

REMEDIAL EXCAVATION REPORT
LILLI UNIT P-7 TANK BATTERY
COGCC SPILL TRACKING #482201
COGCC REMEDIATION # 21679



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLES

FIGURES

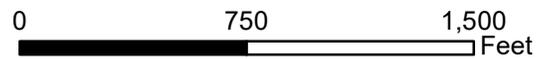
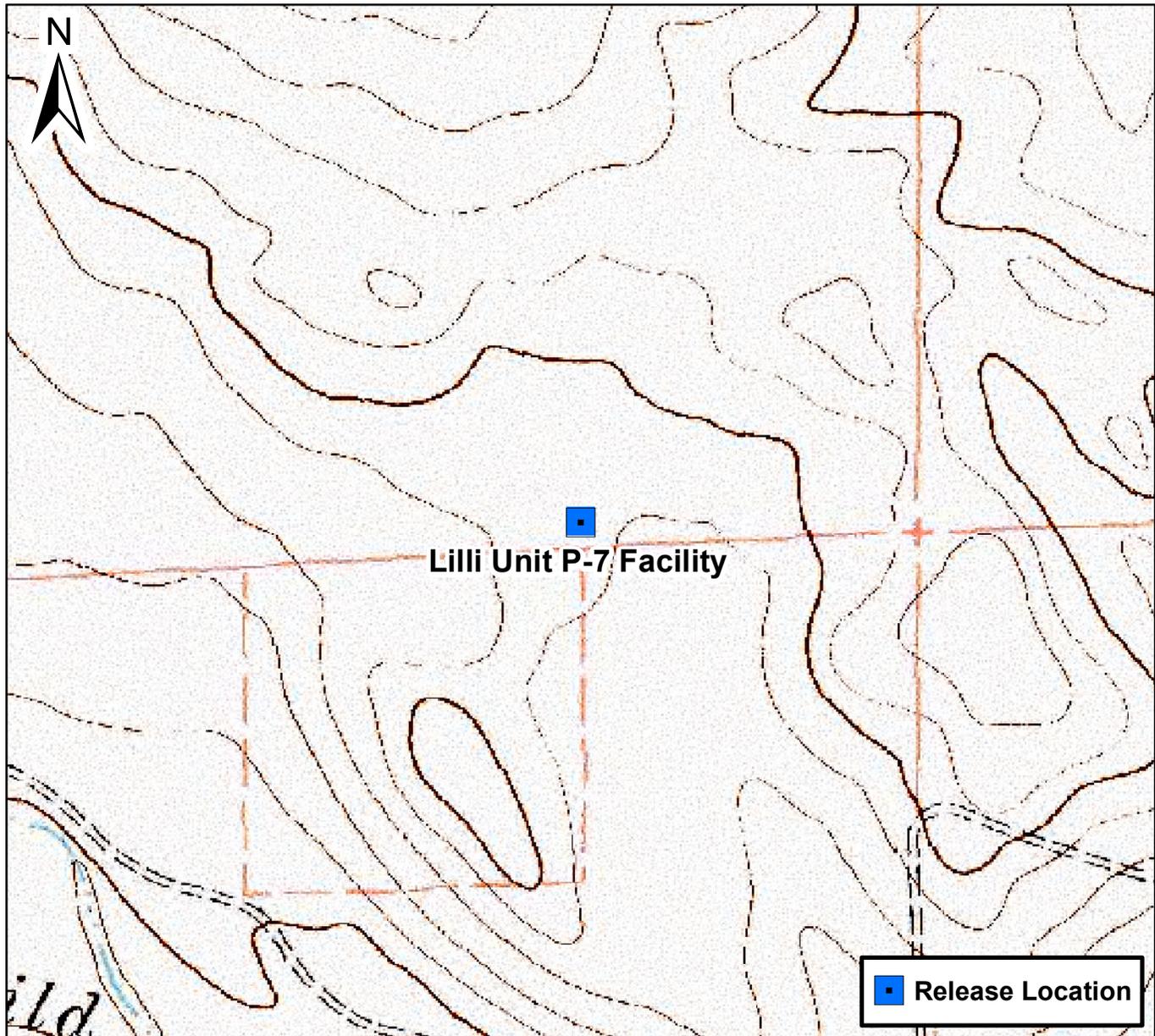
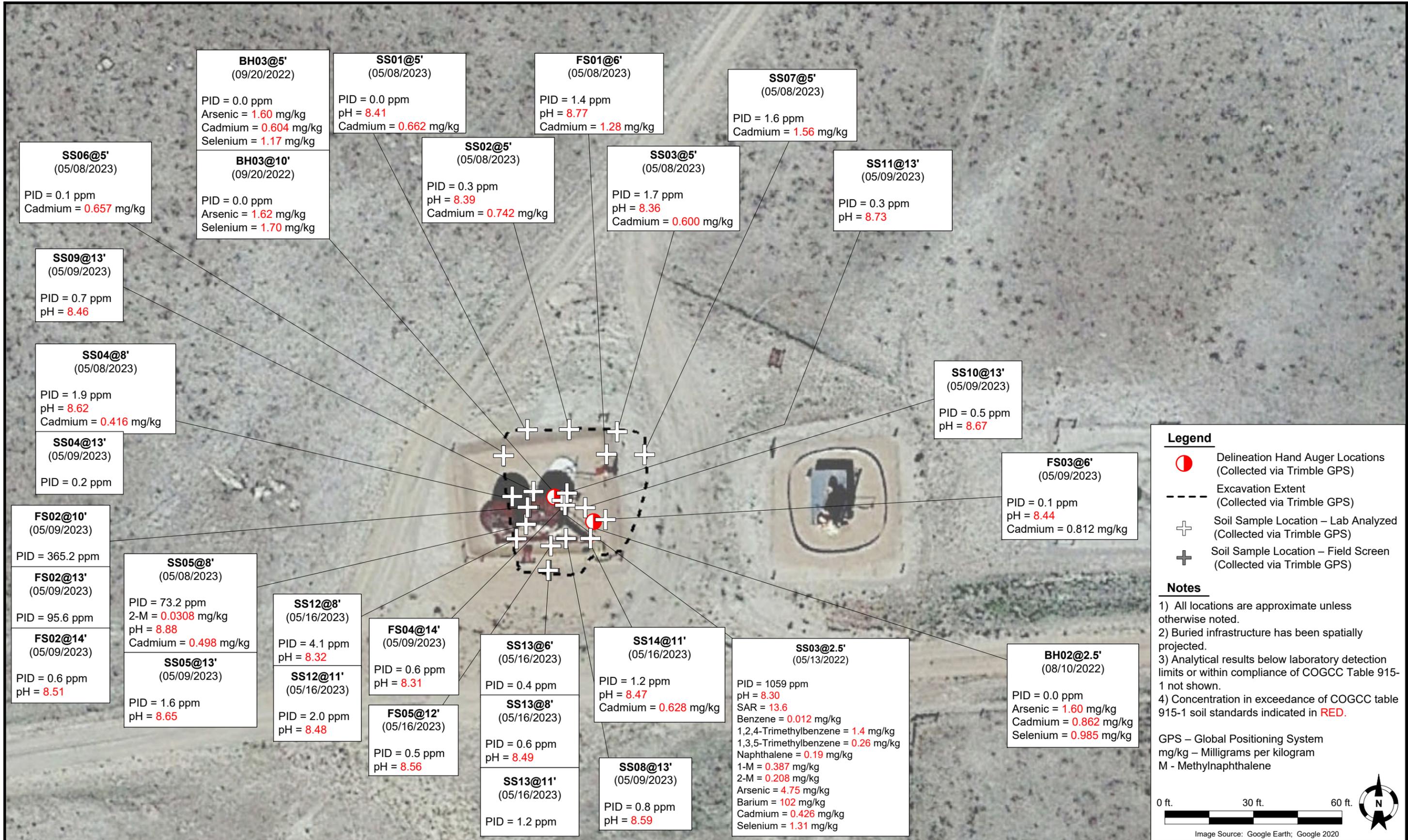


Figure 1

Site Location Map
 Lilli Unit P-7 Facility
 SWSE S7 T8N R58W
 Weld County, Colorado





Legend

-  Delineation Hand Auger Locations (Collected via Trimble GPS)
-  Excavation Extent (Collected via Trimble GPS)
-  Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)
-  Soil Sample Location – Field Screen (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of COGCC Table 915-1 not shown.
- 4) Concentration in exceedance of COGCC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
 mg/kg – Milligrams per kilogram
 M - Methylnaphthalene

0 ft. 30 ft. 60 ft. 

Image Source: Google Earth; Google 2020

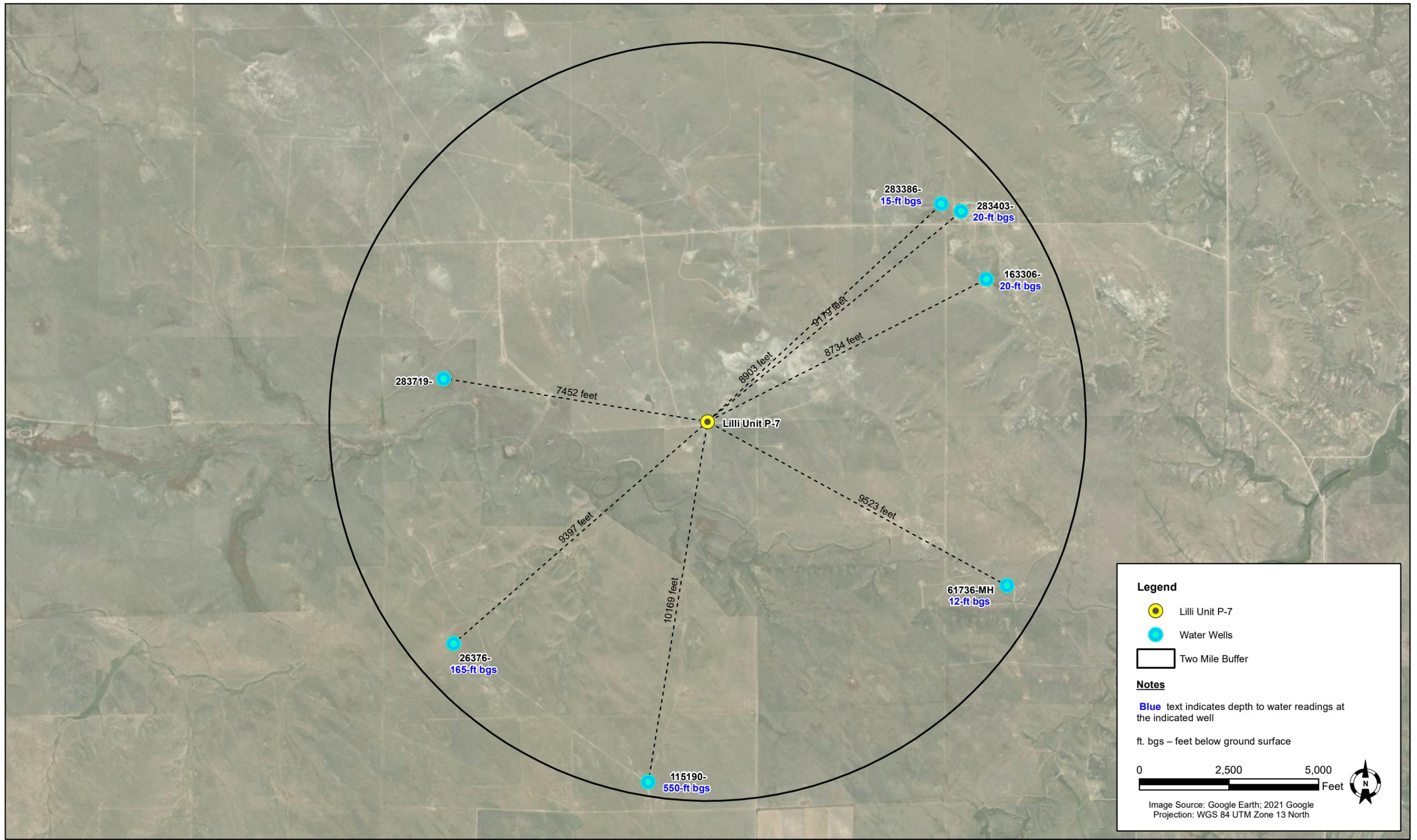
DATE:	05/17/2023
DESIGNED BY:	JW
DRAWN BY:	HM



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

Noble Energy, Inc. – DJ Basin
Lilli Unit P-7 (FAC)
 SWSE, Section 7, Township 8 North, Range 58 West
 Weld County, Colorado

Excavation Analytical
 Results Map
 (05/08/2023, 05/09/2023
 & 05/16/2023)



DATE:	August 2023
DESIGNED BY:	JW
DRAWN BY:	JC

TASMAN Tasman, Inc.
 6855 W. 119th Avenue
 Broomfield, Colorado 80020

Noble Energy, Inc. – DJ Basin
Lilli Unit P-7 (FAC)
 SWSE, Section 7, Township 8 North, Range 58 West
 Weld County, Colorado

WATER WELL INVESTIGATION
 LOCATION MAP

Figure
 3

ATTACHMENT A

LABORATORY ANALYTICAL DATA REPORT

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 11, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Lilli Unit P-7 Facility

Work Order #2305187

Enclosed are the results of analyses for samples received by Summit Scientific on 05/08/23 17:51. 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 P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@5'	2305187-01	Soil	05/08/23 13:26	05/08/23 17:51
SS02@5'	2305187-02	Soil	05/08/23 13:28	05/08/23 17:51
SS03@5'	2305187-03	Soil	05/08/23 13:30	05/08/23 17:51
SS04@8'	2305187-04	Soil	05/08/23 13:32	05/08/23 17:51
SS05@8'	2305187-05	Soil	05/08/23 13:34	05/08/23 17:51
SS06@5'	2305187-06	Soil	05/08/23 13:34	05/08/23 17:51
SS07@5'	2305187-07	Soil	05/08/23 13:36	05/08/23 17:51
FS01@6'	2305187-08	Soil	05/08/23 13:38	05/08/23 17:51

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.

S₂

Sample Receipt Checklist

S2 Work Order# 2305187

Client: Nolde/Tasman Client Project ID: Lilli unit P-7 FAC

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

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

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

AS

Custodian Printed Name

5/8/23

Date/Time



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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS01@5'
2305187-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/09/23	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: **05/08/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0401	100 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0421	105 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:26**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS01@5'
2305187-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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: **05/08/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0243	72.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0237	71.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.662	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:26**

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 P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS01@5'
2305187-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	74.8	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.41		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS02@5'
2305187-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/09/23	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: **05/08/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0424	106 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0454	114 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:28**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS02@5'
2305187-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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: **05/08/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0248	74.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0238	71.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.742	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:28**

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS02@5'
2305187-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.3	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.39		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS03@5'
2305187-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0278	05/08/23	05/09/23	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: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0392	97.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0431	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	14.3	115 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS03@5'
2305187-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0283	85.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0278	83.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.600	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:30**

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

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS03@5'
2305187-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	80.1	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.36		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS04@8'
2305187-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/08/23	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: **05/08/23 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0582	145 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0449	112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0466	117 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.1	137 %		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 P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS04@8'
2305187-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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: **05/08/23 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0248	74.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0258	77.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.416	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:32**

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 P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS04@8'
2305187-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.1	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.62		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS05@8'
2305187-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/08/23	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: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0302	75.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0456	114 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0472	118 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	16.2	129 %		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 P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS05@8'
2305187-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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	0.00538	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0308	0.00500	"	"	"	"	"	"	

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0227	68.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0292	87.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.498	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:34**

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

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS05@8'
2305187-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	86.8	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.88		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS06@5'
2305187-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/08/23	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: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0317	79.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0463	116 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0497	124 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:34**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS06@5'
2305187-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/09/23	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: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0239	71.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.657	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:34**

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

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS06@5'
2305187-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	75.9	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.28		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS07@5'
2305187-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGE0278	05/08/23	05/08/23	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: **05/08/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0304	76.1 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0451	113 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0467	117 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.8	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 P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

SS07@5'
2305187-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/10/23	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: **05/08/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0214	64.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	66.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	1.56	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:36**

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 P-7 Facility
 Project Number: UWRWE-A1941-ABN
 Project Manager: Jacob Whritenour

Reported:
 05/11/23 14:39

SS07@5'
2305187-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.6	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

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Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

FS01@6'
2305187-08 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0278	05/08/23	05/08/23	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: **05/08/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0302	75.4 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0453	113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0476	119 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0277	"	05/08/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.7	141 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

FS01@6'
2305187-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0280	05/09/23	05/10/23	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: **05/08/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0256	76.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0252	75.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	1.28	0.200	mg/kg dry	1	BGE0289	05/09/23	05/10/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/08/23 13:38**

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

FS01@6'
2305187-08 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	81.7	%	1	BGE0284	05/09/23	05/09/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/08/23 13:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.77		pH Units	1	BGE0307	05/09/23	05/09/23	EPA 9045D	

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Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

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 BGE0278 - EPA 5030 Soil MS

Blank (BGE0278-BLK1)

Prepared: 05/08/23 Analyzed: 05/09/23

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	0.0568		"	0.0400		142	50-150			
Surrogate: Toluene-d8	0.0471		"	0.0400		118	50-150			
Surrogate: 4-Bromofluorobenzene	0.0472		"	0.0400		118	50-150			

LCS (BGE0278-BS1)

Prepared: 05/08/23 Analyzed: 05/09/23

Benzene	0.0740	0.0020	mg/kg	0.100		74.0	70-130			
Toluene	0.0946	0.0050	"	0.100		94.6	70-130			
Ethylbenzene	0.0728	0.0050	"	0.100		72.8	70-130			
m,p-Xylene	0.158	0.010	"	0.200		78.8	70-130			
o-Xylene	0.0710	0.0050	"	0.100		71.0	70-130			
1,2,4-Trimethylbenzene	0.0839	0.0050	"	0.100		83.9	70-130			
1,3,5-Trimethylbenzene	0.0833	0.0050	"	0.100		83.3	70-130			
Naphthalene	0.0786	0.0038	"	0.100		78.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0534		"	0.0400		134	50-150			
Surrogate: Toluene-d8	0.0513		"	0.0400		128	50-150			
Surrogate: 4-Bromofluorobenzene	0.0487		"	0.0400		122	50-150			

Matrix Spike (BGE0278-MS1)

Source: 2305184-02

Prepared: 05/08/23 Analyzed: 05/09/23

Benzene	0.0816	0.0020	mg/kg	0.100	ND	81.6	70-130			
Toluene	0.102	0.0050	"	0.100	ND	102	70-130			
Ethylbenzene	0.0860	0.0050	"	0.100	ND	86.0	70-130			
m,p-Xylene	0.184	0.010	"	0.200	ND	91.8	70-130			
o-Xylene	0.0814	0.0050	"	0.100	ND	81.4	70-130			
1,2,4-Trimethylbenzene	0.0971	0.0050	"	0.100	ND	97.1	70-130			
1,3,5-Trimethylbenzene	0.0996	0.0050	"	0.100	ND	99.6	70-130			
Naphthalene	0.0884	0.0038	"	0.100	ND	88.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0584		"	0.0400		146	50-150			
Surrogate: Toluene-d8	0.0501		"	0.0400		125	50-150			
Surrogate: 4-Bromofluorobenzene	0.0467		"	0.0400		117	50-150			

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Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

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 BGE0278 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0278-MSD1)	Source: 2305184-02			Prepared: 05/08/23 Analyzed: 05/09/23						
Benzene	0.0823	0.0020	mg/kg	0.100	ND	82.3	70-130	0.915	30	
Toluene	0.104	0.0050	"	0.100	ND	104	70-130	1.92	30	
Ethylbenzene	0.0948	0.0050	"	0.100	ND	94.8	70-130	9.72	30	
m,p-Xylene	0.200	0.010	"	0.200	ND	100	70-130	8.51	30	
o-Xylene	0.0875	0.0050	"	0.100	ND	87.5	70-130	7.24	30	
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	6.14	30	
1,3,5-Trimethylbenzene	0.108	0.0050	"	0.100	ND	108	70-130	7.87	30	
Naphthalene	0.0838	0.0038	"	0.100	ND	83.8	70-130	5.37	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0559</i>		<i>"</i>	<i>0.0400</i>		<i>140</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0497</i>		<i>"</i>	<i>0.0400</i>		<i>124</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0455</i>		<i>"</i>	<i>0.0400</i>		<i>114</i>	<i>50-150</i>			

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Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGE0277 - EPA 3550A

Blank (BGE0277-BLK1)

Prepared: 05/08/23 Analyzed: 05/09/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	14.1		"	12.5		113	30-150			

LCS (BGE0277-BS1)

Prepared: 05/08/23 Analyzed: 05/09/23

C10-C28 (DRO)	624	50	mg/kg	500		125	70-130			
Surrogate: <i>o</i> -Terphenyl	14.0		"	12.5		112	30-150			

Matrix Spike (BGE0277-MS1)

Source: 2305184-01

Prepared: 05/08/23 Analyzed: 05/09/23

C10-C28 (DRO)	571	50	mg/kg	500	37.9	107	70-130			
Surrogate: <i>o</i> -Terphenyl	14.2		"	12.5		114	30-150			

Matrix Spike Dup (BGE0277-MSD1)

Source: 2305184-01

Prepared: 05/08/23 Analyzed: 05/09/23

C10-C28 (DRO)	502	50	mg/kg	500	37.9	92.7	70-130	12.9	20	
Surrogate: <i>o</i> -Terphenyl	14.1		"	12.5		112	30-150			

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Project: Noble - Lilli Unit P-7 Facility
Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0280 - EPA 5030 Soil MS

Blank (BGE0280-BLK1)

Prepared & Analyzed: 05/09/23

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	"								
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0333</i>		"	<i>0.0333</i>		<i>100</i>		<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0349</i>		"	<i>0.0333</i>		<i>105</i>		<i>40-150</i>			

LCS (BGE0280-BS1)

Prepared & Analyzed: 05/09/23

Acenaphthene	0.0184	0.00500	mg/kg	0.0333	55.3	31-137
Anthracene	0.0384	0.00500	"	0.0333	115	30-120
Benzo (a) anthracene	0.0329	0.00500	"	0.0333	98.7	30-120
Benzo (a) pyrene	0.0330	0.00500	"	0.0333	99.0	30-120
Benzo (b) fluoranthene	0.0334	0.00500	"	0.0333	100	30-120
Benzo (k) fluoranthene	0.0393	0.00500	"	0.0333	118	30-120
Chrysene	0.0334	0.00500	"	0.0333	100	30-120
Dibenz (a,h) anthracene	0.0377	0.00500	"	0.0333	113	30-120
Fluoranthene	0.0390	0.00500	"	0.0333	117	30-120
Fluorene	0.0355	0.00500	"	0.0333	106	30-120
Indeno (1,2,3-cd) pyrene	0.0338	0.00500	"	0.0333	101	30-120
Pyrene	0.0382	0.00500	"	0.0333	115	35-142
1-Methylnaphthalene	0.0337	0.00500	"	0.0333	101	35-142
2-Methylnaphthalene	0.0350	0.00500	"	0.0333	105	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0361</i>		"	<i>0.0333</i>	<i>108</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0338</i>		"	<i>0.0333</i>	<i>101</i>	<i>40-150</i>

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Broomfield CO, 80020

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

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 BGE0280 - EPA 5030 Soil MS

Matrix Spike (BGE0280-MS1)	Source: 2305184-01			Prepared & Analyzed: 05/09/23						
Acenaphthene	0.0181	0.00500	mg/kg	0.0333	ND	54.3	31-137			
Anthracene	0.0313	0.00500	"	0.0333	ND	94.0	30-120			
Benzo (a) anthracene	0.0274	0.00500	"	0.0333	ND	82.3	30-120			
Benzo (a) pyrene	0.0256	0.00500	"	0.0333	ND	76.9	30-120			
Benzo (b) fluoranthene	0.0282	0.00500	"	0.0333	ND	84.7	30-120			
Benzo (k) fluoranthene	0.0315	0.00500	"	0.0333	ND	94.4	30-120			
Chrysene	0.0271	0.00500	"	0.0333	ND	81.2	30-120			
Dibenz (a,h) anthracene	0.0263	0.00500	"	0.0333	ND	79.0	30-120			
Fluoranthene	0.0329	0.00500	"	0.0333	ND	98.8	30-120			
Fluorene	0.0297	0.00500	"	0.0333	ND	89.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0320	0.00500	"	0.0333	ND	95.9	30-120			
Pyrene	0.0308	0.00500	"	0.0333	ND	92.5	35-142			
1-Methylnaphthalene	0.0318	0.00500	"	0.0333	ND	95.5	15-130			
2-Methylnaphthalene	0.0327	0.00500	"	0.0333	ND	98.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0315</i>		<i>"</i>	<i>0.0333</i>		<i>94.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0344</i>		<i>"</i>	<i>0.0333</i>		<i>103</i>	<i>40-150</i>			

Matrix Spike Dup (BGE0280-MSD1)	Source: 2305184-01			Prepared & Analyzed: 05/09/23						
Acenaphthene	0.0176	0.00500	mg/kg	0.0333	ND	52.7	31-137	2.92	30	
Anthracene	0.0293	0.00500	"	0.0333	ND	87.9	30-120	6.66	30	
Benzo (a) anthracene	0.0250	0.00500	"	0.0333	ND	75.1	30-120	9.08	30	
Benzo (a) pyrene	0.0238	0.00500	"	0.0333	ND	71.3	30-120	7.48	30	
Benzo (b) fluoranthene	0.0245	0.00500	"	0.0333	ND	73.6	30-120	14.1	30	
Benzo (k) fluoranthene	0.0269	0.00500	"	0.0333	ND	80.6	30-120	15.7	30	
Chrysene	0.0251	0.00500	"	0.0333	ND	75.3	30-120	7.55	30	
Dibenz (a,h) anthracene	0.0268	0.00500	"	0.0333	ND	80.4	30-120	1.84	30	
Fluoranthene	0.0292	0.00500	"	0.0333	ND	87.6	30-120	12.1	30	
Fluorene	0.0264	0.00500	"	0.0333	ND	79.3	30-120	11.6	30	
Indeno (1,2,3-cd) pyrene	0.0266	0.00500	"	0.0333	ND	79.8	30-120	18.3	30	
Pyrene	0.0289	0.00500	"	0.0333	ND	86.7	35-142	6.41	30	
1-Methylnaphthalene	0.0287	0.00500	"	0.0333	ND	86.0	15-130	10.5	50	
2-Methylnaphthalene	0.0290	0.00500	"	0.0333	ND	86.9	15-130	12.0	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0276</i>		<i>"</i>	<i>0.0333</i>		<i>82.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0296</i>		<i>"</i>	<i>0.0333</i>		<i>88.8</i>	<i>40-150</i>			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

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 BGE0289 - EPA 3050B

Blank (BGE0289-BLK1)

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium ND 0.200 mg/kg wet

LCS (BGE0289-BS1)

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium 1.87 0.200 mg/kg wet 2.00 93.7 80-120

Duplicate (BGE0289-DUP1)

Source: 2305184-01

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium 0.205 0.200 mg/kg dry 0.187 8.78 20

Matrix Spike (BGE0289-MS1)

Source: 2305184-01

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium 2.41 0.200 mg/kg dry 2.46 0.187 90.2 75-125

Matrix Spike Dup (BGE0289-MSD1)

Source: 2305184-01

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium 2.38 0.200 mg/kg dry 2.46 0.187 89.0 75-125 1.19 25

Post Spike (BGE0289-PS1)

Source: 2305184-01

Prepared: 05/09/23 Analyzed: 05/10/23

Cadmium 5.40 ug/l 5.00 0.381 100 75-125

Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

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 BGE0284 - General Preparation

Duplicate (BGE0284-DUP1)

Source: 2305184-01

Prepared & Analyzed: 05/09/23

% Solids	81.5		%		81.3			0.281	20	
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Summit Scientific

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





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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN
 Project Manager: Jacob Whritenour

Reported:
 05/11/23 14:39

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 BGE0307 - General Preparation

LCS (BGE0307-BS1)

Prepared & Analyzed: 05/09/23

pH	9.19	pH Units	9.18	100	95-105
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Duplicate (BGE0307-DUP1)

Source: 2305155-01

Prepared & Analyzed: 05/09/23

pH	8.20	pH Units	8.16	0.489	20
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Summit Scientific

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

Project: Noble - Lilli Unit P-7 Facility

Project Number: UWRWE-A1941-ABN

Project Manager: Jacob Whritenour

Reported:
05/11/23 14:39

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 22, 2023

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Lilli Unit P-7
Work Order #2305368

Enclosed are the results of analyses for samples received by Summit Scientific on 05/16/23 17:57. 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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS12@8'	2305368-01	Soil	05/16/23 10:15	05/16/23 17:57
SS12@11'	2305368-02	Soil	05/16/23 10:20	05/16/23 17:57
SS13@8'	2305368-03	Soil	05/16/23 10:25	05/16/23 17:57
SS13@11'	2305368-04	Soil	05/16/23 10:35	05/16/23 17:57
FS05@12'	2305368-05	Soil	05/16/23 10:30	05/16/23 17:57
SS14@11'	2305368-06	Soil	05/16/23 14:10	05/16/23 17:57

Summit Scientific

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SUMMIT SCIENTIFIC

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

Lab ID	Page of
2305368	

		Send Data To:	Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour		Company: Chevron
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: Lilli Unit P-7
City/State/Zip: Broomfield/CO/ 80020			AFE#:
Phone: 602-881-5716	Project Name: Lilli Unit P-7		PO/Billing Codes:
Sampler Name: Dennis Gray	Project Number:		Contact: Jacob Rulla

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other Cadmium	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS
1	SS12@8'	5-16-23	1015	2			X			X		X	X	X				X	SAR, EC, pH by saturated paste
2	SS12@11'		1020																
3	SS13@8'		1025																
4	SS13@11'		1035																
5	FS05@12'		1030																
6	SS14@11'		1410																
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by:	Date/Time: 5-16-23 1700	Received by: Tasman Lock Box	Date/Time: 5-16-23 1700	TAT Business Days	Field DO	Notes:	
				Same Day	X		Field EC
Relinquished by: Tasman Lock Box	Date/Time: 5/16/23 1757	Received by:	Date/Time: 5/16/23 1757	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: 10.3	Corrected Temperature:	IR gun #: 1	HNO3 lot #:				

S₂

Sample Receipt Checklist

S2 Work Order# 2305368

Client: Noble Tasman Client Project ID: Lilium P-7

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.

AS

Custodian Printed Name

5/18/23

Date/Time



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@8'
2305368-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0549	137 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0440	110 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0575	05/16/23	05/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.0	88.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@8'
2305368-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0171	51.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0329	98.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.302	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 10:15**

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

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@8'
2305368-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.1	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 10:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.32		pH Units	1	BGE0595	05/17/23	05/17/23	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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@11'
2305368-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0478	120 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0383	95.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0575	05/16/23	05/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	13.0	104 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@11'
2305368-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0176	52.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0282	84.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.311	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 10:20**

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

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS12@11'
2305368-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.5	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 10:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.48		pH Units	1	BGE0595	05/17/23	05/17/23	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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS13@8'
2305368-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0450	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0378	94.4 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0575	05/16/23	05/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	13.4	107 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS13@8'
2305368-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0253	75.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 10:25**

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

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS13@8'
2305368-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 10:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.49		pH Units	1	BGE0595	05/17/23	05/17/23	EPA 9045D	

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS13@11'
2305368-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0481	120 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0575	05/16/23	05/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/23 10:35**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS13@11'
2305368-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0174	52.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0264	79.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 10:35**

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 P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/22/23 14:20

SS13@11'
2305368-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.8	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.21		pH Units	1	BGE0595	05/17/23	05/17/23	EPA 9045D	

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

FS05@12'
2305368-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0473	118 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0575	05/16/23	05/16/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.4	91.1 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

FS05@12'
2305368-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0254	76.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 10:30**

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

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

FS05@12'
2305368-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	76.8	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.56		pH Units	1	BGE0595	05/17/23	05/17/23	EPA 9045D	

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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS14@11'
2305368-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0576	05/16/23	05/16/23	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: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0478	119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0575	05/16/23	05/17/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.8	94.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

SS14@11'
2305368-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0585	05/17/23	05/18/23	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: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0168	50.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0257	77.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.628	0.200	mg/kg dry	1	BGE0626	05/18/23	05/19/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/16/23 14:10**

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

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Project: Noble - Lilli Unit P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/22/23 14:20

SS14@11'
2305368-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.0	%	1	BGE0596	05/17/23	05/17/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/16/23 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.47		pH Units	1	BGE0595	05/17/23	05/17/23	EPA 9045D	

Summit Scientific

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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 BGE0576 - EPA 5030 Soil MS

Blank (BGE0576-BLK1)

Prepared: 05/16/23 Analyzed: 05/17/23

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	0.0459		"	0.0400		115	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0432		"	0.0400		108	50-150			

LCS (BGE0576-BS1)

Prepared: 05/16/23 Analyzed: 05/17/23

Benzene	0.112	0.0020	mg/kg	0.125		89.5	70-130			
Toluene	0.133	0.0050	"	0.125		106	70-130			
Ethylbenzene	0.146	0.0050	"	0.125		117	70-130			
m,p-Xylene	0.287	0.010	"	0.250		115	70-130			
o-Xylene	0.131	0.0050	"	0.125		105	70-130			
1,2,4-Trimethylbenzene	0.149	0.0050	"	0.125		119	70-130			
1,3,5-Trimethylbenzene	0.148	0.0050	"	0.125		118	70-130			
Naphthalene	0.127	0.0038	"	0.125		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0457		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		105	50-150			

Matrix Spike (BGE0576-MS1)

Source: 2305197-01

Prepared: 05/16/23 Analyzed: 05/17/23

Benzene	0.110	0.0020	mg/kg	0.125	ND	88.3	70-130			
Toluene	0.134	0.0050	"	0.125	ND	107	70-130			
Ethylbenzene	0.145	0.0050	"	0.125	ND	116	70-130			
m,p-Xylene	0.283	0.010	"	0.250	ND	113	70-130			
o-Xylene	0.131	0.0050	"	0.125	ND	105	70-130			
1,2,4-Trimethylbenzene	0.146	0.0050	"	0.125	ND	117	70-130			
1,3,5-Trimethylbenzene	0.148	0.0050	"	0.125	ND	118	70-130			
Naphthalene	0.137	0.0038	"	0.125	ND	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0468		"	0.0400		117	50-150			
Surrogate: Toluene-d8	0.0419		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	50-150			

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 BGE0576 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0576-MSD1)	Source: 2305197-01			Prepared: 05/16/23 Analyzed: 05/17/23						
Benzene	0.110	0.0020	mg/kg	0.125	ND	87.9	70-130	0.463	30	
Toluene	0.134	0.0050	"	0.125	ND	107	70-130	0.224	30	
Ethylbenzene	0.145	0.0050	"	0.125	ND	116	70-130	0.186	30	
m,p-Xylene	0.281	0.010	"	0.250	ND	113	70-130	0.511	30	
o-Xylene	0.130	0.0050	"	0.125	ND	104	70-130	0.505	30	
1,2,4-Trimethylbenzene	0.146	0.0050	"	0.125	ND	117	70-130	0.0205	30	
1,3,5-Trimethylbenzene	0.147	0.0050	"	0.125	ND	117	70-130	0.815	30	
Naphthalene	0.139	0.0038	"	0.125	ND	111	70-130	1.17	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0484</i>		<i>"</i>	<i>0.0400</i>		<i>121</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0424</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0423</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			

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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGE0575 - EPA 3550A

Blank (BGE0575-BLK1)

Prepared: 05/16/23 Analyzed: 05/17/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	7.50		"	12.5		60.0			30-150	

LCS (BGE0575-BS1)

Prepared: 05/16/23 Analyzed: 05/17/23

C10-C28 (DRO)	391	50	mg/kg	500		78.1			70-130	
Surrogate: <i>o</i> -Terphenyl	7.61		"	12.5		60.9			30-150	

Matrix Spike (BGE0575-MS1)

Source: 2305197-01

Prepared: 05/16/23 Analyzed: 05/17/23

C10-C28 (DRO)	393	50	mg/kg	500	31.5	72.3			70-130	
Surrogate: <i>o</i> -Terphenyl	9.12		"	12.5		73.0			30-150	

Matrix Spike Dup (BGE0575-MSD1)

Source: 2305197-01

Prepared: 05/16/23 Analyzed: 05/17/23

C10-C28 (DRO)	385	50	mg/kg	500	31.5	70.7		2.13	70-130	20
Surrogate: <i>o</i> -Terphenyl	9.10		"	12.5		72.8			30-150	

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGE0585 - EPA 5030 Soil MS

Blank (BGE0585-BLK1)

Prepared: 05/17/23 Analyzed: 05/18/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0260</i>		"	<i>0.0333</i>		<i>77.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0324</i>		"	<i>0.0333</i>		<i>97.1</i>	<i>40-150</i>			

LCS (BGE0585-BS1)

Prepared: 05/17/23 Analyzed: 05/18/23

Acenaphthene	0.0350	0.00500	mg/kg	0.0333	105	31-137
Anthracene	0.0338	0.00500	"	0.0333	102	30-120
Benzo (a) anthracene	0.0307	0.00500	"	0.0333	92.0	30-120
Benzo (a) pyrene	0.0308	0.00500	"	0.0333	92.4	30-120
Benzo (b) fluoranthene	0.0297	0.00500	"	0.0333	89.0	30-120
Benzo (k) fluoranthene	0.0309	0.00500	"	0.0333	92.8	30-120
Chrysene	0.0385	0.00500	"	0.0333	116	30-120
Dibenz (a,h) anthracene	0.0284	0.00500	"	0.0333	85.1	30-120
Fluoranthene	0.0316	0.00500	"	0.0333	94.8	30-120
Fluorene	0.0342	0.00500	"	0.0333	103	30-120
Indeno (1,2,3-cd) pyrene	0.0209	0.00500	"	0.0333	62.6	30-120
Pyrene	0.0391	0.00500	"	0.0333	117	35-142
1-Methylnaphthalene	0.0223	0.00500	"	0.0333	66.9	35-142
2-Methylnaphthalene	0.0327	0.00500	"	0.0333	98.1	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0312</i>		"	<i>0.0333</i>	<i>93.7</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0313</i>		"	<i>0.0333</i>	<i>93.8</i>	<i>40-150</i>

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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 BGE0585 - EPA 5030 Soil MS

Matrix Spike (BGE0585-MS1)	Source: 2305368-01			Prepared: 05/17/23 Analyzed: 05/18/23						
Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.6	31-137			
Anthracene	0.0246	0.00500	"	0.0333	ND	73.7	30-120			
Benzo (a) anthracene	0.0326	0.00500	"	0.0333	ND	97.9	30-120			
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	ND	72.3	30-120			
Benzo (b) fluoranthene	0.0262	0.00500	"	0.0333	ND	78.6	30-120			
Benzo (k) fluoranthene	0.0225	0.00500	"	0.0333	ND	67.5	30-120			
Chrysene	0.0258	0.00500	"	0.0333	ND	77.4	30-120			
Dibenz (a,h) anthracene	0.0165	0.00500	"	0.0333	ND	49.6	30-120			
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	30-120			
Fluorene	0.0250	0.00500	"	0.0333	ND	75.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.3	30-120			
Pyrene	0.0266	0.00500	"	0.0333	ND	79.9	35-142			
1-Methylnaphthalene	0.0138	0.00500	"	0.0333	0.00275	33.2	15-130			
2-Methylnaphthalene	0.0134	0.00500	"	0.0333	ND	40.1	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0181</i>		<i>"</i>	<i>0.0333</i>		<i>54.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0274</i>		<i>"</i>	<i>0.0333</i>		<i>82.1</i>	<i>40-150</i>			

Matrix Spike Dup (BGE0585-MSD1)	Source: 2305368-01			Prepared: 05/17/23 Analyzed: 05/18/23						
Acenaphthene	0.0225	0.00500	mg/kg	0.0333	ND	67.5	31-137	7.32	30	
Anthracene	0.0230	0.00500	"	0.0333	ND	69.1	30-120	6.38	30	
Benzo (a) anthracene	0.0341	0.00500	"	0.0333	ND	102	30-120	4.37	30	
Benzo (a) pyrene	0.0261	0.00500	"	0.0333	ND	78.2	30-120	7.84	30	
Benzo (b) fluoranthene	0.0285	0.00500	"	0.0333	ND	85.5	30-120	8.43	30	
Benzo (k) fluoranthene	0.0221	0.00500	"	0.0333	ND	66.3	30-120	1.79	30	
Chrysene	0.0226	0.00500	"	0.0333	ND	67.8	30-120	13.2	30	
Dibenz (a,h) anthracene	0.0211	0.00500	"	0.0333	ND	63.4	30-120	24.5	30	
Fluoranthene	0.0236	0.00500	"	0.0333	ND	70.8	30-120	1.54	30	
Fluorene	0.0250	0.00500	"	0.0333	ND	75.0	30-120	0.0494	30	
Indeno (1,2,3-cd) pyrene	0.0207	0.00500	"	0.0333	ND	62.2	30-120	17.3	30	
Pyrene	0.0262	0.00500	"	0.0333	ND	78.7	35-142	1.47	30	
1-Methylnaphthalene	0.0152	0.00500	"	0.0333	0.00275	37.3	15-130	9.44	50	
2-Methylnaphthalene	0.0138	0.00500	"	0.0333	ND	41.5	15-130	3.43	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0169</i>		<i>"</i>	<i>0.0333</i>		<i>50.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0270</i>		<i>"</i>	<i>0.0333</i>		<i>81.1</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGE0626 - EPA 3050B

Blank (BGE0626-BLK1)

Prepared & Analyzed: 05/18/23

Cadmium ND 0.200 mg/kg wet

LCS (BGE0626-BS1)

Prepared: 05/18/23 Analyzed: 05/20/23

Cadmium 1.64 0.200 mg/kg wet 2.00 81.9 80-120

Duplicate (BGE0626-DUP1)

Source: 2305263-15

Prepared & Analyzed: 05/18/23

Cadmium 0.135 0.200 mg/kg dry 0.127 5.94 20

Matrix Spike (BGE0626-MS1)

Source: 2305263-15

Prepared: 05/18/23 Analyzed: 05/20/23

Cadmium 1.79 0.200 mg/kg dry 2.16 0.127 77.0 75-125

Matrix Spike Dup (BGE0626-MSD1)

Source: 2305263-15

Prepared: 05/18/23 Analyzed: 05/20/23

Cadmium 1.73 0.200 mg/kg dry 2.16 0.127 74.3 75-125 3.31 25 QM-05

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 BGE0596 - General Preparation

Duplicate (BGE0596-DUP1)

Source: 2305368-01

Prepared & Analyzed: 05/17/23

% Solids	78.6		%		78.1			0.573	20	
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Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 BGE0595 - General Preparation

LCS (BGE0595-BS1)

Prepared & Analyzed: 05/17/23

pH 9.03 pH Units 9.18 98.4 95-105

Duplicate (BGE0595-DUP1)

Source: 2305274-01

Prepared & Analyzed: 05/17/23

pH 7.90 pH Units 7.88 0.253 20

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/22/23 14:20

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 15, 2023

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Lilli Unit P-7
Work Order #2305208

Enclosed are the results of analyses for samples received by Summit Scientific on 05/09/23 18:16. 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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS02@14'	2305208-01	Soil	05/09/23 10:04	05/09/23 18:16
SS08@13'	2305208-02	Soil	05/09/23 10:12	05/09/23 18:16
SS09@13'	2305208-03	Soil	05/09/23 10:44	05/09/23 18:16
SS10@13'	2305208-04	Soil	05/09/23 10:46	05/09/23 18:16
SS04@13'	2305208-05	Soil	05/09/23 10:48	05/09/23 18:16
SS05@13'	2305208-06	Soil	05/09/23 10:50	05/09/23 18:16
FS03@6'	2305208-07	Soil	05/09/23 11:01	05/09/23 18:16
FS04@14'	2305208-08	Soil	05/09/23 12:15	05/09/23 18:16
SS11@13'	2305208-09	Soil	05/09/23 12:16	05/09/23 18:16

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

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

Lab ID	Page 1 of 1
2305208	

Send Data To:		Send Invoice To:	
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Chevron	
Address: 6855 W. 119th Ave.	E-Mail: jwhritenour@tasman-geo.com	Project Name/Location: Lilli Unit P-7	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone: 602-881-5716	Project Name: Lilli Unit P-7	PO/Billing Codes:	
Sampler Name: Dennis Gray	Project Number:	Contact: Jacob Rulla	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other Cadmium	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS	HOLD
1	F502 @ 14'	5-9-23	1004	2			X			X		X	X	X					X	SAR, EC, pH by saturated paste
2	SS08 @ 13'		1012																	
3	SS09 @ 13'		1044																	
4	SS10 @ 13'		1046																	
5	SS04 @ 13'		1048																	
6	SS05 @ 13'		1050																	
7	F503 @ 6'		1101																	
8	F504 @ 14'		1215																	
9	SS11 @ 13'		1216																	
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Dennis Gray</i>	Date/Time: 5-9-23 1530	Received by: Tasman Lock Box	Date/Time: 5-9-23 1530	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 5-9-23 1810	Received by: <i>[Signature]</i>	Date/Time: 5-9-23 1810	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: 104	Corrected Temperature: 10	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2305208

Client: Noble Hasman Client Project ID: Lilli unit P-7

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

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

Temp (°C) 10.4 Thermometer # 1

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

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

AS
Custodian Printed Name

5/9/23
Date/Time



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS02@14'
2305208-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0543	136 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0461	115 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0486	122 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	13.9	111 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS02@14'
2305208-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/10/23	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: **05/09/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	ND	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:04**

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS02@14'
2305208-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	77.7	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.51		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS08@13'
2305208-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0558	140 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0454	114 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0476	119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/09/23 10:12**

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

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS08@13'
2305208-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/10/23	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: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.262	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:12**

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS08@13'
2305208-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.3	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:12**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.59		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS09@13'
2305208-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0536	134 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0465	116 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0482	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	17.6	141 %	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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS09@13'
2305208-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/10/23	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: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.265	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:44**

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS09@13'
2305208-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.3	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:44**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.46		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS10@13'
2305208-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0532	133 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0448	112 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0478	119 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.0	96.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS10@13'
2305208-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0157	47.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0179	53.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.233	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:46**

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

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS10@13'
2305208-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.9	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.67		pH Units	1	BGE0335	05/10/23	05/10/23	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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS04@13'
2305208-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0532	133 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0456	114 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0483	121 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.7	93.4 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS04@13'
2305208-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0169	50.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.253	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:48**

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

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS04@13'
2305208-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.9	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:48**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.55		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS05@13'
2305208-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0560	140 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0455	114 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0481	120 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	15.7	125 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS05@13'
2305208-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.259	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 10:50**

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 P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/15/23 10:37

SS05@13'
2305208-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.8	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.65		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS03@6'
2305208-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0540	135 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0455	114 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0482	120 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.5	140 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS03@6'
2305208-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0151	45.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.812	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 11:01**

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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS03@6'
2305208-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.5	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 11:01**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.44		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS04@14'
2305208-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0536	134 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0461	115 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0483	121 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.1	96.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

FS04@14'
2305208-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0154	46.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0175	52.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.213	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 12:15**

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

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/15/23 10:37

FS04@14'
2305208-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	77.7	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 12:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.31		pH Units	1	BGE0335	05/10/23	05/10/23	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 P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS11@13'
2305208-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGE0313	05/09/23	05/09/23	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: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0554	139 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0466	116 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0482	120 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGE0314	05/09/23	05/09/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.3	107 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

SS11@13'
2305208-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGE0332	05/10/23	05/11/23	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: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0194	58.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cadmium	0.230	0.200	mg/kg dry	1	BGE0368	05/11/23	05/12/23	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/09/23 12:16**

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/15/23 10:37

SS11@13'
2305208-09 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	79.1	%	1	BGE0345	05/10/23	05/11/23	Calculation
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Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **05/09/23 12:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.73		pH Units	1	BGE0335	05/10/23	05/10/23	EPA 9045D	

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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

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 BGE0313 - EPA 5030 Soil MS

Blank (BGE0313-BLK1)

Prepared: 05/09/23 Analyzed: 05/10/23

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	0.0232		"	0.0400		58.1	50-150			
Surrogate: Toluene-d8	0.0376		"	0.0400		94.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0353		"	0.0400		88.4	50-150			

LCS (BGE0313-BS1)

Prepared: 05/09/23 Analyzed: 05/10/23

Benzene	0.0736	0.0020	mg/kg	0.100		73.6	70-130			
Toluene	0.0908	0.0050	"	0.100		90.8	70-130			
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130			
m,p-Xylene	0.213	0.010	"	0.200		106	70-130			
o-Xylene	0.100	0.0050	"	0.100		100	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100		113	70-130			
1,3,5-Trimethylbenzene	0.118	0.0050	"	0.100		118	70-130			
Naphthalene	0.0785	0.0038	"	0.100		78.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0327		"	0.0400		81.8	50-150			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	50-150			

Matrix Spike (BGE0313-MS1)

Source: 2305205-01

Prepared: 05/09/23 Analyzed: 05/10/23

Benzene	0.0746	0.0020	mg/kg	0.100	ND	74.6	70-130			
Toluene	0.0877	0.0050	"	0.100	ND	87.7	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
1,3,5-Trimethylbenzene	0.120	0.0050	"	0.100	ND	120	70-130			
Naphthalene	0.0866	0.0038	"	0.100	ND	86.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0344		"	0.0400		85.9	50-150			
Surrogate: Toluene-d8	0.0372		"	0.0400		93.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0377		"	0.0400		94.2	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGE0313 - EPA 5030 Soil MS

Matrix Spike Dup (BGE0313-MSD1)	Source: 2305205-01			Prepared: 05/09/23 Analyzed: 05/10/23						
Benzene	0.0787	0.0020	mg/kg	0.100	ND	78.7	70-130	5.28	30	
Toluene	0.0879	0.0050	"	0.100	ND	87.9	70-130	0.171	30	
Ethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	3.90	30	
m,p-Xylene	0.211	0.010	"	0.200	ND	106	70-130	1.53	30	
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130	3.80	30	
1,2,4-Trimethylbenzene	0.125	0.0050	"	0.100	ND	125	70-130	13.0	30	
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100	ND	121	70-130	0.472	30	
Naphthalene	0.0926	0.0038	"	0.100	ND	92.6	70-130	6.66	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>92.0</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

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 BGE0314 - EPA 3550A

Blank (BGE0314-BLK1)

Prepared & Analyzed: 05/09/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.5		"	12.5		116		30-150			

LCS (BGE0314-BS1)

Prepared & Analyzed: 05/09/23

C10-C28 (DRO)	578	50	mg/kg	500		116		70-130			
Surrogate: <i>o</i> -Terphenyl	14.1		"	12.5		113		30-150			

Matrix Spike (BGE0314-MS1)

Source: 2305205-01

Prepared: 05/09/23 Analyzed: 05/10/23

C10-C28 (DRO)	522	50	mg/kg	500	39.8	96.4		70-130			
Surrogate: <i>o</i> -Terphenyl	16.4		"	12.5		131		30-150			

Matrix Spike Dup (BGE0314-MSD1)

Source: 2305205-01

Prepared: 05/09/23 Analyzed: 05/10/23

C10-C28 (DRO)	515	50	mg/kg	500	39.8	95.0		70-130	1.33	20	
Surrogate: <i>o</i> -Terphenyl	17.5		"	12.5		140		30-150			

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Tasman Geosciences
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Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

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 BGE0332 - EPA 5030 Soil MS

Blank (BGE0332-BLK1)

Prepared & Analyzed: 05/10/23

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0379</i>		"	<i>0.0333</i>		<i>114</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0317</i>		"	<i>0.0333</i>		<i>95.2</i>		<i>40-150</i>		

LCS (BGE0332-BS1)

Prepared & Analyzed: 05/10/23

Acenaphthene	0.0305	0.00500	mg/kg	0.0333		91.6		31-137		
Anthracene	0.0331	0.00500	"	0.0333		99.3		30-120		
Benzo (a) anthracene	0.0267	0.00500	"	0.0333		80.1		30-120		
Benzo (a) pyrene	0.0281	0.00500	"	0.0333		84.4		30-120		
Benzo (b) fluoranthene	0.0258	0.00500	"	0.0333		77.5		30-120		
Benzo (k) fluoranthene	0.0247	0.00500	"	0.0333		74.0		30-120		
Chrysene	0.0335	0.00500	"	0.0333		101		30-120		
Dibenz (a,h) anthracene	0.0356	0.00500	"	0.0333		107		30-120		
Fluoranthene	0.0325	0.00500	"	0.0333		97.5		30-120		
Fluorene	0.0246	0.00500	"	0.0333		73.8		30-120		
Indeno (1,2,3-cd) pyrene	0.0368	0.00500	"	0.0333		110		30-120		
Pyrene	0.0353	0.00500	"	0.0333		106		35-142		
1-Methylnaphthalene	0.0279	0.00500	"	0.0333		83.7		35-142		
2-Methylnaphthalene	0.0293	0.00500	"	0.0333		88.0		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0293</i>		"	<i>0.0333</i>		<i>87.8</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0329</i>		"	<i>0.0333</i>		<i>98.7</i>		<i>40-150</i>		

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

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 BGE0332 - EPA 5030 Soil MS

Matrix Spike (BGE0332-MS1)	Source: 2305203-01			Prepared & Analyzed: 05/10/23						
Acenaphthene	0.0136	0.00500	mg/kg	0.0333	ND	40.7	31-137			
Anthracene	0.0218	0.00500	"	0.0333	ND	65.4	30-120			
Benzo (a) anthracene	0.0141	0.00500	"	0.0333	ND	42.4	30-120			
Benzo (a) pyrene	0.0174	0.00500	"	0.0333	ND	52.2	30-120			
Benzo (b) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.3	30-120			
Benzo (k) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.7	30-120			
Chrysene	0.0172	0.00500	"	0.0333	ND	51.5	30-120			
Dibenz (a,h) anthracene	0.0150	0.00500	"	0.0333	ND	45.1	30-120			
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120			
Fluorene	0.0166	0.00500	"	0.0333	ND	49.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0155	0.00500	"	0.0333	ND	46.5	30-120			
Pyrene	0.0146	0.00500	"	0.0333	ND	43.8	35-142			
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.9	15-130			
2-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.0	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0140</i>		<i>"</i>	<i>0.0333</i>		<i>42.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0139</i>		<i>"</i>	<i>0.0333</i>		<i>41.7</i>	<i>40-150</i>			

Matrix Spike Dup (BGE0332-MSD1)	Source: 2305203-01			Prepared & Analyzed: 05/10/23						
Acenaphthene	0.0166	0.00500	mg/kg	0.0333	ND	49.7	31-137	19.8	30	
Anthracene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	19.1	30	
Benzo (a) anthracene	0.0147	0.00500	"	0.0333	ND	44.1	30-120	4.09	30	
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.4	30-120	1.53	30	
Benzo (b) fluoranthene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	7.59	30	
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.7	30-120	2.25	30	
Chrysene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	9.29	30	
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.0	30-120	9.56	30	
Fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	15.8	30	
Fluorene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	10.7	30	
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	ND	49.8	30-120	6.87	30	
Pyrene	0.0157	0.00500	"	0.0333	ND	47.2	35-142	7.57	30	
1-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	15-130	2.10	50	
2-Methylnaphthalene	0.0148	0.00500	"	0.0333	ND	44.5	15-130	17.3	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0159</i>		<i>"</i>	<i>0.0333</i>		<i>47.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0164</i>		<i>"</i>	<i>0.0333</i>		<i>49.3</i>	<i>40-150</i>			

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGE0368 - EPA 3050B

Blank (BGE0368-BLK1)

Prepared: 05/11/23 Analyzed: 05/12/23

Cadmium ND 0.200 mg/kg wet

LCS (BGE0368-BS1)

Prepared: 05/11/23 Analyzed: 05/12/23

Cadmium 1.87 0.200 mg/kg wet 2.00 93.5 80-120

Duplicate (BGE0368-DUP1)

Source: 2305197-01

Prepared: 05/11/23 Analyzed: 05/12/23

Cadmium 0.0809 0.200 mg/kg dry 0.0797 1.54 20

Matrix Spike (BGE0368-MS1)

Source: 2305197-01

Prepared: 05/11/23 Analyzed: 05/12/23

Cadmium 2.12 0.200 mg/kg dry 2.06 0.0797 98.7 75-125

Matrix Spike Dup (BGE0368-MSD1)

Source: 2305197-01

Prepared: 05/11/23 Analyzed: 05/12/23

Cadmium 2.14 0.200 mg/kg dry 2.06 0.0797 99.9 75-125 1.09 25

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 6855 W. 119th Ave.
 Broomfield CO, 80020

Project: Noble - Lilli Unit P-7

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 05/15/23 10:37

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 BGE0345 - General Preparation

Duplicate (BGE0345-DUP1)	Source: 2305100-41		Prepared: 05/10/23 Analyzed: 05/11/23			
% Solids	86.9	%		88.0	1.27	20

Summit Scientific

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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

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 BGE0335 - General Preparation

LCS (BGE0335-BS1)

Prepared & Analyzed: 05/10/23

pH	9.08	pH Units	9.18	98.9	95-105
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Duplicate (BGE0335-DUP1)

Source: 2304427-31

Prepared & Analyzed: 05/10/23

pH	8.48	pH Units	8.46	0.236	20
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Summit Scientific

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



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

Project: Noble - Lilli Unit P-7

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
05/15/23 10:37

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference