

REMEDIAL EXCAVATION REPORT
LILLI UNIT C-9 FACILITY
ECMC SPILL TRACKING # 482269
ECMC REMEDIATION # 21460



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLES

TABLE 1
DECOMMISSIONING SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - LILLI UNIT C-9

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SEP01-FL@4'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01@0.5'	05/18/22	<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
SS01@3'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@4'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST01@0.5'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST02@0.5'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	63	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0139	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST03@0.5'	05/18/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL@4'	05/18/22	0.014	0.049	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	0.0126	<0.00500	<0.00500	<0.00500	<0.00500	0.0231	<0.00500	<0.00500	0.0272	<0.00500	<0.00500
BH01@7'	09/20/22	<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@10'	09/20/22	<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
SS01@6'	05/02/23	<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
SS02@5'	05/02/23	<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
SS03@5'	05/02/23	<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
SS04@5'	05/02/23	<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
SS05@5'	05/02/23	<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 ²		6 - 8.3	<6	<4mmhos/cm	2
SEP01-FL@4'	05/18/22	8.03	0.162	0.59	0.0675
SEP01@0.5'	05/18/22	8.14	0.159	0.387	0.111
SS01@3'	05/18/22	8.34	0.124	0.326	0.0893
FS01@4'	05/18/22	8.49	0.173	0.331	0.120
AST01@0.5'	05/18/22	8.10	0.0596	0.349	0.0432
AST02@0.5'	05/18/22	8.23	0.0431	0.252	0.0766
AST03@0.5'	05/18/22	8.68	0.0358	0.168	0.0241
SEP01-DL@4'	05/18/22	8.04	0.109	0.438	0.0625
BG01@2.5'	05/18/22	8.71	NA	NA	NA
BG02@5'	05/18/22	8.71	NA	NA	NA
BH01@7'	09/20/22	7.77	1.65	0.683	0.128
BH01@10'	09/20/22	7.63	2.01	0.680	0.0834
BG03@4'	09/20/22	8.35	NA	NA	NA
BG03@7'	09/20/22	8.63	NA	NA	NA
BG04@4'	09/20/22	8.59	NA	NA	NA
BG04@7'	09/20/22	8.65	NA	NA	NA
BG05@4'	09/20/22	8.65	NA	NA	NA
BG05@7'	09/20/22	8.73	NA	NA	NA
BG06@4'	09/20/22	8.96	NA	NA	NA
BG06@7'	09/20/22	9.13	NA	NA	NA
BG07@4'	09/20/22	8.98	NA	NA	NA
BG07@7'	09/20/22	8.69	NA	NA	NA

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
SEP01-FL@4'	05/18/22	3.56	78.0	<0.262	<0.30	7.86	6.96	7.31	0.871	<0.0262	24.5
SEP01-DL@4'	05/18/22	4.57	61.6	0.435	<0.30	14.0	8.37	5.00	0.475	<0.0238	28.9
BG02@5'	05/18/22	13.6	36.6	<0.208	<0.30	2.45	3.56	3.09	0.634	<0.0208	7.31
BH01@7'	09/20/22	5.06	51.8	<0.246	<0.30	8.41	10.2	7.59	1.31	<0.0246	24.5
BH01@10'	09/20/22	3.76	36.9	0.276	<0.30	7.34	7.93	6.87	1.06	<0.0244	22.5
BG03@4'	09/20/22	24.7	NA	<0.200	NA	NA	NA	NA	1.29	NA	NA
BG03@7'	09/20/22	22.9	NA	<0.200	NA	NA	NA	NA	5.22	NA	NA
BG04@4'	09/20/22	39.3	NA	<0.200	NA	NA	NA	NA	1.34	NA	NA
BG04@7'	09/20/22	30.7	NA	<0.200	NA	NA	NA	NA	0.829	NA	NA
BG05@4'	09/20/22	17.8	NA	<0.200	NA	NA	NA	NA	0.732	NA	NA
BG05@7'	09/20/22	23.2	NA	<0.200	NA	NA	NA	NA	1.85	NA	NA
BG06@4'	09/20/22	19.6	NA	<0.200	NA	NA	NA	NA	3.05	NA	NA
BG06@7'	09/20/22	8.89	NA	<0.200	NA	NA	NA	NA	0.498	NA	NA
BG07@4'	09/20/22	38.4	NA	<0.200	NA	NA	NA	NA	1.15	NA	NA
BG07@7'	09/20/22	31.0	NA	<0.200	NA	NA	NA	NA	0.804	NA	NA
SS01@6'	05/02/23	NA	NA	<0.200	NA	NA	NA	NA	NA	NA	NA
SS02@5'	05/02/23	NA	NA	<0.200	NA	NA	NA	NA	NA	NA	NA
SS03@5'	05/02/23	NA	NA	0.252	NA	NA	NA	NA	NA	NA	NA
SS04@5'	05/02/23	NA	NA	0.328	NA	NA	NA	NA	NA	NA	NA
SS05@5'	05/02/23	NA	NA	0.291	NA	NA	NA	NA	NA	NA	NA

Notes:

- Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
- Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
- SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

ECMC = Energy and Carbon Management Commission
 TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
 TPH-DRO = Total petroleum hydrocarbons - diesel range organics
 TPH-ORO = Total petroleum hydrocarbons - oil range organics
 mg/kg = Milligrams per kilogram
 SAR = Sodium Adsorption Ratio
 EC = Electrical Conductivity
 mmhos/cm = Millimhos per centimeter
 mg/L = Milligrams per liter
 < = Analytical result is less than the indicated laboratory reporting limit

1,2,4 - TMB = 1,2,4 Trimethylbenzene
 1,3,5 - TMB = 1,3,5 Trimethylbenzene
 Benz(a) = Benzanthracene
 Benzo(b) = Benzo(a)fluoranthene
 Benzo(k) = Benzo(a)fluoranthene
 Benzo(a) = Benzopyrene
 A,H = Dibenzoanthracene
 1,2,3-CD = Indenopyrene
 1-M = 1-methylnaphthalene
 2-M = 2-methylnaphthalene
 NA = Not Analyzed

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

FIGURES

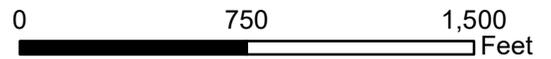
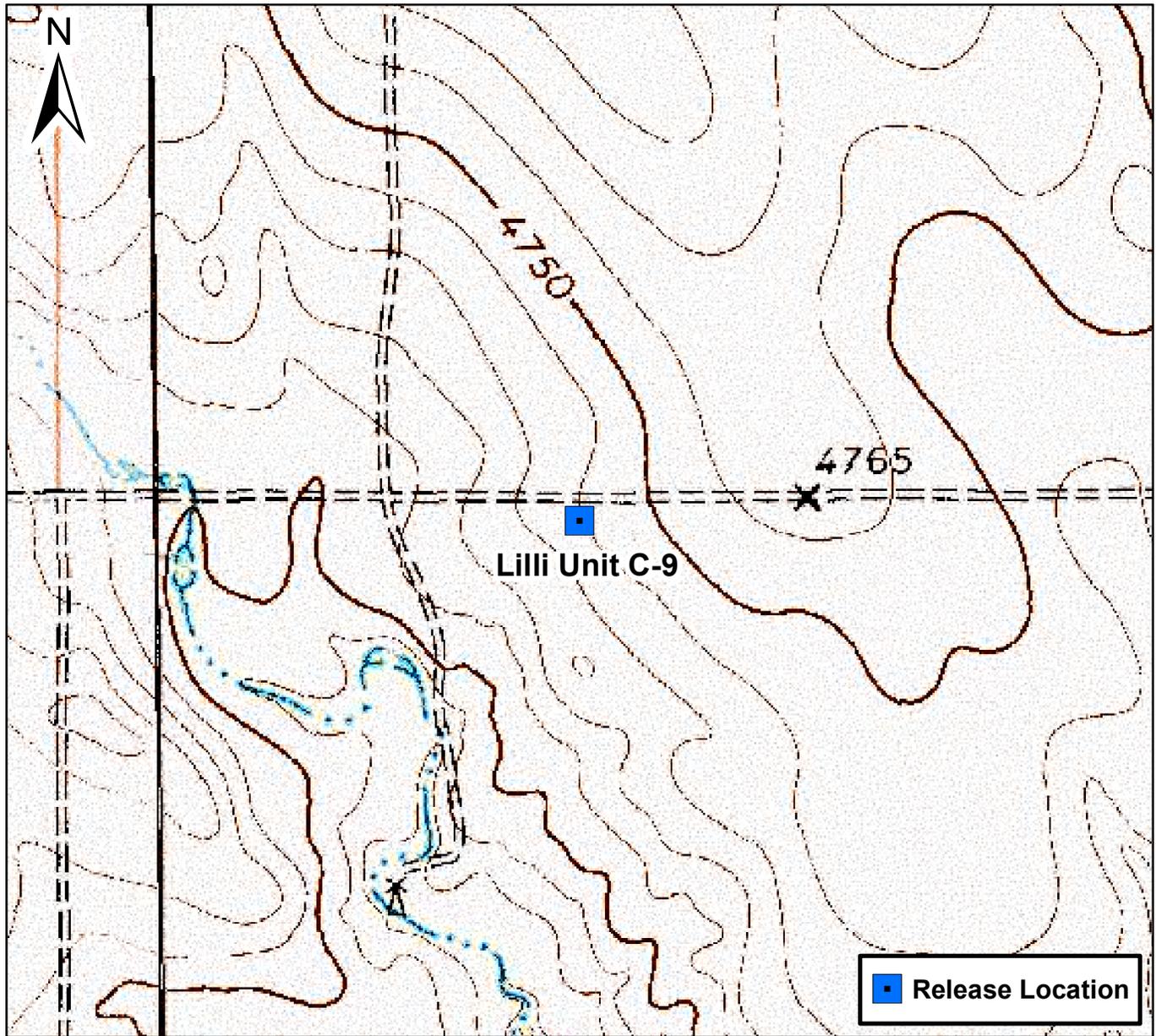
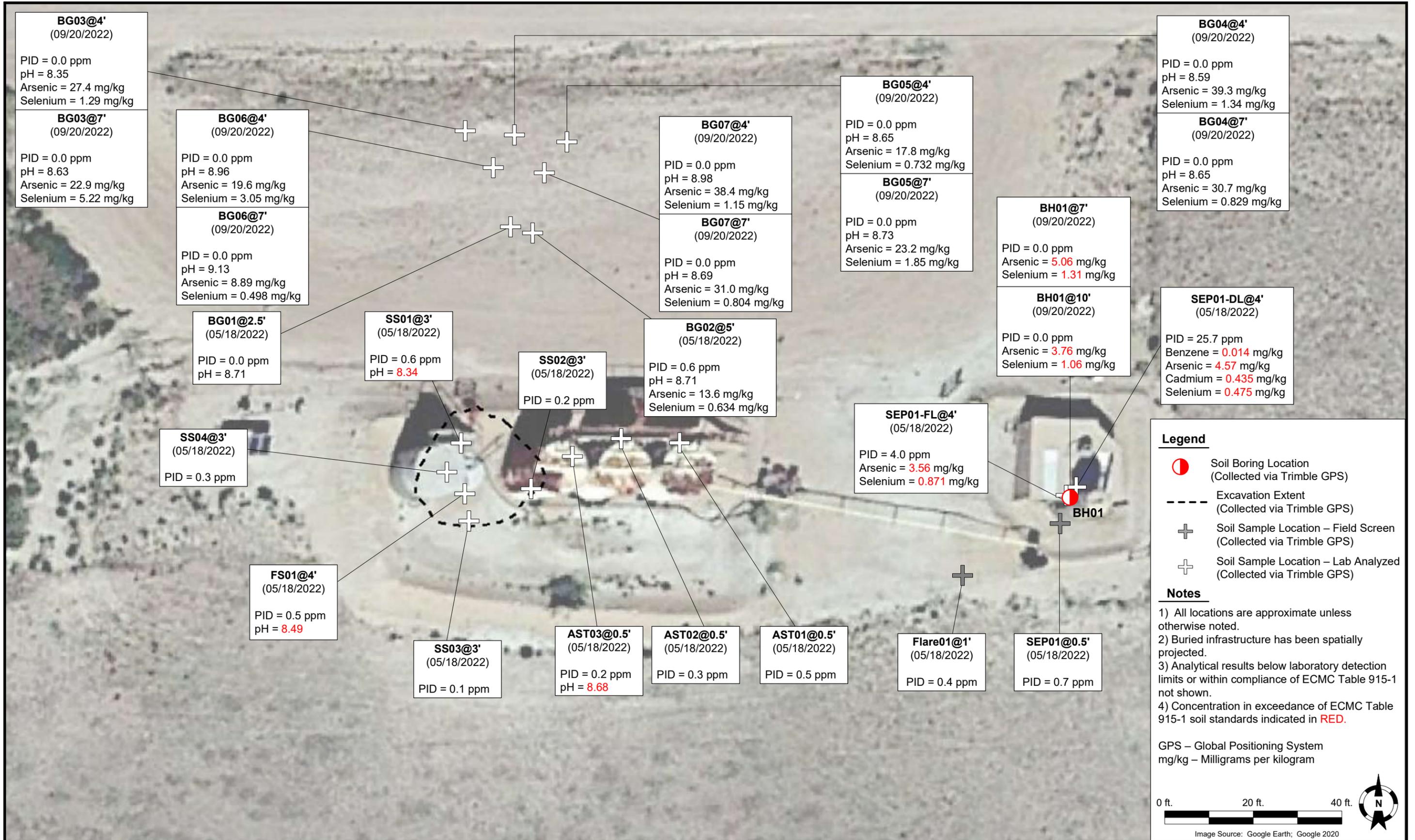


Figure 1

Site Location Map
 Lilli Unit C-9
 NENW S9 T8N R58W
 Weld County, Colorado





DATE: 10/14/2022
 DESIGNED BY: JW
 DRAWN BY: CC

TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Lilli Unit C-9
 NWNW, Section 9, Township 8 North, Range 58 West
 Weld County, Colorado

Background and Soil Boring
 Analytical Results Map
 (05/18/2022 & 09/20/2022)

Figure 2



DATE: 07/11/2023

DESIGNED BY: JW

DRAWN BY: AE

TASMAN
GEOSCIENCES

Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Lilli Unit C-9
 NWNW, Section 9, Township 8 North, Range 58 West
 Weld County, Colorado

Excavation Soil
 Analytical Results Map
 (05/18/2022 & 05/02/2023)

FIGURE
3

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 04, 2022

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Lilli Unit C-9
Work Order #2209393

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

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/04/22 14:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@7'	2209393-01	Soil	09/20/22 12:20	09/20/22 16:00
BH01@10'	2209393-02	Soil	09/20/22 12:30	09/20/22 16:00
BG03@4'	2209393-03	Soil	09/20/22 11:30	09/20/22 16:00
BG03@7'	2209393-04	Soil	09/20/22 11:35	09/20/22 16:00
BG04@4'	2209393-05	Soil	09/20/22 11:40	09/20/22 16:00
BG04@7'	2209393-06	Soil	09/20/22 11:45	09/20/22 16:00
BG05@4'	2209393-07	Soil	09/20/22 11:50	09/20/22 16:00
BG05@7'	2209393-08	Soil	09/20/22 11:55	09/20/22 16:00
BG06@4'	2209393-09	Soil	09/20/22 12:00	09/20/22 16:00
BG06@7'	2209393-10	Soil	09/20/22 12:05	09/20/22 16:00
BG07@4'	2209393-11	Soil	09/20/22 12:10	09/20/22 16:00
BG07@7'	2209393-12	Soil	09/20/22 12:15	09/20/22 16:00

Summit Scientific

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

Summit Scientific

S₂

2209393.1

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

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice: *Frica Zwisig*
 Address: 6855 W. 119th Ave E-Mail: *jwhritenour@tasman-geo.com*
 City/State/Zip: Broomfield, CO 80020
 Phone: 303-827-1511 Project Name: *Lilli Unit C-9*
 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	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	Metals - 915		
1	BH01@7'	9/20/22	1220	3			X			X				X	X	X	X	X		X	pH, EC, SAR by saturated paste
2	BH01@10'	↓	1230	3			X			X				X	X	X	X	X		X	
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by: <i>[Signature]</i>	Date/Time: 9/20/22 1600	Received by: Tasman's Lock Box <i>[Signature]</i>	Date/Time: 9/20/22 1600	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>9.1</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 9/20/22 1600	Received by: <i>[Signature]</i>	Date/Time: 9/20/22 1600		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

212
Sample Receipt Checklist

S2 Work Order# 2209393

Client: Noble Hasman Client Project ID: Lilli unit C9

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

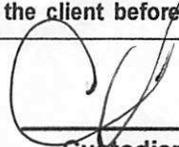
Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

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

Additional Comments (if any):

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


Custodian Printed Name

9-20-22
Date/Time

19:20



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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@7'
2209393-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BF10537	09/21/22	09/21/22	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: **09/20/22 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		94.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/20/22 12:20**

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

Date Sampled: **09/20/22 12:20**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@7'
2209393-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10580	09/22/22	09/24/22	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: **09/20/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		43.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		47.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.128	0.0100	mg/L	1	BF10658	09/26/22	09/28/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:20**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@7'
2209393-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.06	0.246	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B	
Barium	51.8	0.491	"	"	"	"	"	"	
Cadmium	ND	0.246	"	"	"	"	"	"	
Copper	8.41	0.491	"	"	"	"	"	"	
Lead	10.2	0.246	"	"	"	"	"	"	
Nickel	7.59	0.491	"	"	"	"	"	"	
Selenium	1.31	0.319	"	"	"	"	"	"	
Silver	ND	0.0246	"	"	"	"	"	"	
Zinc	24.5	0.491	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/20/22 12:20**

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

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

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.4	0.0614	mg/L dry	1	BF10728	09/28/22	10/01/22	EPA 6020B	
Magnesium	12.6	0.0614	"	"	"	"	"	"	
Sodium	47.0	0.0614	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.65	0.00100	units	1	BFJ0003	10/02/22	10/02/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@7'
2209393-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	81.4			%	1	BF10725	09/28/22	09/28/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.683	0.0100		mmhos/cm	1	BF10747	09/28/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/20/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.77			pH Units	1	BF10746	09/28/22	09/30/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@10'
2209393-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFI0537	09/21/22	09/21/22	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: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFI0538	09/21/22	09/22/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@10'
2209393-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10580	09/22/22	09/24/22	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: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		45.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0834	0.0100	mg/L	1	BF10658	09/26/22	09/28/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:30**

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@10'
2209393-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.76	0.244	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B	
Barium	36.9	0.487	"	"	"	"	"	"	
Cadmium	0.276	0.244	"	"	"	"	"	"	
Copper	7.34	0.487	"	"	"	"	"	"	
Lead	7.93	0.244	"	"	"	"	"	"	
Nickel	6.87	0.487	"	"	"	"	"	"	
Selenium	1.06	0.317	"	"	"	"	"	"	
Silver	ND	0.0244	"	"	"	"	"	"	
Zinc	22.5	0.487	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/20/22 12:30**

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

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

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	36.6	0.0609	mg/L dry	1	BF10728	09/28/22	10/01/22	EPA 6020B	
Magnesium	11.6	0.0609	"	"	"	"	"	"	
Sodium	54.6	0.0609	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.01	0.00100	units	1	BFJ0003	10/02/22	10/02/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:30**

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BH01@10'
2209393-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.1	%	1	BF10725	09/28/22	09/28/22	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.680	0.0100	mmhos/cm	1	BF10747	09/28/22	09/30/22	EPA 120.1	

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

Date Sampled: **09/20/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.63		pH Units	1	BF10746	09/28/22	09/30/22	EPA 9045D	

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG03@4'
2209393-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	24.7	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	1.29	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.7		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.35		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG03@7'
2209393-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	22.9	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	5.22	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.5		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.63		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG04@4'
2209393-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	39.3	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	1.34	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.7		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.59		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG04@7'
2209393-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	30.7	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	0.829	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	95.0		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.65		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG05@4'
2209393-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	17.8	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	0.732	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.9		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.65		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG05@7'
2209393-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	23.2	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	1.85	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.0		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.73		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG06@4'
2209393-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	19.6	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	3.05	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.6		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.96		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG06@7'
2209393-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	8.89	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	0.498	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.5		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.13		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG07@4'
2209393-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	38.4	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	1.15	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	96.4		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.98		pH Units	1	BFI0723	09/27/22	09/28/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

BG07@7'
2209393-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **09/20/22 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	31.0	0.200	mg/kg dry	1	BFI0760	09/29/22	10/04/22	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Selenium	0.804	0.260	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/20/22 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	91.6		%	1	BFI0725	09/28/22	09/28/22	Calculation	

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

Date Sampled: **09/20/22 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.69		pH Units	1	BFI0723	09/27/22	09/28/22	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 C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFI0537 - EPA 5030 Soil MS

Blank (BFI0537-BLK1)

Prepared & Analyzed: 09/21/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0369		"	0.0400		92.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	50-150			

LCS (BFI0537-BS1)

Prepared & Analyzed: 09/21/22

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

Matrix Spike (BFI0537-MS1)

Source: 2209227-06

Prepared & Analyzed: 09/21/22

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

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BFI0537 - EPA 5030 Soil MS

Matrix Spike Dup (BFI0537-MSD1)	Source: 2209227-06			Prepared & Analyzed: 09/21/22						
Benzene	0.0552	0.0020	mg/kg	0.0750	ND	73.6	70-130	1.78	30	
Toluene	0.0594	0.0050	"	0.0750	ND	79.2	70-130	0.0505	30	
Ethylbenzene	0.0541	0.0050	"	0.0750	ND	72.1	70-130	9.51	30	
m,p-Xylene	0.107	0.010	"	0.150	ND	71.6	70-130	10.2	30	
o-Xylene	0.0572	0.0050	"	0.0750	ND	76.2	70-130	7.96	30	
1,2,4-Trimethylbenzene	0.0536	0.0050	"	0.0750	ND	71.5	70-130	9.03	30	
1,3,5-Trimethylbenzene	0.0538	0.0050	"	0.0750	ND	71.8	70-130	8.07	30	
Naphthalene	0.0568	0.0038	"	0.0750	ND	75.8	70-130	6.68	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0362</i>		<i>"</i>	<i>0.0400</i>		<i>90.4</i>	<i>50-150</i>			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BFI0538 - EPA 3550A

Blank (BFI0538-BLK1)

Prepared & Analyzed: 09/21/22

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

LCS (BFI0538-BS1)

Prepared & Analyzed: 09/21/22

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

Source: 2209227-06

Prepared & Analyzed: 09/21/22

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

Source: 2209227-06

Prepared & Analyzed: 09/21/22

C10-C28 (DRO)	679	50	mg/kg	500	120	112	70-130	7.96	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFI0580 - EPA 5030 Soil MS

Blank (BFI0580-BLK1)

Prepared: 09/22/22 Analyzed: 09/23/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0224</i>		"	<i>0.0333</i>		<i>67.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0205</i>		"	<i>0.0333</i>		<i>61.6</i>	<i>40-150</i>			

LCS (BFI0580-BS1)

Prepared: 09/22/22 Analyzed: 09/23/22

Acenaphthene	0.0214	0.00500	mg/kg	0.0333	64.3	31-137
Anthracene	0.0212	0.00500	"	0.0333	63.7	30-120
Benzo (a) anthracene	0.0213	0.00500	"	0.0333	63.8	30-120
Benzo (a) pyrene	0.0227	0.00500	"	0.0333	68.1	30-120
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333	70.7	30-120
Benzo (k) fluoranthene	0.0220	0.00500	"	0.0333	65.9	30-120
Chrysene	0.0200	0.00500	"	0.0333	60.0	30-120
Dibenz (a,h) anthracene	0.0227	0.00500	"	0.0333	68.0	30-120
Fluoranthene	0.0220	0.00500	"	0.0333	65.9	30-120
Fluorene	0.0223	0.00500	"	0.0333	67.0	30-120
Indeno (1,2,3-cd) pyrene	0.0230	0.00500	"	0.0333	69.2	30-120
Pyrene	0.0201	0.00500	"	0.0333	60.4	35-142
1-Methylnaphthalene	0.0229	0.00500	"	0.0333	68.8	35-142
2-Methylnaphthalene	0.0219	0.00500	"	0.0333	65.6	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0206</i>		"	<i>0.0333</i>	<i>61.7</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0223</i>		"	<i>0.0333</i>	<i>66.8</i>	<i>40-150</i>

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BFI0580 - EPA 5030 Soil MS

Matrix Spike (BFI0580-MS1)	Source: 2209244-01			Prepared: 09/22/22 Analyzed: 09/23/22						
Acenaphthene	0.0222	0.00500	mg/kg	0.0333	ND	66.7	31-137			
Anthracene	0.0203	0.00500	"	0.0333	ND	60.8	30-120			
Benzo (a) anthracene	0.0210	0.00500	"	0.0333	ND	63.1	30-120			
Benzo (a) pyrene	0.0222	0.00500	"	0.0333	ND	66.6	30-120			
Benzo (b) fluoranthene	0.0229	0.00500	"	0.0333	ND	68.8	30-120			
Benzo (k) fluoranthene	0.0226	0.00500	"	0.0333	ND	67.8	30-120			
Chrysene	0.0217	0.00500	"	0.0333	ND	65.0	30-120			
Dibenz (a,h) anthracene	0.0232	0.00500	"	0.0333	ND	69.7	30-120			
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.5	30-120			
Fluorene	0.0229	0.00500	"	0.0333	ND	68.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0204	0.00500	"	0.0333	ND	61.1	30-120			
Pyrene	0.0206	0.00500	"	0.0333	ND	61.7	35-142			
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130			
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.3	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0212</i>		<i>"</i>	<i>0.0333</i>		<i>63.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0214</i>		<i>"</i>	<i>0.0333</i>		<i>64.2</i>	<i>40-150</i>			

Matrix Spike Dup (BFI0580-MSD1)	Source: 2209244-01			Prepared: 09/22/22 Analyzed: 09/23/22						
Acenaphthene	0.0227	0.00500	mg/kg	0.0333	ND	68.2	31-137	2.28	30	
Anthracene	0.0203	0.00500	"	0.0333	ND	60.9	30-120	0.0362	30	
Benzo (a) anthracene	0.0216	0.00500	"	0.0333	ND	64.8	30-120	2.55	30	
Benzo (a) pyrene	0.0228	0.00500	"	0.0333	ND	68.3	30-120	2.48	30	
Benzo (b) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	1.30	30	
Benzo (k) fluoranthene	0.0200	0.00500	"	0.0333	ND	60.1	30-120	12.0	30	
Chrysene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	6.91	30	
Dibenz (a,h) anthracene	0.0206	0.00500	"	0.0333	ND	61.7	30-120	12.2	30	
Fluoranthene	0.0219	0.00500	"	0.0333	ND	65.8	30-120	5.45	30	
Fluorene	0.0216	0.00500	"	0.0333	ND	64.8	30-120	5.84	30	
Indeno (1,2,3-cd) pyrene	0.0213	0.00500	"	0.0333	ND	64.0	30-120	4.55	30	
Pyrene	0.0203	0.00500	"	0.0333	ND	60.8	35-142	1.49	30	
1-Methylnaphthalene	0.0208	0.00500	"	0.0333	ND	62.3	15-130	11.1	50	
2-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.4	15-130	6.13	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0231</i>		<i>"</i>	<i>0.0333</i>		<i>69.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0227</i>		<i>"</i>	<i>0.0333</i>		<i>68.1</i>	<i>40-150</i>			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

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

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

Batch BFI0658 - EPA 3050B

Blank (BFI0658-BLK1)

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

Boron ND 0.0100 mg/L

LCS (BFI0658-BS1)

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

Boron 5.50 0.0100 mg/L 5.00 110 80-120

Duplicate (BFI0658-DUP1)

Source: 2209329-21

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

Boron 0.235 0.0100 mg/L 0.231 1.50 20

Matrix Spike (BFI0658-MS1)

Source: 2209329-21

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

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

Matrix Spike Dup (BFI0658-MSD1)

Source: 2209329-21

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

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

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFI0760 - EPA 3050B

Blank (BFI0760-BLK1)

Prepared: 09/29/22 Analyzed: 10/04/22

Arsenic	ND	0.200	mg/kg wet						
Arsenic	ND	0.200	"						
Barium	ND	0.400	"						
Cadmium	ND	0.200	"						
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 (BFI0760-BS1)

Prepared: 09/29/22 Analyzed: 10/04/22

Arsenic	45.1	0.200	mg/kg wet	40.0	113	80-120
Arsenic	45.1	0.200	"	40.0	113	80-120
Barium	47.3	0.400	"	40.0	118	80-120
Cadmium	2.33	0.200	"	2.00	117	80-120
Cadmium	2.33	0.200	"	2.00	117	80-120
Copper	46.1	0.400	"	40.0	115	80-120
Lead	23.1	0.200	"	20.0	115	80-120
Nickel	45.1	0.400	"	40.0	113	80-120
Selenium	4.48	0.260	"	4.00	112	80-120
Selenium	4.48	0.260	"	4.00	112	80-120
Silver	2.27	0.0200	"	2.00	113	80-120
Zinc	45.2	0.400	"	40.0	113	80-120

Duplicate (BFI0760-DUP1)

Source: 2209073-01

Prepared: 09/29/22 Analyzed: 10/04/22

Arsenic	8.15	0.272	mg/kg dry	7.92	2.86	20
Arsenic	8.15	0.200	"	7.92	2.86	20
Barium	205	0.544	"	198	3.20	20
Cadmium	0.441	0.272	"	0.432	2.05	20
Cadmium	0.441	0.200	"	0.432	2.05	20
Copper	27.7	0.544	"	27.1	2.15	20
Lead	17.3	0.272	"	17.2	0.349	20
Nickel	20.7	0.544	"	20.1	2.89	20
Selenium	2.84	0.354	"	2.74	3.73	20
Selenium	2.84	0.260	"	2.74	3.73	20
Silver	0.110	0.0272	"	0.108	1.07	20

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BFI0760 - EPA 3050B

Duplicate (BFI0760-DUP1)		Source: 2209073-01			Prepared: 09/29/22		Analyzed: 10/04/22	
Zinc	106	0.544	mg/kg dry	103			2.68	20

Matrix Spike (BFI0760-MS1)		Source: 2209073-01			Prepared: 09/29/22		Analyzed: 10/04/22	
Arsenic	69.0	0.272	mg/kg dry	54.4	7.92	112	75-125	
Arsenic	69.0	0.200	"	54.4	7.92	112	75-125	
Barium	266	0.544	"	54.4	198	125	75-125	
Cadmium	3.51	0.200	"	2.72	0.432	113	75-125	
Cadmium	3.51	0.272	"	2.72	0.432	113	75-125	
Copper	86.1	0.544	"	54.4	27.1	108	75-125	
Lead	44.0	0.272	"	27.2	17.2	98.3	75-125	
Nickel	78.9	0.544	"	54.4	20.1	108	75-125	
Selenium	7.78	0.354	"	5.44	2.74	92.7	75-125	
Selenium	7.78	0.260	"	5.44	2.74	92.7	75-125	
Silver	3.08	0.0272	"	2.72	0.108	109	75-125	
Zinc	166	0.544	"	54.4	103	115	75-125	

Matrix Spike Dup (BFI0760-MSD1)		Source: 2209073-01			Prepared: 09/29/22		Analyzed: 10/04/22		
Arsenic	68.8	0.200	mg/kg dry	54.4	7.92	112	75-125	0.240	25
Arsenic	68.8	0.272	"	54.4	7.92	112	75-125	0.240	25
Barium	269	0.544	"	54.4	198	130	75-125	1.16	25
Cadmium	3.53	0.272	"	2.72	0.432	114	75-125	0.488	25
Cadmium	3.53	0.200	"	2.72	0.432	114	75-125	0.488	25
Copper	87.6	0.544	"	54.4	27.1	111	75-125	1.73	25
Lead	44.4	0.272	"	27.2	17.2	99.8	75-125	0.922	25
Nickel	78.5	0.544	"	54.4	20.1	107	75-125	0.626	25
Selenium	8.48	0.354	"	5.44	2.74	105	75-125	8.57	25
Selenium	8.48	0.260	"	5.44	2.74	105	75-125	8.57	25
Silver	3.10	0.0272	"	2.72	0.108	110	75-125	0.875	25
Zinc	164	0.544	"	54.4	103	112	75-125	1.02	25

QM-05

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BFJ0026 - 3060A Mod

Blank (BFJ0026-BLK1)

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFJ0026-BS1)

Prepared & Analyzed: 10/03/22

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

Duplicate (BFJ0026-DUP1)

Source: 2209335-01

Prepared & Analyzed: 10/03/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFJ0026-MS1)

Source: 2209335-01

Prepared & Analyzed: 10/03/22

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

Matrix Spike Dup (BFJ0026-MSD1)

Source: 2209335-01

Prepared & Analyzed: 10/03/22

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

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

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

Summit Scientific

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

Batch BFI0728 - General Preparation

Blank (BFI0728-BLK1)

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

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

LCS (BFI0728-BS1)

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

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

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 10/04/22 14:09

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

Summit Scientific

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

Batch BFI0725 - General Preparation

Duplicate (BFI0725-DUP1)

Source: 2209080-03

Prepared & Analyzed: 09/28/22

% Solids	92.0		%		91.8			0.179	20	
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Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

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

Summit Scientific

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

Batch BFI0747 - General Preparation

Blank (BFI0747-BLK1)

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

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFI0747-BS1)

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

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

Duplicate (BFI0747-DUP1)

Source: 2209350-01

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

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

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

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

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

Batch BFI0723 - General Preparation

LCS (BFI0723-BS1)		Prepared: 09/27/22 Analyzed: 09/28/22								
pH	9.14		pH Units	6.86		133		95-105		
Duplicate (BFI0723-DUP1)		Source: 2209393-03		Prepared: 09/27/22 Analyzed: 09/28/22						
pH	8.35		pH Units		8.35				0.00	20

Batch BFI0746 - General Preparation

LCS (BFI0746-BS1)		Prepared: 09/28/22 Analyzed: 09/30/22								
pH	9.11		pH Units	9.18		99.2		95-105		
Duplicate (BFI0746-DUP1)		Source: 2209350-01		Prepared: 09/28/22 Analyzed: 09/30/22						
pH	7.10		pH Units		7.14				0.562	20

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/04/22 14:09

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 09, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit C-9

Work Order #2305037

Enclosed are the results of analyses for samples received by Summit Scientific on 05/02/23 17:29. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury

President



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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@6'	2305037-01	Soil	05/02/23 09:40	05/02/23 17:29
SS02@5'	2305037-02	Soil	05/02/23 09:50	05/02/23 17:29
SS03@5'	2305037-03	Soil	05/02/23 09:55	05/02/23 17:29
SS04@5'	2305037-04	Soil	05/02/23 10:10	05/02/23 17:29
SS05@5'	2305037-05	Soil	05/02/23 10:20	05/02/23 17:29

Summit Scientific

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SUMMIT SCIENTIFIC

4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2305037	

Client: Noble / Tasman		Send Data To: Project Manager: Jake Whritenour		Send Invoice To: Company: Chevron	
Address: 6855 W 119th Ave		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80220				AFE#:	
Phone: 303-487-1228		Project Name: Lilli Unit C-9		PO/Billing Codes:	
Sampler Name: David Vigil		Project Number:		Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	Boron - HWS	pH, EC, SAR	Metals - 915		HOLD	cadmium
1	S501 @ 6'	5/1/23	0940	2			X			X			X	X	X					X	
2	S502 @ 5'		0950																		
3	S503 @ 5'		0955																		
4	S504 @ 5'		1010																		
5	S505 @ 5'		1020																		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>David Vigil</i>	Date/Time: 5/1/23 1700	Received by: <i>Tasman Lockbox</i>	Date/Time: 5/2/23 1700	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 5/2/23 1729	Received by: <i>[Signature]</i>	Date/Time: 5/2/23 1729	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 9.2	Corrected Temperature: <i>9</i>	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2305037

Client: Noble Farmmen Client Project ID: Lilli unit C-9

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

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

Temp (°C) Thermometer #

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

AB
Custodian Printed Name

5/2/23
Date/Time



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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS01@6'
2305037-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0083	05/02/23	05/02/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0473	118 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0425	106 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0085	05/02/23	05/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.9	103 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS01@6'
2305037-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0092	05/03/23	05/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0096	05/03/23	05/05/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 09:40**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

SS01@6'
2305037-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	82.2	%	1	BGE0103	05/03/23	05/03/23	Calculation
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Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS02@5'
2305037-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0083	05/02/23	05/02/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0463	116 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0418	105 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0085	05/02/23	05/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:50**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS02@5'
2305037-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0092	05/03/23	05/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0096	05/03/23	05/05/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 09:50**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

SS02@5'
2305037-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.7	%	1	BGE0103	05/03/23	05/03/23	Calculation
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Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS03@5'
2305037-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0083	05/02/23	05/02/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0457	114 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0452	113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0422	106 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0085	05/02/23	05/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/02/23 09:55**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS03@5'
2305037-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0092	05/03/23	05/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0173	51.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0174	52.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.252	0.200	mg/kg dry	1	BGE0096	05/03/23	05/05/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 09:55**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

SS03@5'
2305037-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.7	%	1	BGE0103	05/03/23	05/03/23	Calculation
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Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS04@5'
2305037-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0083	05/02/23	05/02/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0469	117 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0383	95.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0572	143 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0085	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.59	76.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS04@5'
2305037-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0092	05/03/23	05/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0228	68.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0143	42.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.328	0.200	mg/kg dry	1	BGE0096	05/03/23	05/05/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 10:10**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

SS04@5'
2305037-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.7	%	1	BGE0103	05/03/23	05/03/23	Calculation
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Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS05@5'
2305037-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0083	05/02/23	05/02/23	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0487	122 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0331	82.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0085	05/02/23	05/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.9	95.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

SS05@5'
2305037-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0092	05/03/23	05/04/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0180	54.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0178	53.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/02/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.291	0.200	mg/kg dry	1	BGE0096	05/03/23	05/05/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/02/23 10:20**

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

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

SS05@5'
2305037-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.3	%	1	BGE0103	05/03/23	05/03/23	Calculation
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Summit Scientific

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





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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGE0083 - EPA 5030 Soil MS

Blank (BGE0083-BLK1)

Prepared & Analyzed: 05/02/23

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104		50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8		50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104		50-150			

LCS (BGE0083-BS1)

Prepared & Analyzed: 05/02/23

Benzene	0.0836	0.0020	mg/kg	0.100		83.6		70-130			
Toluene	0.0944	0.0050	"	0.100		94.4		70-130			
Ethylbenzene	0.110	0.0050	"	0.100		110		70-130			
m,p-Xylene	0.219	0.010	"	0.200		109		70-130			
o-Xylene	0.101	0.0050	"	0.100		101		70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100		112		70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100		115		70-130			
Naphthalene	0.0916	0.0038	"	0.100		91.6		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0323		"	0.0400		80.8		50-150			
Surrogate: Toluene-d8	0.0392		"	0.0400		98.1		50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3		50-150			

Matrix Spike (BGE0083-MS1)

Source: 2305037-01

Prepared & Analyzed: 05/02/23

Benzene	0.0825	0.0020	mg/kg	0.100	ND	82.5		70-130			
Toluene	0.0935	0.0050	"	0.100	ND	93.5		70-130			
Ethylbenzene	0.108	0.0050	"	0.100	ND	108		70-130			
m,p-Xylene	0.213	0.010	"	0.200	ND	107		70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102		70-130			
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112		70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115		70-130			
Naphthalene	0.0900	0.0038	"	0.100	ND	90.0		70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0360		"	0.0400		89.9		50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101		50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.5		50-150			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGE0083 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0083-MSD1)	Source: 2305037-01			Prepared & Analyzed: 05/02/23						
Benzene	0.0812	0.0020	mg/kg	0.100	ND	81.2	70-130	1.58	30	
Toluene	0.0914	0.0050	"	0.100	ND	91.4	70-130	2.24	30	
Ethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	0.941	30	
m,p-Xylene	0.217	0.010	"	0.200	ND	109	70-130	1.74	30	
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130	0.592	30	
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130	0.187	30	
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130	0.445	30	
Naphthalene	0.0931	0.0038	"	0.100	ND	93.1	70-130	3.38	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0337</i>		<i>"</i>	<i>0.0400</i>		<i>84.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>	<i>50-150</i>			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGE0085 - EPA 3550A

Blank (BGE0085-BLK1)

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.8		"	12.5		102		30-150			

LCS (BGE0085-BS1)

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	420	50	mg/kg	500		84.0		70-130			
Surrogate: <i>o</i> -Terphenyl	11.3		"	12.5		90.3		30-150			

Matrix Spike (BGE0085-MS1)

Source: 2305037-01

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	430	50	mg/kg	500	ND	86.1		70-130			
Surrogate: <i>o</i> -Terphenyl	11.6		"	12.5		92.5		30-150			

Matrix Spike Dup (BGE0085-MSD1)

Source: 2305037-01

Prepared & Analyzed: 05/02/23

C10-C28 (DRO)	460	50	mg/kg	500	ND	92.0		70-130	6.63	20	
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.4		30-150			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0092 - EPA 5030 Soil MS

Blank (BGE0092-BLK1)

Prepared & Analyzed: 05/03/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0376		"	0.0333	113	40-150				
Surrogate: Fluoranthene-d10	0.0358		"	0.0333	107	40-150				

LCS (BGE0092-BS1)

Prepared & Analyzed: 05/03/23

Acenaphthene	0.0306	0.00500	mg/kg	0.0333	91.8	31-137				
Anthracene	0.0343	0.00500	"	0.0333	103	30-120				
Benzo (a) anthracene	0.0334	0.00500	"	0.0333	100	30-120				
Benzo (a) pyrene	0.0337	0.00500	"	0.0333	101	30-120				
Benzo (b) fluoranthene	0.0366	0.00500	"	0.0333	110	30-120				
Benzo (k) fluoranthene	0.0389	0.00500	"	0.0333	117	30-120				
Chrysene	0.0327	0.00500	"	0.0333	98.1	30-120				
Dibenz (a,h) anthracene	0.0294	0.00500	"	0.0333	88.3	30-120				
Fluoranthene	0.0353	0.00500	"	0.0333	106	30-120				
Fluorene	0.0377	0.00500	"	0.0333	113	30-120				
Indeno (1,2,3-cd) pyrene	0.0268	0.00500	"	0.0333	80.3	30-120				
Pyrene	0.0362	0.00500	"	0.0333	108	35-142				
1-Methylnaphthalene	0.0313	0.00500	"	0.0333	93.8	35-142				
2-Methylnaphthalene	0.0325	0.00500	"	0.0333	97.5	35-142				
Surrogate: 2-Methylnaphthalene-d10	0.0332		"	0.0333	99.5	40-150				
Surrogate: Fluoranthene-d10	0.0342		"	0.0333	103	40-150				

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0092 - EPA 5030 Soil MS

Matrix Spike (BGE0092-MS1)	Source: 2305020-31			Prepared & Analyzed: 05/03/23						
Acenaphthene	0.0169	0.00500	mg/kg	0.0333	ND	50.8	31-137			
Anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120			
Benzo (a) anthracene	0.0173	0.00500	"	0.0333	ND	52.0	30-120			
Benzo (a) pyrene	0.0168	0.00500	"	0.0333	ND	50.4	30-120			
Benzo (b) fluoranthene	0.0180	0.00500	"	0.0333	ND	54.0	30-120			
Benzo (k) fluoranthene	0.0207	0.00500	"	0.0333	ND	62.0	30-120			
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120			
Dibenz (a,h) anthracene	0.0135	0.00500	"	0.0333	ND	40.5	30-120			
Fluoranthene	0.0193	0.00500	"	0.0333	ND	57.9	30-120			
Fluorene	0.0208	0.00500	"	0.0333	ND	62.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0141	0.00500	"	0.0333	ND	42.4	30-120			
Pyrene	0.0217	0.00500	"	0.0333	ND	65.1	35-142			
1-Methylnaphthalene	0.0197	0.00500	"	0.0333	ND	59.0	15-130			
2-Methylnaphthalene	0.0195	0.00500	"	0.0333	ND	58.4	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0192</i>		<i>"</i>	<i>0.0333</i>		<i>57.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0187</i>		<i>"</i>	<i>0.0333</i>		<i>56.2</i>	<i>40-150</i>			

Matrix Spike Dup (BGE0092-MSD1)	Source: 2305020-31			Prepared & Analyzed: 05/03/23						
Acenaphthene	0.0228	0.00500	mg/kg	0.0333	ND	68.5	31-137	29.6	30	
Anthracene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	26.0	30	
Benzo (a) anthracene	0.0227	0.00500	"	0.0333	ND	68.1	30-120	26.8	30	
Benzo (a) pyrene	0.0224	0.00500	"	0.0333	ND	67.3	30-120	28.7	30	
Benzo (b) fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	25.4	30	
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.5	30-120	21.0	30	
Chrysene	0.0232	0.00500	"	0.0333	ND	69.7	30-120	21.8	30	
Dibenz (a,h) anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	19.7	30	
Fluoranthene	0.0241	0.00500	"	0.0333	ND	72.3	30-120	22.1	30	
Fluorene	0.0254	0.00500	"	0.0333	ND	76.3	30-120	20.0	30	
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.2	30-120	1.85	30	
Pyrene	0.0263	0.00500	"	0.0333	ND	78.9	35-142	19.3	30	
1-Methylnaphthalene	0.0236	0.00500	"	0.0333	ND	70.7	15-130	18.2	50	
2-Methylnaphthalene	0.0252	0.00500	"	0.0333	ND	75.7	15-130	25.8	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0235</i>		<i>"</i>	<i>0.0333</i>		<i>70.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0246</i>		<i>"</i>	<i>0.0333</i>		<i>73.9</i>	<i>40-150</i>			

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGE0096 - EPA 3050B

Blank (BGE0096-BLK1)

Prepared: 05/03/23 Analyzed: 05/05/23

Cadmium ND 0.200 mg/kg wet

LCS (BGE0096-BS1)

Prepared: 05/03/23 Analyzed: 05/05/23

Cadmium 1.78 0.200 mg/kg wet 2.00 89.1 80-120

Duplicate (BGE0096-DUP1)

Source: 2304374-08

Prepared: 05/03/23 Analyzed: 05/05/23

Cadmium 0.0669 0.200 mg/kg dry 0.141 71.4 20 QR-01

Matrix Spike (BGE0096-MS1)

Source: 2304374-08

Prepared: 05/03/23 Analyzed: 05/05/23

Cadmium 1.48 0.200 mg/kg dry 2.31 0.141 57.9 75-125 QM-05

Matrix Spike Dup (BGE0096-MSD1)

Source: 2304374-08

Prepared: 05/03/23 Analyzed: 05/05/23

Cadmium 1.60 0.200 mg/kg dry 2.31 0.141 63.1 75-125 7.87 25 QM-05

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

Project: Noble - Lilli Unit C-9

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/09/23 11:40

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

Summit Scientific

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

Batch BGE0103 - General Preparation

Duplicate (BGE0103-DUP1)	Source: 2304644-01	Prepared & Analyzed: 05/03/23		
% Solids	93.6	% 93.4	0.190	20

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Tasman Geosciences
6855 W. 119th Ave.
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Project: Noble - Lilli Unit C-9

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/09/23 11:40

Notes and Definitions

- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference