8	3.70	104	75-125			
Selenium	5.31	0.291	"	4.48	0.761	102	75-125			
Silver	2.38	0.0224	"	2.24	0.0508	104	75-125			
Zinc	70.9	0.448	"	44.8	16.7	121	75-125			

Matrix Spike Dup (BFD0538-MSD1)			Source: 2204029-08		Prepared: 04/25/22 Analyzed: 04/30/22					
Arsenic	61.4	0.224	mg/kg dry	44.8	3.03	130	75-125	7.35	25	QM-05
Barium	228	0.448	"	44.8	159	156	75-125	3.98	25	QM-05
Cadmium	2.72	0.224	"	2.24	0.168	114	75-125	2.24	25	
Copper	49.0	0.448	"	44.8	4.49	99.3	75-125	4.09	25	
Lead	31.5	0.224	"	22.4	7.89	105	75-125	3.34	25	
Nickel	51.5	0.448	"	44.8	3.70	107	75-125	2.65	25	
Selenium	5.32	0.291	"	4.48	0.761	102	75-125	0.112	25	
Silver	2.28	0.0224	"	2.24	0.0508	99.2	75-125	4.35	25	
Zinc	75.8	0.448	"	44.8	16.7	132	75-125	6.72	25	QM-05

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0388 - 3060A Mod**

**Blank (BFD0388-BLK1)**

Prepared & Analyzed: 04/19/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFD0388-BS1)**

Prepared & Analyzed: 04/19/22

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

**Duplicate (BFD0388-DUP1)**

Source: 2202321-08

Prepared & Analyzed: 04/19/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFD0388-MS1)**

Source: 2202321-08

Prepared & Analyzed: 04/19/22

Chromium, Hexavalent 26.3 0.30 mg/kg dry 26.2 ND 100 75-125

**Matrix Spike Dup (BFD0388-MSD1)**

Source: 2202321-08

Prepared & Analyzed: 04/19/22

Chromium, Hexavalent 29.5 0.30 mg/kg dry 26.2 ND 113 75-125 11.6 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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0233 - General Preparation**

**Blank (BFD0233-BLK1)**

Prepared: 04/12/22 Analyzed: 04/16/22

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

**LCS (BFD0233-BS1)**

Prepared: 04/12/22 Analyzed: 04/16/22

Calcium	5.50	0.0500	mg/L wet	5.00	110	70-130
Magnesium	6.38	0.0500	"	5.00	128	70-130
Sodium	6.19	0.0500	"	5.00	124	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 10-12 (Fac)

Project Number: UWRWE-A1788-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0201 - General Preparation**

**Duplicate (BFD0201-DUP1)**

**Source: 2204025-01**

Prepared & Analyzed: 04/11/22

% Solids	94.5	%		95.3		0.836	20
----------	------	---	--	------	--	-------	----

**Batch BFD0421 - General Preparation**

**Duplicate (BFD0421-DUP1)**

**Source: 2202321-08**

Prepared & Analyzed: 04/20/22

% Solids	95.4	%		95.6		0.151	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 10-12 (Fac)  
Project Number: UWRWE-A1788-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0251 - General Preparation**

**Blank (BFD0251-BLK1)**

Prepared & Analyzed: 04/13/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFD0251-BS1)**

Prepared & Analyzed: 04/13/22

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BFD0251-DUP1)**

**Source: 2204029-01**

Prepared & Analyzed: 04/13/22

Specific Conductance (EC) 0.276 0.0100 mmhos/cm 0.278 0.506 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 10-12 (Fac)

Project Number: UWRWE-A1788-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

**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 BFD0252 - General Preparation**

**LCS (BFD0252-BS1)**

Prepared & Analyzed: 04/13/22

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

**Duplicate (BFD0252-DUP1)**

Source: 2204029-01

Prepared & Analyzed: 04/13/22

pH	7.54	pH Units	7.43	1.47	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 10-12 (Fac)

Project Number: UWRWE-A1788-ABN

Project Manager: Jacob Whritenour

**Reported:**  
05/02/22 12:12

### 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.
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

June 16, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit 10-12 (Fac)

Work Order #2205347

Enclosed are the results of analyses for samples received by Summit Scientific on 05/23/22 16:10. 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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@0.5-1.5'	2205347-01	Soil	05/23/22 10:40	05/23/22 16:10
BH01@4-5'	2205347-02	Soil	05/23/22 10:50	05/23/22 16:10
BH01@18-20'	2205347-03	Soil	05/23/22 11:00	05/23/22 16:10
BH02@0.5-1.5'	2205347-04	Soil	05/23/22 11:20	05/23/22 16:10
BH02@4-5'	2205347-05	Soil	05/23/22 11:30	05/23/22 16:10
BH02@18-20'	2205347-06	Soil	05/23/22 12:00	05/23/22 16:10
BH03@0.5-1.5'	2205347-07	Soil	05/23/22 13:20	05/23/22 16:10
BH03@4-5'	2205347-08	Soil	05/23/22 13:25	05/23/22 16:10
BH03@10-12'	2205347-09	Soil	05/23/22 13:30	05/23/22 16:10
BH04@0.5-1.5'	2205347-10	Soil	05/23/22 13:00	05/23/22 16:10
BH04@4-5'	2205347-11	Soil	05/23/22 13:05	05/23/22 16:10
BH04@10-12'	2205347-12	Soil	05/23/22 13:10	05/23/22 16:10
BH05@0.5-1.5'	2205347-13	Soil	05/23/22 12:40	05/23/22 16:10
BH05@4-5'	2205347-14	Soil	05/23/22 12:45	05/23/22 16:10
BH05@10-12'	2205347-15	Soil	05/23/22 12:50	05/23/22 16:10
BH06@0.5-1.5'	2205347-16	Soil	05/23/22 12:20	05/23/22 16:10
BH06@4-5'	2205347-17	Soil	05/23/22 12:25	05/23/22 16:10
BH06@10-12'	2205347-18	Soil	05/23/22 12:30	05/23/22 16:10
BG01@2'	2205347-19	Soil	05/23/22 13:50	05/23/22 16:10
BG02@2'	2205347-20	Soil	05/23/22 13:52	05/23/22 16:10
BG03@2'	2205347-21	Soil	05/23/22 13:54	05/23/22 16:10
BG04@2'	2205347-22	Soil	05/23/22 13:56	05/23/22 16:10
BG05@2'	2205347-23	Soil	05/23/22 13:58	05/23/22 16:10

Summit Scientific

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

# Summit Scientific

S<sub>2</sub>

2205347.1

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

Page 1 of 3

Client:	Noble / Tasman Geosciences	Project Manager:	Jake Whritenour, Invoice: <u>Erica Zuniga</u>
Address:	6855 W. 119th Ave.	E-Mail:	jwhritenour@tasman-geo.com/ Noble Group
City/State/Zip:	Broomfield / CO/ 80020		
Phone:	303-827-1511	Project Name:	<u>Lilli Unit 10-12 FAC</u>
Sampler Name:	Hunter Merlo	Project Number:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	\$260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Mutals - 915		
1	BH01 @ 0.5-1.5'	5/23/22	1040	2			X			X				X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	BH01 @ 4-5'		1050																		
3	BH01 @ 18-20'		1100																		
4	BH02 @ 0.5-1.5'		1120																		
5	BH02 @ 4-5'		1130																		
6	BH02 @ 18-20'		1200																		
7	BH03 @ 0.5-1.5'		1320																		
8	BH03 @ 4-5'		1325																		
9	BH03 @ 10-12'		1330																		
10	BH04 @ 0.5-1.5'	↓	1300	↓			↓			↓				↓	↓	↓	↓	↓	↓		

Relinquished by: <u>AM</u>	Date/Time: <u>5/23/22</u> <u>1610</u>	Received by: <u>Tasman's Lock Box</u> <u>Summit</u>	Date/Time: <u>5/23/22</u> <u>1610</u>	<b>Turn Around Time</b> (Check) Same Day _____ 72 hours 24 hours <u>X</u> Standard 48 hours _____ <b>Sample Integrity:</b> Temperature Upon Receipt: <u>3.9</u> Samples Intact: <u>(Yes)</u> No	<b>Notes:</b>
Relinquished by: <b>Tasman's Lock Box</b>	Date/Time: <u>5/23/22</u> <u>1610</u>	Received by: <u>[Signature]</u>	Date/Time: <u>5/23/22</u> <u>1610</u>		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Summit Scientific

S<sub>2</sub>

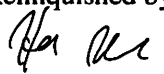
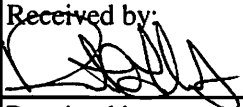
2205347.2

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

Page 2 of 3

Client: Noble / Tasman Geosciences Project Manager: Jake Whritenour, Invoice: Erica Zuniga  
Address: 6855 W. 119th Ave. E-Mail: jwhritenour@tasman-geo.com/ Noble Group  
City/State/Zip: Broomfield / CO/ 80020  
Phone: 303-827-1511 Project Name: Gili Unit 10-12 FAC  
Sampler Name: Hunter Merlo 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	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Metals - 915		
1	BH04 @ 4-5'	5/23/22	1305	2			X			X				X	X	X	X	X	X		pH, EC, SAR by saturated paste
2	BH04 @ 10-12'		1310																		
3	BH05 @ 0.5-1.5'		1240																		
4	BH05 @ 4-5'		1245																		
5	BH05 @ 10-12'		1250																		
6	BH06 @ 0.5-1.5'		1226																		
7	BH06 @ 4-5'		1225																		
8	BH06 @ 10-12'	↓	1230	↓			↓			↓				↓	↓	↓	↓	↓	↓		
9																					
10																					

Relinquished by: 	Date/Time: 5/23/22 1610	Received by: Tasman's Lock Box Summit	Date/Time: 5/23/22 1610	<b>Turn Around Time</b> (Check) ___ Same Day 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours ___ <b>Sample Integrity:</b> Temperature Upon Receipt: 5.9 Samples Intact: <input checked="" type="checkbox"/> Yes No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box	Date/Time: 5/23/22 1610	Received by: 	Date/Time: 5/23/22 1610		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Summit Scientific 2205347.3

S<sub>2</sub>

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

Page **3** of **3**

Client: Noble / Tasman Geosciences	Project Manager: Jake Whritenour, Invoice: <u>Erica Zuniga</u>
Address: 6855 W. 119th Ave.	E-Mail: jwhritenour@tasman-geo.com/ Noble Group
City/State/Zip: Broomfield / CO/ 80020	
Phone: 303-827-1511	Project Name: <u>Lilli Unit 10-12 FAC</u>
Sampler Name: Hunter Merlo	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	\$260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	Arsenic, Barium	Selenium	
1	B601 @ 2'	5/28/22	1350	4			X			X											pH, EC, SAR by saturated paste
2	B602 @ 2'	↓	1352	↓			↓			↓											
3	B603 @ 2'		1354	↓			↓			↓											
4	B604 @ 2'		1356	↓			↓			↓											
5	B605 @ 2'	↓	1358	↓			↓			↓											
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time: <u>5/23/22</u> 1616	Received by: <u>Tasman's Lock Box</u> <u>Summit</u>	Date/Time: <u>5/23/22</u> 1610	Turn Around Time (Check) ___ Same Day      ___ 72 hours ___ 24 hours <u>X</u> Standard ___ 48 hours      ___	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: <u>5/23/22</u> 1610	Received by:	Date/Time: <u>5/23/22</u> 1610	Sample Integrity: Temperature Upon Receipt: <u>59</u> Samples Intact: <u>(Yes)</u> No	
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2205347

Client: Nobu / TasmanClient Project ID: Lilli unit 10-12 FAC

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

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 59Thermometer # 1

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

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

52322  
 Date/Time



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@0.5-1.5'**  
**2205347-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0454	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.6 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	1800	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	890	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 10:40**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@0.5-1.5'**  
**2205347-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Acenaphthene</b>	<b>0.0219</b>	0.00500	mg/kg	1	BFE0587	05/26/22	06/02/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
<b>Benzo (a) pyrene</b>	<b>0.0161</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (b) fluoranthene</b>	<b>0.121</b>	0.00500	"	"	"	"	"	"	
<b>Benzo (k) fluoranthene</b>	<b>0.0935</b>	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.523</b>	0.500	"	100	"	"	"	"	
<b>Dibenz (a,h) anthracene</b>	<b>0.0228</b>	0.00500	"	1	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0264</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.118</b>	0.0500	"	10	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	1	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	42.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.6 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0686</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 10:40**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@0.5-1.5'**  
**2205347-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.63	0.238	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	184	0.475	"	"	"	"	"	"
Cadmium	ND	0.238	"	"	"	"	"	"
Copper	3.84	0.475	"	"	"	"	"	"
Lead	7.23	0.238	"	"	"	"	"	"
Nickel	3.54	0.475	"	"	"	"	"	"
Selenium	0.829	0.309	"	"	"	"	"	"
Silver	ND	0.0238	"	"	"	"	"	"
Zinc	5.52	0.475	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2520	0.0594	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	179	0.0594	"	"	"	"	"	"	
Sodium	96.9	0.0594	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.503	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@0.5-1.5'**  
**2205347-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.1			%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.978	0.0100		mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.88			pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@4-5'**  
**2205347-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0439	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	97.4 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.7	101 %	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@4-5'**  
**2205347-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/02/22	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: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0177	53.0 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.146</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 10:50**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@4-5'**  
**2205347-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.10	0.225	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	125	0.450	"	"	"	"	"	"
Cadmium	ND	0.225	"	"	"	"	"	"
Copper	3.01	0.450	"	"	"	"	"	"
Lead	7.02	0.225	"	"	"	"	"	"
Nickel	3.38	0.450	"	"	"	"	"	"
Selenium	0.748	0.293	"	"	"	"	"	"
Silver	ND	0.0225	"	"	"	"	"	"
Zinc	6.38	0.450	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	974	0.0563	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	134	0.0563	"	"	"	"	"	"	
Sodium	123	0.0563	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.980	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@4-5'**  
**2205347-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.500	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.75		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH01@18-20'**

**2205347-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0454	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	101 %	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@18-20'**  
**2205347-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	05/27/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0187	56.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0136	40.8 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.155</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 11:00**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@18-20'**  
**2205347-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.45	0.246	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	102	0.492	"	"	"	"	"	"
Cadmium	ND	0.246	"	"	"	"	"	"
Copper	4.29	0.492	"	"	"	"	"	"
Lead	9.05	0.246	"	"	"	"	"	"
Nickel	4.38	0.492	"	"	"	"	"	"
Selenium	0.801	0.320	"	"	"	"	"	"
Silver	ND	0.0246	"	"	"	"	"	"
Zinc	10.2	0.492	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1090	0.0615	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	269	0.0615	"	"	"	"	"	"	
Sodium	349	0.0615	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.45	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH01@18-20'**  
**2205347-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.3		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.968	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@0.5-1.5'**  
**2205347-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0459	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	51	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	101 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH02@0.5-1.5'**

**2205347-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0146	43.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	50.9 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0394</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 11:20**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@0.5-1.5'**  
**2205347-04 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.53	0.234	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	138	0.468	"	"	"	"	"	"
Cadmium	ND	0.234	"	"	"	"	"	"
Copper	2.73	0.468	"	"	"	"	"	"
Lead	5.08	0.234	"	"	"	"	"	"
Nickel	2.54	0.468	"	"	"	"	"	"
Selenium	0.544	0.304	"	"	"	"	"	"
Silver	ND	0.0234	"	"	"	"	"	"
Zinc	2.67	0.468	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2540	0.0584	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	134	0.0584	"	"	"	"	"	"	
Sodium	59.6	0.0584	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.312	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH02@0.5-1.5'**

**2205347-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	85.6		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.535	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@4-5'**  
**2205347-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0438	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.7	110 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH02@4-5'**  
**2205347-05 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0217	65.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0259	77.6 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0318</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

#### Total Metals by EPA 6020B

Date Sampled: **05/23/22 11:30**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@4-5'**  
**2205347-05 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.67	0.224	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	303	0.449	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	2.23	0.449	"	"	"	"	"	"
Lead	6.04	0.224	"	"	"	"	"	"
Nickel	2.43	0.449	"	"	"	"	"	"
Selenium	0.659	0.292	"	"	"	"	"	"
Silver	ND	0.0224	"	"	"	"	"	"
Zinc	2.93	0.449	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1490	0.0561	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	152	0.0561	"	"	"	"	"	"	
Sodium	47.1	0.0561	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.311	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH02@4-5'**  
**2205347-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.1		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.424	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.38		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@18-20'**  
**2205347-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.6	109 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@18-20'**  
**2205347-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.00582</b>	0.00500	"	"	"	"	06/03/22	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	06/03/22	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0151	45.2 %	40-150		"	"	06/03/22	"	

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Boron</b>	<b>0.139</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@18-20'**  
**2205347-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.10	0.236	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	92.2	0.472	"	"	"	"	"	"
Cadmium	ND	0.236	"	"	"	"	"	"
Copper	3.53	0.472	"	"	"	"	"	"
Lead	7.99	0.236	"	"	"	"	"	"
Nickel	3.56	0.472	"	"	"	"	"	"
Selenium	0.761	0.307	"	"	"	"	"	"
Silver	ND	0.0236	"	"	"	"	"	"
Zinc	7.44	0.472	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	725	0.0590	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	208	0.0590	"	"	"	"	"	"	
Sodium	340	0.0590	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.87	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH02@18-20'**  
**2205347-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	84.7			%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.408	0.0100		mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.95			pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@0.5-1.5'**  
**2205347-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0464	116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:20**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH03@0.5-1.5'**

**2205347-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0229	68.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0240	72.1 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0731</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:20**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@0.5-1.5'**  
**2205347-07 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.81	0.226	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	201	0.451	"	"	"	"	"	"
Cadmium	ND	0.226	"	"	"	"	"	"
Copper	3.08	0.451	"	"	"	"	"	"
Lead	6.26	0.226	"	"	"	"	"	"
Nickel	2.81	0.451	"	"	"	"	"	"
Selenium	0.646	0.293	"	"	"	"	"	"
Silver	ND	0.0226	"	"	"	"	"	"
Zinc	3.54	0.451	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2330	0.0564	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	166	0.0564	"	"	"	"	"	"	
Sodium	52.7	0.0564	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.284	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@0.5-1.5'**  
**2205347-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.7		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.407	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@4-5'**  
**2205347-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0454	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:25**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH03@4-5'**  
**2205347-08 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.5 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0459</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

#### Total Metals by EPA 6020B

Date Sampled: **05/23/22 13:25**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@4-5'**  
**2205347-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.60	0.227	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	344	0.453	"	"	"	"	"	"
Cadmium	ND	0.227	"	"	"	"	"	"
Copper	2.53	0.453	"	"	"	"	"	"
Lead	6.20	0.227	"	"	"	"	"	"
Nickel	2.69	0.453	"	"	"	"	"	"
Selenium	0.553	0.294	"	"	"	"	"	"
Silver	ND	0.0227	"	"	"	"	"	"
Zinc	4.06	0.453	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1710	0.0566	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	145	0.0566	"	"	"	"	"	"	
Sodium	56.1	0.0566	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.350	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@4-5'**  
**2205347-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.3		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.438	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@10-12'**  
**2205347-09 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.6	101 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH03@10-12'**

**2205347-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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	"	"	"	"	"	"	
<b>Indeno (1,2,3-cd) pyrene</b>	<b>0.0175</b>	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 2-Methylnaphthalene-d10</i>	0.0160	48.0 %	40-150		"	"	"	"	
<i>Surrogate: Fluoranthene-d10</i>	0.0184	55.3 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.206</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:30**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@10-12'**  
**2205347-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.53	0.242	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	166	0.485	"	"	"	"	"	"
Cadmium	ND	0.242	"	"	"	"	"	"
Copper	5.25	0.485	"	"	"	"	"	"
Lead	8.77	0.242	"	"	"	"	"	"
Nickel	5.57	0.485	"	"	"	"	"	"
Selenium	0.874	0.315	"	"	"	"	"	"
Silver	0.0324	0.0242	"	"	"	"	"	"
Zinc	15.2	0.485	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	868	0.0606	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	249	0.0606	"	"	"	"	"	"	
Sodium	343	0.0606	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.64	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 13:30**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH03@10-12'**  
**2205347-09 (Soil)**

**Summit Scientific**

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

% Solids	82.5	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.410</b>	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.83</b>		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@0.5-1.5'**  
**2205347-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0446	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0409	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/24/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.9	111 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH04@0.5-1.5'**

**2205347-10 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0165	49.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0729</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:00**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@0.5-1.5'**  
**2205347-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.52	0.228	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	186	0.457	"	"	"	"	"	"
Cadmium	ND	0.228	"	"	"	"	"	"
Copper	3.49	0.457	"	"	"	"	"	"
Lead	7.43	0.228	"	"	"	"	"	"
Nickel	3.39	0.457	"	"	"	"	"	"
Selenium	0.703	0.297	"	"	"	"	"	"
Silver	ND	0.0228	"	"	"	"	"	"
Zinc	6.12	0.457	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2080	0.0571	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	230	0.0571	"	"	"	"	"	"	
Sodium	83.1	0.0571	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.461	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@0.5-1.5'**  
**2205347-10 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	87.6			%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.506	0.0100		mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.24			pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@4-5'**  
**2205347-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0454	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0419	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:05**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@4-5'**  
**2205347-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.3 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0764</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:05**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@4-5'**  
**2205347-11 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.47	0.222	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	257	0.445	"	"	"	"	"	"
Cadmium	ND	0.222	"	"	"	"	"	"
Copper	2.07	0.445	"	"	"	"	"	"
Lead	5.46	0.222	"	"	"	"	"	"
Nickel	2.19	0.445	"	"	"	"	"	"
Selenium	0.593	0.289	"	"	"	"	"	"
Silver	ND	0.0222	"	"	"	"	"	"
Zinc	2.63	0.445	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	995	0.0556	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	143	0.0556	"	"	"	"	"	"	
Sodium	108	0.0556	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.848	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH04@4-5'**  
**2205347-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.9		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.428	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.69		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@10-12'**  
**2205347-12 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0442	110 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.6	109 %	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@10-12'**  
**2205347-12 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0163	49.0 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.238</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:10**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@10-12'**  
**2205347-12 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.45	0.246	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	140	0.492	"	"	"	"	"	"
Cadmium	ND	0.246	"	"	"	"	"	"
Copper	5.48	0.492	"	"	"	"	"	"
Lead	7.84	0.246	"	"	"	"	"	"
Nickel	5.76	0.492	"	"	"	"	"	"
Selenium	0.858	0.320	"	"	"	"	"	"
Silver	0.0272	0.0246	"	"	"	"	"	"
Zinc	15.0	0.492	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	936	0.0615	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	153	0.0615	"	"	"	"	"	"	
Sodium	340	0.0615	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.72	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 13:10**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH04@10-12'**  
**2205347-12 (Soil)**

**Summit Scientific**

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

% Solids	81.3	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.770	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.53		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@0.5-1.5'**  
**2205347-13 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0453	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:40**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH05@0.5-1.5'**

**2205347-13 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.9 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0920</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:40**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@0.5-1.5'**  
**2205347-13 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.06	0.233	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	129	0.466	"	"	"	"	"	"
Cadmium	ND	0.233	"	"	"	"	"	"
Copper	4.05	0.466	"	"	"	"	"	"
Lead	6.85	0.233	"	"	"	"	"	"
Nickel	3.62	0.466	"	"	"	"	"	"
Selenium	0.710	0.303	"	"	"	"	"	"
Silver	0.0258	0.0233	"	"	"	"	"	"
Zinc	7.32	0.466	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1810	0.0583	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	201	0.0583	"	"	"	"	"	"	
Sodium	54.4	0.0583	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.324	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 12:40**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@0.5-1.5'**  
**2205347-13 (Soil)**

**Summit Scientific**

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

% Solids	85.8	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.513</b>	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.13</b>		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH05@4-5'**  
**2205347-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0460	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0407	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:45**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@4-5'**  
**2205347-14 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0170	50.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0176	52.8 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0648</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:45**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@4-5'**  
**2205347-14 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.83	0.224	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	132	0.448	"	"	"	"	"	"
Cadmium	ND	0.224	"	"	"	"	"	"
Copper	2.63	0.448	"	"	"	"	"	"
Lead	5.95	0.224	"	"	"	"	"	"
Nickel	2.87	0.448	"	"	"	"	"	"
Selenium	0.706	0.291	"	"	"	"	"	"
Silver	ND	0.0224	"	"	"	"	"	"
Zinc	5.17	0.448	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1110	0.0560	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	139	0.0560	"	"	"	"	"	"	
Sodium	58.0	0.0560	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.436	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@4-5'**  
**2205347-14 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.2			%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.420	0.0100		mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.57			pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@10-12'**  
**2205347-15 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0473	118 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0417	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:50**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@10-12'**  
**2205347-15 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0160	48.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.4 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.106</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:50**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@10-12'**  
**2205347-15 (Soil)**

### Summit Scientific

#### Total Metals by EPA 6020B

Arsenic	3.43	0.244	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	165	0.489	"	"	"	"	"	"
Cadmium	ND	0.244	"	"	"	"	"	"
Copper	5.16	0.489	"	"	"	"	"	"
Lead	7.96	0.244	"	"	"	"	"	"
Nickel	5.33	0.489	"	"	"	"	"	"
Selenium	0.877	0.318	"	"	"	"	"	"
Silver	0.0258	0.0244	"	"	"	"	"	"
Zinc	14.1	0.489	"	"	"	"	"	"

#### Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	710	0.0611	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	174	0.0611	"	"	"	"	"	"	
Sodium	299	0.0611	"	"	"	"	"	"	

#### Calculated Analysis

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.61	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 12:50**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH05@10-12'**  
**2205347-15 (Soil)**

**Summit Scientific**

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

% Solids	81.8	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.435	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.78		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@0.5-1.5'**  
**2205347-16 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.4	123 %	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@0.5-1.5'**  
**2205347-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.4 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0884</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:20**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@0.5-1.5'**  
**2205347-16 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.24	0.238	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	183	0.476	"	"	"	"	"	"
Cadmium	ND	0.238	"	"	"	"	"	"
Copper	4.74	0.476	"	"	"	"	"	"
Lead	9.17	0.238	"	"	"	"	"	"
Nickel	4.30	0.476	"	"	"	"	"	"
Selenium	0.908	0.309	"	"	"	"	"	"
Silver	0.0400	0.0238	"	"	"	"	"	"
Zinc	11.7	0.476	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	412	0.0594	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	168	0.0594	"	"	"	"	"	"	
Sodium	52.6	0.0594	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.552	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 12:20**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@0.5-1.5'**  
**2205347-16 (Soil)**

**Summit Scientific**

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

% Solids	84.1	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.515	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.70		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@4-5'**  
**2205347-17 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0460	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	13.9	111 %	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH06@4-5'**  
**2205347-17 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0152	45.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.4 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.0772</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

#### Total Metals by EPA 6020B

Date Sampled: **05/23/22 12:25**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@4-5'**  
**2205347-17 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.26	0.229	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	511	0.458	"	"	"	"	"	"
Cadmium	ND	0.229	"	"	"	"	"	"
Copper	2.76	0.458	"	"	"	"	"	"
Lead	6.21	0.229	"	"	"	"	"	"
Nickel	3.15	0.458	"	"	"	"	"	"
Selenium	0.688	0.297	"	"	"	"	"	"
Silver	ND	0.0229	"	"	"	"	"	"
Zinc	5.73	0.458	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1110	0.0572	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	121	0.0572	"	"	"	"	"	"	
Sodium	69.7	0.0572	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.530	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**BH06@4-5'**  
**2205347-17 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.4		%	1	BFE0599	05/26/22	05/26/22	Calculation	

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.513	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.51		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@10-12'**  
**2205347-18 (Soil)**

**Summit Scientific**

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

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFE0517	05/24/22	05/25/22	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: **05/23/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0464	116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0408	102 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.3 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFE0519	05/24/22	05/25/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/23/22 12:30**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@10-12'**  
**2205347-18 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFE0587	05/26/22	06/03/22	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: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0137	41.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0145	43.6 %	40-150		"	"	"	"	

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

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Boron</b>	<b>0.285</b>	0.0100	mg/L	1	BFE0596	05/26/22	05/30/22	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 12:30**

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

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@10-12'**  
**2205347-18 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.59	0.248	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B
Barium	124	0.496	"	"	"	"	"	"
Cadmium	ND	0.248	"	"	"	"	"	"
Copper	5.41	0.496	"	"	"	"	"	"
Lead	8.54	0.248	"	"	"	"	"	"
Nickel	5.68	0.496	"	"	"	"	"	"
Selenium	0.911	0.322	"	"	"	"	"	"
Silver	0.0294	0.0248	"	"	"	"	"	"
Zinc	15.0	0.496	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFF0180	06/07/22	06/07/22	EPA 7196A	

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

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	927	0.0619	mg/L dry	1	BFE0705	05/31/22	06/06/22	EPA 6020B	
Magnesium	168	0.0619	"	"	"	"	"	"	
Sodium	383	0.0619	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.04	0.00100	units	1	BFF0139	06/06/22	06/06/22	Calculation	

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

Date Sampled: **05/23/22 12:30**

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

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BH06@10-12'**  
**2205347-18 (Soil)**

**Summit Scientific**

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

% Solids	80.7	%	1	BFE0599	05/26/22	05/26/22	Calculation
----------	------	---	---	---------	----------	----------	-------------

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

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.612	0.0100	mmhos/cm	1	BFE0719	05/31/22	05/31/22	EPA 120.1	

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

Date Sampled: **05/23/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.62		pH Units	1	BFE0716	05/31/22	05/31/22	EPA 9045D	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BG01@2'**  
**2205347-19 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>2.59</b>	0.200	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B	
Barium	<b>365</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.573</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **05/23/22 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>95.0</b>		%	1	BFE0599	05/26/22	05/26/22	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BG02@2'**  
**2205347-20 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>2.24</b>	0.200	mg/kg dry	1	BFE0743	05/31/22	06/05/22	EPA 6020B	
Barium	<b>183</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.548</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **05/23/22 13:52**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>95.4</b>		%	1	BFE0599	05/26/22	05/26/22	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BG03@2'**  
**2205347-21 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>1.99</b>	0.200	mg/kg dry	1	BFF0006	06/01/22	06/06/22	EPA 6020B	
Barium	<b>160</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.423</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **05/23/22 13:54**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>94.1</b>		%	1	BFE0599	05/26/22	05/26/22	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BG04@2'**  
**2205347-22 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>2.76</b>	0.200	mg/kg dry	1	BFF0006	06/01/22	06/06/22	EPA 6020B	
<b>Barium</b>	<b>154</b>	0.400	"	"	"	"	"	"	
<b>Selenium</b>	<b>0.695</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **05/23/22 13:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>95.0</b>		%	1	BFE0630	05/27/22	05/27/22	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**BG05@2'**  
**2205347-23 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **05/23/22 13:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>2.16</b>	0.200	mg/kg dry	1	BFF0006	06/01/22	06/06/22	EPA 6020B	
Barium	<b>197</b>	0.400	"	"	"	"	"	"	
Selenium	<b>0.775</b>	0.260	"	"	"	"	"	"	

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

Date Sampled: **05/23/22 13:58**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>95.4</b>		%	1	BFE0630	05/27/22	05/27/22	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

## 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 BFE0517 - EPA 5030 Soil MS

##### Blank (BFE0517-BLK1)

Prepared: 05/24/22 Analyzed: 05/25/22

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	0.0470		"	0.0400		117	50-150			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.7	50-150			

##### LCS (BFE0517-BS1)

Prepared: 05/24/22 Analyzed: 05/25/22

Benzene	0.144	0.0020	mg/kg	0.125		115	70-130			
Toluene	0.142	0.0050	"	0.125		113	70-130			
Ethylbenzene	0.147	0.0050	"	0.125		118	70-130			
m,p-Xylene	0.261	0.010	"	0.250		105	70-130			
o-Xylene	0.125	0.0050	"	0.125		99.8	70-130			
1,2,4-Trimethylbenzene	0.143	0.0050	"	0.125		114	70-130			
1,3,5-Trimethylbenzene	0.142	0.0050	"	0.125		114	70-130			
Naphthalene	0.125	0.0038	"	0.125		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0437		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

##### Matrix Spike (BFE0517-MS1)

Source: 2205347-01

Prepared: 05/24/22 Analyzed: 05/25/22

Benzene	0.145	0.0020	mg/kg	0.125	ND	116	70-130			
Toluene	0.141	0.0050	"	0.125	ND	113	70-130			
Ethylbenzene	0.154	0.0050	"	0.125	ND	123	70-130			
m,p-Xylene	0.276	0.010	"	0.250	ND	110	70-130			
o-Xylene	0.132	0.0050	"	0.125	ND	106	70-130			
1,2,4-Trimethylbenzene	0.137	0.0050	"	0.125	ND	110	70-130			
1,3,5-Trimethylbenzene	0.138	0.0050	"	0.125	ND	110	70-130			
Naphthalene	0.127	0.0038	"	0.125	ND	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.1	50-150			

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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

## 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 BFE0517 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFE0517-MSD1)

Source: 2205347-01

Prepared: 05/24/22 Analyzed: 05/25/22

Benzene	0.138	0.0020	mg/kg	0.125	ND	111	70-130	4.60	30	
Toluene	0.136	0.0050	"	0.125	ND	109	70-130	3.34	30	
Ethylbenzene	0.149	0.0050	"	0.125	ND	119	70-130	3.36	30	
m,p-Xylene	0.268	0.010	"	0.250	ND	107	70-130	2.65	30	
o-Xylene	0.127	0.0050	"	0.125	ND	102	70-130	3.70	30	
1,2,4-Trimethylbenzene	0.137	0.0050	"	0.125	ND	110	70-130	0.131	30	
1,3,5-Trimethylbenzene	0.135	0.0050	"	0.125	ND	108	70-130	2.11	30	
Naphthalene	0.130	0.0038	"	0.125	ND	104	70-130	2.78	30	
Surrogate: 1,2-Dichloroethane-d4	0.0435		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

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

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

**Batch BFE0519 - EPA 3550A**

**Blank (BFE0519-BLK1)**

Prepared & Analyzed: 05/24/22

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

**LCS (BFE0519-BS1)**

Prepared & Analyzed: 05/24/22

C10-C28 (DRO)	458	50	mg/kg	500	91.6	70-130
---------------	-----	----	-------	-----	------	--------

**Matrix Spike (BFE0519-MS1)**

Source: 2205347-06

Prepared: 05/24/22 Analyzed: 05/25/22

C10-C28 (DRO)	459	50	mg/kg	500	14.7	88.9	70-130
---------------	-----	----	-------	-----	------	------	--------

**Matrix Spike Dup (BFE0519-MSD1)**

Source: 2205347-06

Prepared: 05/24/22 Analyzed: 05/25/22

C10-C28 (DRO)	426	50	mg/kg	500	14.7	82.2	70-130	7.54	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

### 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 BFE0587 - EPA 5030 Soil MS

##### Blank (BFE0587-BLK1)

Prepared: 05/26/22 Analyzed: 06/02/22

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	0.0327		"	0.0333		98.0	40-150			
Surrogate: Fluoranthene-d10	0.0266		"	0.0333		79.8	40-150			

##### LCS (BFE0587-BS1)

Prepared: 05/26/22 Analyzed: 06/02/22

Acenaphthene	0.0264	0.00500	mg/kg	0.0333		79.3	31-137			
Anthracene	0.0290	0.00500	"	0.0333		86.9	30-120			
Benzo (a) anthracene	0.0287	0.00500	"	0.0333		86.0	30-120			
Benzo (a) pyrene	0.0239	0.00500	"	0.0333		71.6	30-120			
Benzo (b) fluoranthene	0.0262	0.00500	"	0.0333		78.7	30-120			
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333		90.5	30-120			
Chrysene	0.0306	0.00500	"	0.0333		91.9	30-120			
Dibenz (a,h) anthracene	0.0219	0.00500	"	0.0333		65.8	30-120			
Fluoranthene	0.0280	0.00500	"	0.0333		84.0	30-120			
Fluorene	0.0284	0.00500	"	0.0333		85.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0213	0.00500	"	0.0333		63.9	30-120			
Pyrene	0.0316	0.00500	"	0.0333		94.8	35-142			
1-Methylnaphthalene	0.0293	0.00500	"	0.0333		88.0	35-142			
2-Methylnaphthalene	0.0337	0.00500	"	0.0333		101	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0369		"	0.0333		111	40-150			
Surrogate: Fluoranthene-d10	0.0278		"	0.0333		83.4	40-150			

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

## 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 BFE0587 - EPA 5030 Soil MS

Matrix Spike (BFE0587-MS1)			Source: 2205347-01		Prepared: 05/26/22 Analyzed: 06/02/22					
Acenaphthene	0.0232	0.00500	mg/kg	0.0333	0.0219	3.88	31-137			QM-07
Anthracene	0.0104	0.00500	"	0.0333	0.00357	20.5	30-120			QM-07
Benzo (a) anthracene	ND	0.00500	"	0.0333	ND		30-120			QM-07
Benzo (a) pyrene	0.0306	0.00500	"	0.0333	0.0161	43.6	30-120			
Benzo (b) fluoranthene	0.120	0.00500	"	0.0333	0.121	NR	30-120			QM-07
Benzo (k) fluoranthene	ND	0.00500	"	0.0333	0.0935	NR	30-120			QM-07
Chrysene	0.371	0.00500	"	0.0333	0.523	NR	30-120			QM-07
Dibenz (a,h) anthracene	0.0331	0.00500	"	0.0333	0.0228	30.9	30-120			
Fluoranthene	0.00536	0.00500	"	0.0333	ND	16.1	30-120			QM-07
Fluorene	0.0169	0.00500	"	0.0333	0.0264	NR	30-120			QM-07
Indeno (1,2,3-cd) pyrene	0.0499	0.00500	"	0.0333	ND	150	30-120			QM-07
Pyrene	0.218	0.00500	"	0.0333	0.118	301	35-142			QM-07
1-Methylnaphthalene	0.00918	0.00500	"	0.0333	ND	27.5	15-130			
2-Methylnaphthalene	0.00818	0.00500	"	0.0333	ND	24.5	15-130			QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0170		"	0.0333		51.1	40-150			
Surrogate: Fluoranthene-d10	0.0118		"	0.0333		35.5	40-150			S-02

Matrix Spike Dup (BFE0587-MSD1)			Source: 2205347-01		Prepared: 05/26/22 Analyzed: 06/02/22					
Acenaphthene	0.0667	0.00500	mg/kg	0.0333	0.0219	134	31-137	96.7	30	QM-07
Anthracene	0.0103	0.00500	"	0.0333	0.00357	20.1	30-120	1.26	30	QM-07
Benzo (a) anthracene	ND	0.00500	"	0.0333	ND		30-120		30	QM-07
Benzo (a) pyrene	0.0403	0.00500	"	0.0333	0.0161	72.8	30-120	27.5	30	
Benzo (b) fluoranthene	0.143	0.00500	"	0.0333	0.121	66.1	30-120	17.1	30	
Benzo (k) fluoranthene	0.142	0.00500	"	0.0333	0.0935	147	30-120	200	30	QM-07
Chrysene	0.558	0.00500	"	0.0333	0.523	103	30-120	40.4	30	QM-07
Dibenz (a,h) anthracene	0.0558	0.00500	"	0.0333	0.0228	98.8	30-120	50.9	30	QM-07
Fluoranthene	0.00676	0.00500	"	0.0333	ND	20.3	30-120	23.2	30	QM-07
Fluorene	0.0416	0.00500	"	0.0333	0.0264	45.7	30-120	84.6	30	QM-07
Indeno (1,2,3-cd) pyrene	0.0677	0.00500	"	0.0333	ND	203	30-120	30.2	30	QM-07
Pyrene	0.382	0.00500	"	0.0333	0.118	795	35-142	54.9	30	QM-07
1-Methylnaphthalene	0.00914	0.00500	"	0.0333	ND	27.4	15-130	0.440	50	
2-Methylnaphthalene	0.00693	0.00500	"	0.0333	ND	20.8	15-130	16.6	50	QM-07
Surrogate: 2-Methylnaphthalene-d10	0.00337		"	0.0333		10.1	40-150			S-02
Surrogate: Fluoranthene-d10	0.0320		"	0.0333		96.1	40-150			

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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFE0596 - EPA 3050B**

**Blank (BFE0596-BLK1)**

Prepared: 05/26/22 Analyzed: 05/30/22

Boron ND 0.0100 mg/L

**LCS (BFE0596-BS1)**

Prepared: 05/26/22 Analyzed: 05/30/22

Boron 5.57 0.0100 mg/L 5.00 111 80-120

**Duplicate (BFE0596-DUP1)**

Source: 2205347-01

Prepared: 05/26/22 Analyzed: 05/30/22

Boron 0.0733 0.0100 mg/L 0.0686 6.58 20

**Matrix Spike (BFE0596-MS1)**

Source: 2205347-01

Prepared: 05/26/22 Analyzed: 05/30/22

Boron 5.67 0.0100 mg/L 5.00 0.0686 112 75-125

**Matrix Spike Dup (BFE0596-MSD1)**

Source: 2205347-01

Prepared: 05/26/22 Analyzed: 05/30/22

Boron 5.40 0.0100 mg/L 5.00 0.0686 107 75-125 4.91 25

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

### 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 BFE0743 - EPA 3050B

##### Blank (BFE0743-BLK1)

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

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

##### LCS (BFE0743-BS1)

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

Arsenic	46.8	0.200	mg/kg wet	80-120
Arsenic	46.8	0.200	"	80-120
Barium	42.6	0.400	"	80-120
Barium	42.6	0.400	"	80-120
Cadmium	2.05	0.200	"	80-120
Copper	45.9	0.400	"	80-120
Lead	19.9	0.200	"	80-120
Nickel	45.0	0.400	"	80-120
Selenium	4.07	0.260	"	80-120
Selenium	4.07	0.260	"	80-120
Silver	2.01	0.0200	"	80-120
Zinc	44.3	0.400	"	80-120

##### Duplicate (BFE0743-DUP1)

Source: 2205347-01

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

Arsenic	3.36	0.200	mg/kg dry	3.63	7.82	20
Arsenic	3.36	0.238	"	3.63	7.82	20
Barium	190	0.475	"	184	3.59	20
Barium	190	0.400	"	184	3.59	20
Cadmium	0.167	0.238	"	0.165	1.29	20
Copper	3.59	0.475	"	3.84	6.85	20
Lead	7.32	0.238	"	7.23	1.21	20
Nickel	3.35	0.475	"	3.54	5.71	20
Selenium	0.711	0.260	"	0.829	15.3	20
Selenium	0.711	0.309	"	0.829	15.3	20
Silver	0.0204	0.0238	"	0.0202	0.944	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

### 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 BFE0743 - EPA 3050B

<b>Duplicate (BFE0743-DUP1)</b>		<b>Source: 2205347-01</b>			Prepared: 05/31/22 Analyzed: 06/05/22					
Zinc	4.93	0.475	mg/kg dry		5.52			11.2	20	

<b>Matrix Spike (BFE0743-MS1)</b>		<b>Source: 2205347-01</b>			Prepared: 05/31/22 Analyzed: 06/05/22					
Arsenic	56.0	0.238	mg/kg dry		3.63		75-125			
Arsenic	56.0	0.200	"		3.63		75-125			
Barium	262	0.475	"		184		75-125			
Barium	262	0.400	"		184		75-125			
Cadmium	2.64	0.238	"		0.165		75-125			
Copper	54.2	0.475	"		3.84		75-125			
Lead	29.3	0.238	"		7.23		75-125			
Nickel	54.1	0.475	"		3.54		75-125			
Selenium	5.29	0.309	"		0.829		75-125			
Selenium	5.29	0.260	"		0.829		75-125			
Silver	2.37	0.0238	"		0.0202		75-125			
Zinc	61.4	0.475	"		5.52		75-125			

<b>Matrix Spike Dup (BFE0743-MSD1)</b>		<b>Source: 2205347-01</b>			Prepared: 05/31/22 Analyzed: 06/05/22					
Arsenic	56.1	0.238	mg/kg dry		3.63		75-125	0.0892	25	
Arsenic	56.1	0.200	"		3.63		75-125	0.0892	25	
Barium	250	0.475	"		184		75-125	4.83	25	
Barium	250	0.400	"		184		75-125	4.83	25	
Cadmium	2.52	0.238	"		0.165		75-125	4.71	25	
Copper	54.0	0.475	"		3.84		75-125	0.283	25	
Lead	27.8	0.238	"		7.23		75-125	5.03	25	
Nickel	54.1	0.475	"		3.54		75-125	0.0516	25	
Selenium	5.15	0.260	"		0.829		75-125	2.64	25	
Selenium	5.15	0.309	"		0.829		75-125	2.64	25	
Silver	2.29	0.0238	"		0.0202		75-125	3.38	25	
Zinc	60.3	0.475	"		5.52		75-125	1.83	25	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFF0006 - EPA 3050B**

**Blank (BFF0006-BLK1)**

Prepared: 06/01/22 Analyzed: 06/06/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Selenium	ND	0.260	"

**LCS (BFF0006-BS1)**

Prepared: 06/01/22 Analyzed: 06/06/22

Arsenic	38.6	0.200	mg/kg wet	40.0	96.5	80-120
Barium	32.9	0.400	"	40.0	82.2	80-120
Selenium	3.84	0.260	"	4.00	95.9	80-120

**Duplicate (BFF0006-DUP1)**

Source: 2205347-21

Prepared: 06/01/22 Analyzed: 06/06/22

Arsenic	2.16	0.200	mg/kg dry	1.99	8.57	20	QM-02
Barium	203	0.400	"	160	23.6	20	
Selenium	0.473	0.260	"	0.423	11.2	20	

**Matrix Spike (BFF0006-MS1)**

Source: 2205347-21

Prepared: 06/01/22 Analyzed: 06/06/22

Arsenic	44.3	0.200	mg/kg dry	42.5	1.99	99.6	75-125	QM-02
Barium	246	0.400	"	42.5	160	201	75-125	
Selenium	4.40	0.260	"	4.25	0.423	93.7	75-125	

**Matrix Spike Dup (BFF0006-MSD1)**

Source: 2205347-21

Prepared: 06/01/22 Analyzed: 06/06/22

Arsenic	44.8	0.200	mg/kg dry	42.5	1.99	101	75-125	1.13	25	QM-02
Barium	225	0.400	"	42.5	160	152	75-125	8.85	25	
Selenium	4.51	0.260	"	4.25	0.423	96.1	75-125	2.37	25	

Summit Scientific

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



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

Project: Noble - Lilli Unit 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFF0180 - 3060A Mod**

**Blank (BFF0180-BLK1)**

Prepared & Analyzed: 06/07/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFF0180-BS1)**

Prepared & Analyzed: 06/07/22

Chromium, Hexavalent 27.9 0.30 mg/kg wet 25.0 112 80-120

**Duplicate (BFF0180-DUP1)**

Source: 2205347-01

Prepared & Analyzed: 06/07/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFF0180-MS1)**

Source: 2205347-01

Prepared & Analyzed: 06/07/22

Chromium, Hexavalent 31.3 0.30 mg/kg dry 29.7 ND 105 75-125

**Matrix Spike Dup (BFF0180-MSD1)**

Source: 2205347-01

Prepared & Analyzed: 06/07/22

Chromium, Hexavalent 30.7 0.30 mg/kg dry 29.7 ND 103 75-125 1.92 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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFE0705 - General Preparation**

**Blank (BFE0705-BLK1)**

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

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

**LCS (BFE0705-BS1)**

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

Calcium	6.06	0.0500	mg/L wet	5.00	121	70-130
Magnesium	4.97	0.0500	"	5.00	99.4	70-130
Sodium	4.99	0.0500	"	5.00	99.8	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFE0599 - General Preparation**

**Duplicate (BFE0599-DUP1)**

**Source: 2205347-01**

Prepared & Analyzed: 05/26/22

% Solids	83.7	%		84.1		0.583	20
----------	------	---	--	------	--	-------	----

**Batch BFE0630 - General Preparation**

**Duplicate (BFE0630-DUP1)**

**Source: 2205346-11**

Prepared & Analyzed: 05/27/22

% Solids	85.5	%		84.0		1.72	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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

**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 BFE0719 - General Preparation**

**Blank (BFE0719-BLK1)**

Prepared & Analyzed: 05/31/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BFE0719-BS1)**

Prepared & Analyzed: 05/31/22

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 104 95-105

**Duplicate (BFE0719-DUP1)**

**Source: 2205347-01**

Prepared & Analyzed: 05/31/22

Specific Conductance (EC) 0.923 0.0100 mmhos/cm 0.978 5.76 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 10-12 (Fac)

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**

06/16/22 11:52

**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 BFE0716 - General Preparation**

**LCS (BFE0716-BS1)**

Prepared & Analyzed: 05/31/22

pH	9.19	pH Units	9.18	100	95-105
----	------	----------	------	-----	--------

**Duplicate (BFE0716-DUP1)**

Source: 2205347-01

Prepared & Analyzed: 05/31/22

pH	7.95	pH Units	7.88	0.884	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 10-12 (Fac)

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
06/16/22 11:52

### Notes and Definitions

S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
QM-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-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

**ATTACHMENT B**  
**BORING LOGS**



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 20

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH01

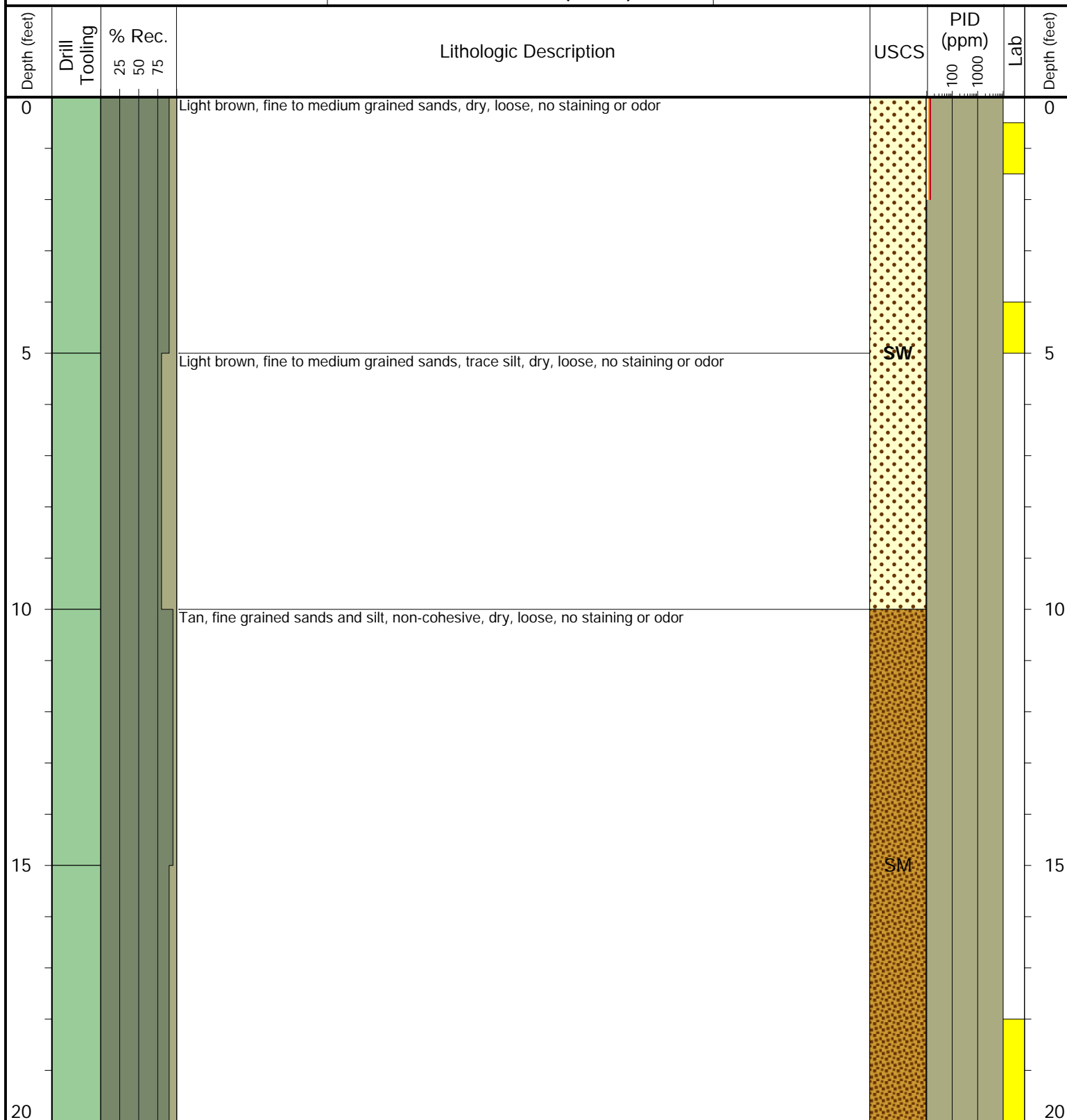
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67767174

LONGITUDE (WGS 84): -103.9222938

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 20

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH02

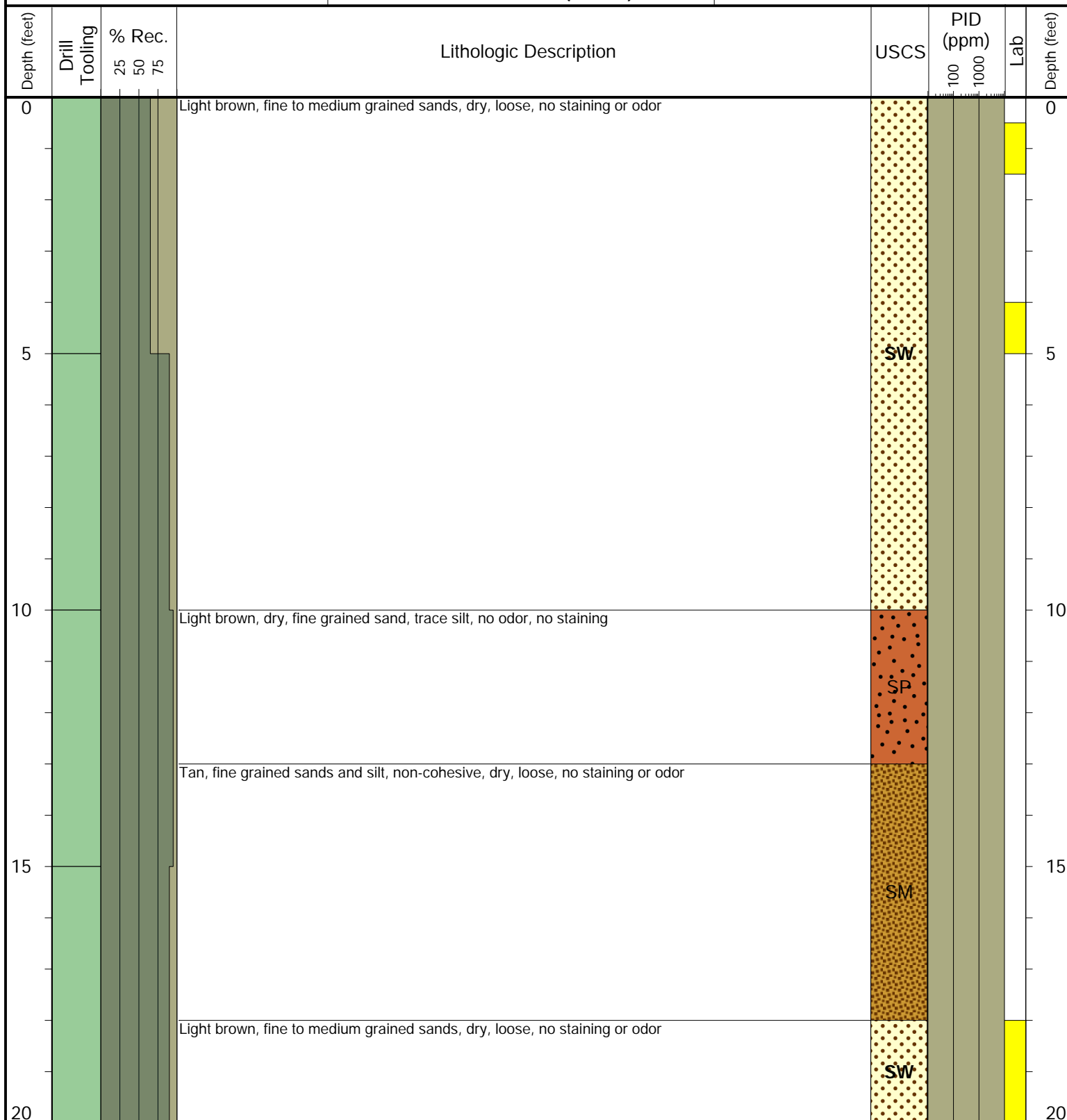
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67767096

LONGITUDE (WGS 84): -103.9223597

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab

Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH03

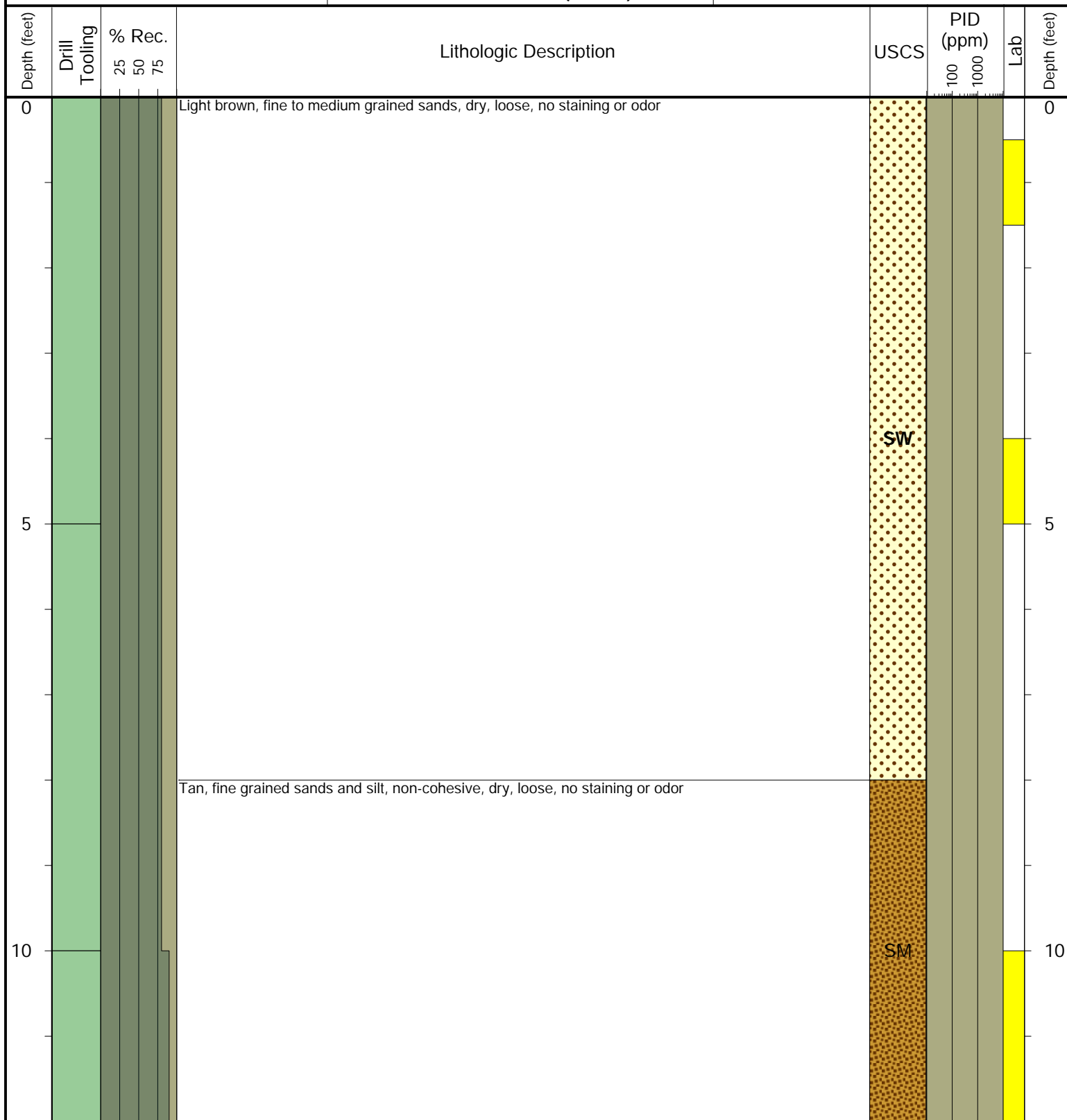
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67771874

LONGITUDE (WGS 84): -103.9223241

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH04

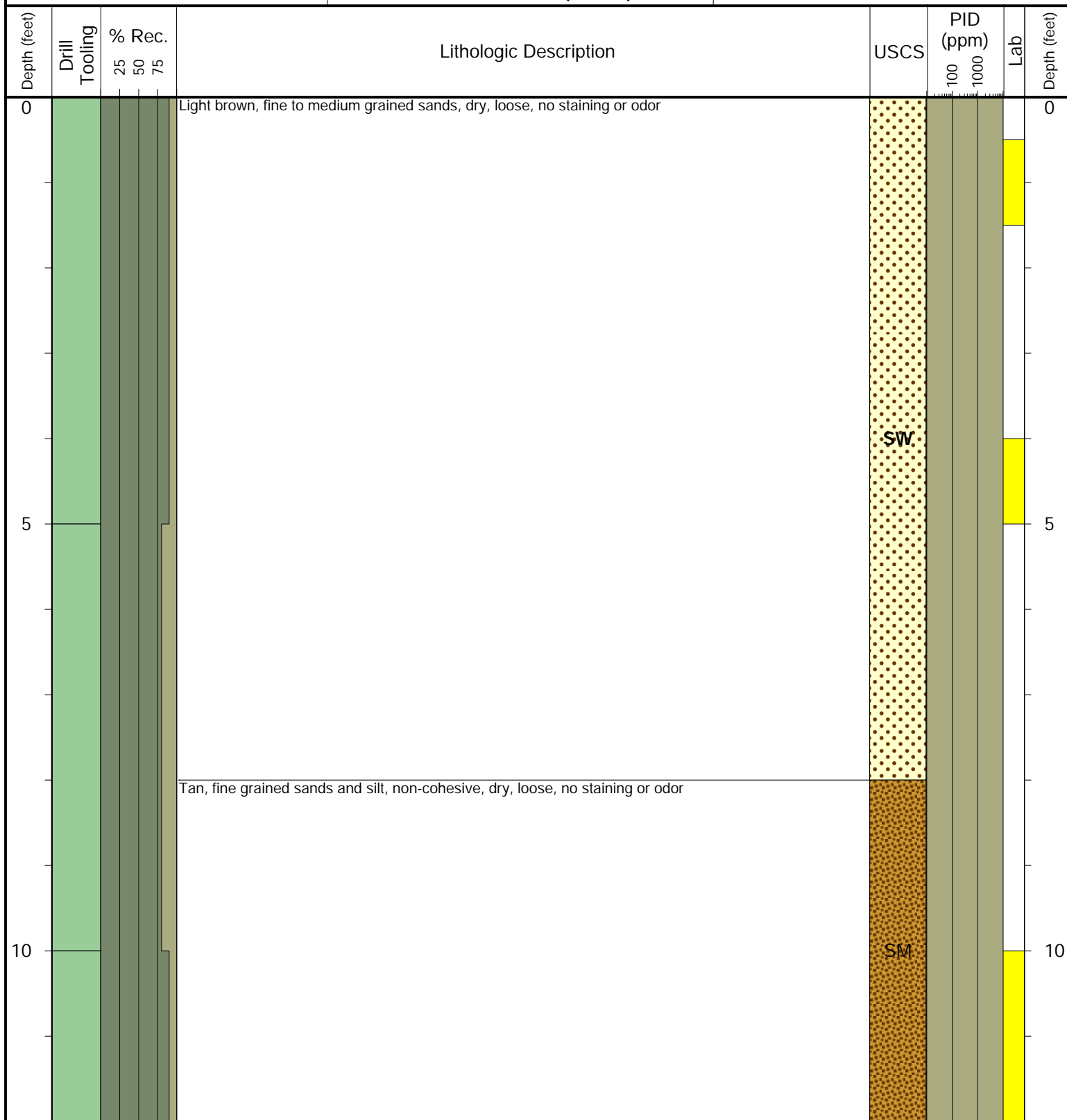
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67767356

LONGITUDE (WGS 84): -103.9221893

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab





# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH05

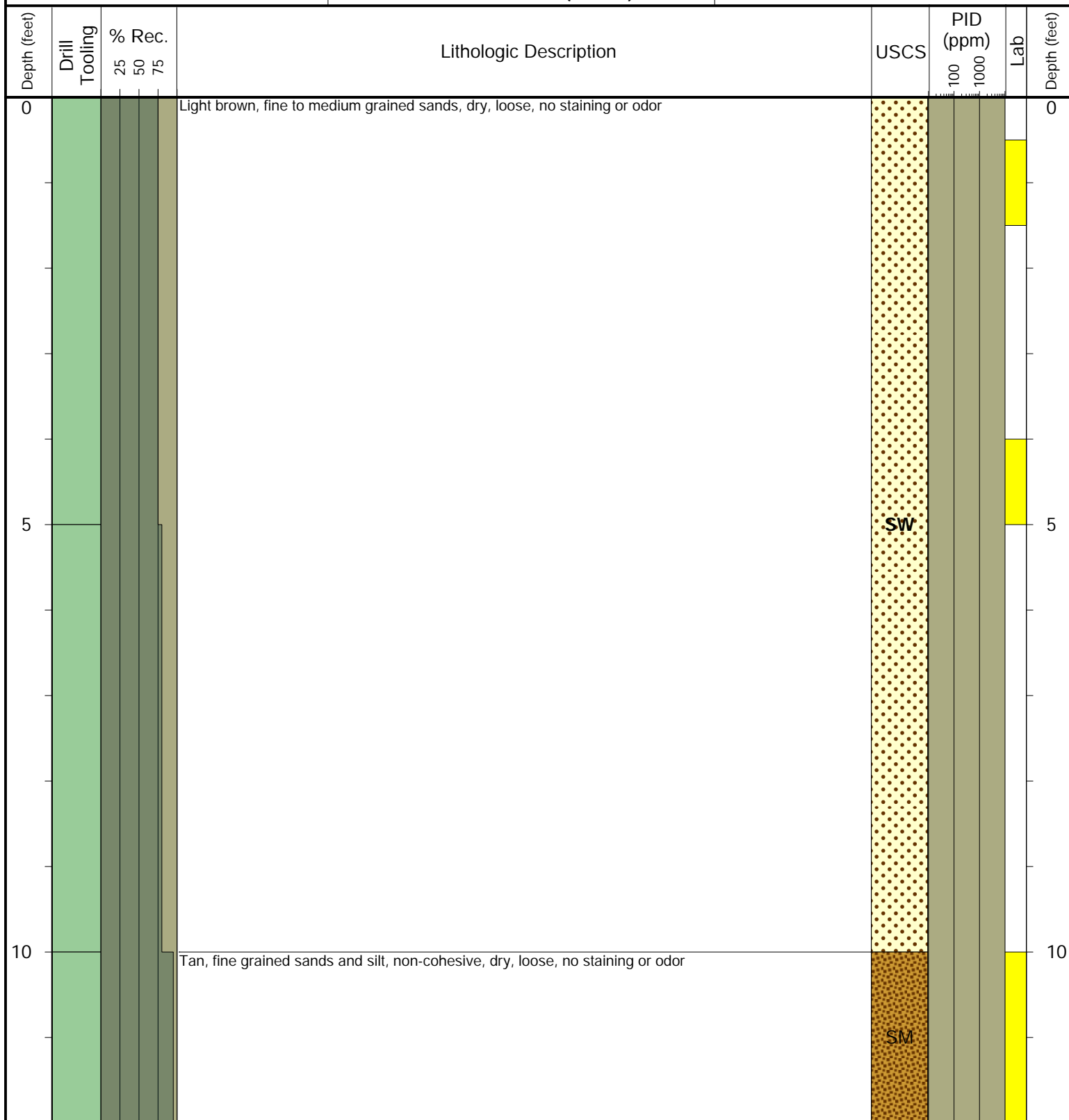
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67762602

LONGITUDE (WGS 84): -103.9223256

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab



# TASMAN

6855 W. 119th Ave.  
Broomfield, CO 80020

CLIENT: Noble

LOGGED BY: Hunter Merlo

PROJECT MANAGER: Jake Whritenour

DRILLING CONTRACTOR: Site Services

DRILLING EQUIPMENT: Geoprobe

DRILL BIT SIZE (INCHES): 2.25"

DATE STARTED - COMPLETED: 05/23/22 - 05/23/22

TOTAL WELL DEPTH (FT. BGS): 12

DEPTH WATER ENCOUNTERED (FT. BGS): NM

Lilli Unit 10-12 (FAC)

BORING ID: BH06

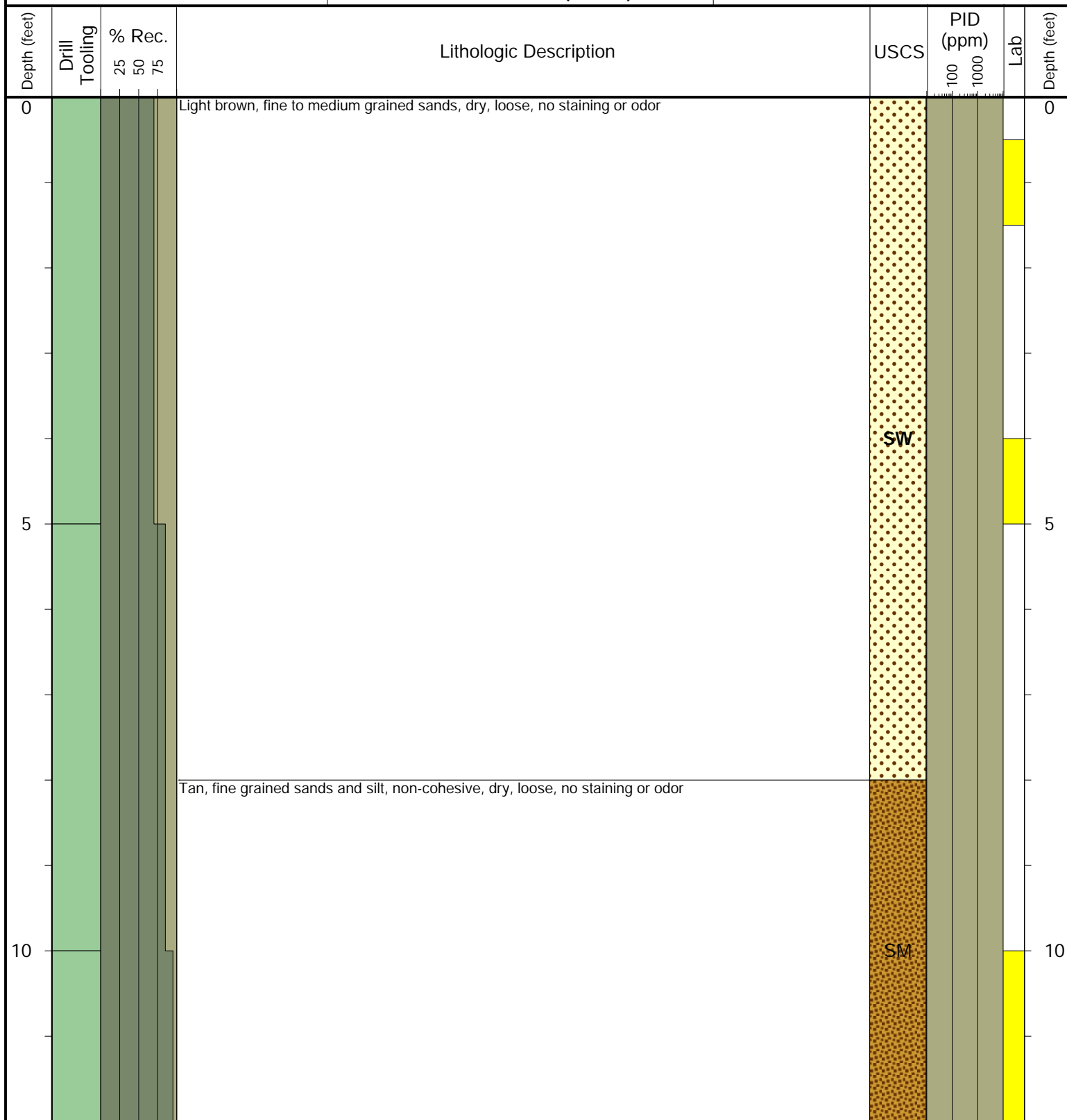
LOCATION: Weld County, Colorado

LATITUDE (WGS 84): 40.67767224

LONGITUDE (WGS 84): -103.922422

GROUND ELEVATION (FT. AMSL): NM

ABANDONMENT METHOD: Bentonite



Drilling / Sample Method:

Macro-Core

Expendable Well Tip

Perforated Injection Tool

HydroPunch Groundwater Sampler

Laboratory Sample Types:

Geotechnical Lab

Analytical Chemistry Lab



Geotechnical & Analytical Chemistry Lab