

**BALBOA C20-03, 23, 09SX**  
**FLOW LINE RELEASE**  
**API #: 05-123-13251**  
**Spill Tracking #: 447161**  
**Remediation Project #: Not Assigned**

**THIRD QUARTER 2016**  
**Analytical Tables, Figures,**  
**and Laboratory Reports**

September 27, 2016



Image: Google

**PREPARED ON BEHALF OF**

Noble Energy, Inc.  
1600 Broadway  
Denver, CO 80202



**PREPARED BY**

Tasman Geosciences, Inc.  
6899 Pecos Street, Unit C  
Denver, CO 80221



**TABLE 1**  
**SOIL ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - BALBOA C20-03, 23, 09SX FLOW LINE RELEASE**

Soil Sample ID	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Naphthalene (mg/kg)
<b>COGCC Standard</b>		<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500</b>		<b>23</b>
SS01@3'	08/11/16	<0.0020	1.7	<0.0050	22	<b>4,600</b>	<b>3,100</b>	1.2
SS02@3'	08/11/16	<b>3.6</b>	44	16	110	<b>5,000</b>	<b>2,700</b>	3.2
SS03@3'	08/11/16	<b>2.7</b>	35	6.5	69	<b>5,400</b>	<b>2,800</b>	2.6
SS04@3'	08/11/16	<b>0.54</b>	17	3.7	37	<b>3,100</b>	<b>900</b>	1.5
BH01@3'	08/11/16	<b>0.66</b>	4.5	0.84	16	<b>800</b>	<b>660</b>	1.4
BH02@1'	08/11/16	0.021	0.044	0.026	31	<b>150</b>	<b>650</b>	0.19
BH03@3'	08/11/16	<b>4.1</b>	47	11	160	<b>2,000</b>	<b>700</b>	2.6
BH04@3'	08/11/16	<b>1.8</b>	19	2.9	100	<b>1,400</b>	<b>380</b>	2.1
BH05@2'	08/11/16	0.0060	0.036	<0.0050	51	<b>1,400</b>	<b>280</b>	0.11
BH06@2'	08/11/16	<0.0020	<0.0050	<0.0050	1.6	<b>77</b>	<b>490</b>	0.041
BH07@1'	08/11/16	<0.0020	0.044	<0.0050	60	<b>2,900</b>	<b>770</b>	2.7
BH08@1'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH09@2'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH10@3'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	0.012
BH11@2'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH12@2'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH13@3'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	0.011
BH14@1'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH15@2'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH16@1'	08/11/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

< = Analytical result is less than the indicated laboratory reporting limit

Soil standards referenced from COGCC Table 910-1

**Highlighted results are equal to or exceed the COGCC Table 910-1 standard**

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - BALBOA C20-03, 23, 09SX FLOW LINE RELEASE**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
GW01	07/29/16	<b>1,000</b>	<b>1,800</b>	380	<b>4,400</b>
BH01	08/12/16	<b>170</b>	<1.0	<1.0	24
BH02	08/12/16	<b>Not Sampled - LNAPL Present</b>			
BH03	08/12/16	<b>Not Sampled - LNAPL Present</b>			
BH04	08/12/16	<b>Not Sampled - LNAPL Present</b>			
BH05	08/12/16	<b>50</b>	1.4	<1.0	130
BH06	08/12/16	<1.0	<1.0	<1.0	<1.0
BH07	08/12/16	<b>Not Sampled - LNAPL Present</b>			
BH08	08/12/16	<1.0	<1.0	<1.0	<1.0
BH09	08/12/16	<b>3,500</b>	<1.0	4.8	2.2
BH10	08/12/16	<b>Not Sampled - LNAPL Present</b>			
BH11	08/12/16	<1.0	<1.0	<1.0	<1.0
BH12	08/12/16	<1.0	<1.0	<1.0	<1.0
BH13	08/12/16	<1.0	<1.0	<1.0	<1.0
BH14	08/12/16	<1.0	<1.0	<1.0	<1.0
BH15	08/12/16	<b>260</b>	<1.0	13	46
BH16	08/12/16	<1.0	<1.0	<1.0	6.1

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

< = Analytical result is less than the indicated laboratory reporting limit

Groundwater standards referenced from COGCC Table 910-1

**Highlighted results are equal to or exceed the COGCC Table 910-1 standard**

**TABLE 3**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - BALBOA C20-03, 23, 09SX FLOW LINE RELEASE**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation* (ft. AMSL)</b>
BH01	08/12/16	4732.77	9.52	6.14	ND	ND	4726.63
BH02	08/12/16	4732.90	NM	6.96	6.17	0.79	4726.53
BH03	08/12/16	4733.02	NM	7.46	6.41	1.05	4726.35
BH04	08/12/16	4733.39	NM	7.14	6.70	0.44	4726.58
BH05	08/12/16	4732.68	9.42	5.75	ND	ND	4726.93
BH06	08/12/16	4733.06	9.49	5.97	ND	ND	4727.09
BH07	08/12/16	4732.95	NM	6.95	5.85	1.10	4726.83
BH08	08/12/16	4732.79	9.80	6.48	ND	ND	4726.31
BH09	08/12/16	4732.90	9.94	6.80	ND	ND	4726.10
BH10	08/12/16	4733.61	NM	7.36	7.17	0.19	4726.39
BH11	08/12/16	4733.08	9.87	5.99	ND	ND	4727.09
BH12	08/12/16	4734.34	9.94	7.03	ND	ND	4727.31
BH13	08/12/16	4733.08	9.74	6.15	ND	ND	4726.93
BH14	08/12/16	4733.44	9.75	7.24	ND	ND	4726.20
BH15	08/12/16	4732.80	9.88	7.04	ND	ND	4725.76
BH16	08/12/16	4733.25	9.70	7.14	ND	ND	4726.11

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

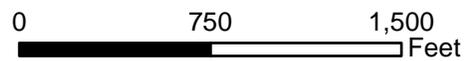
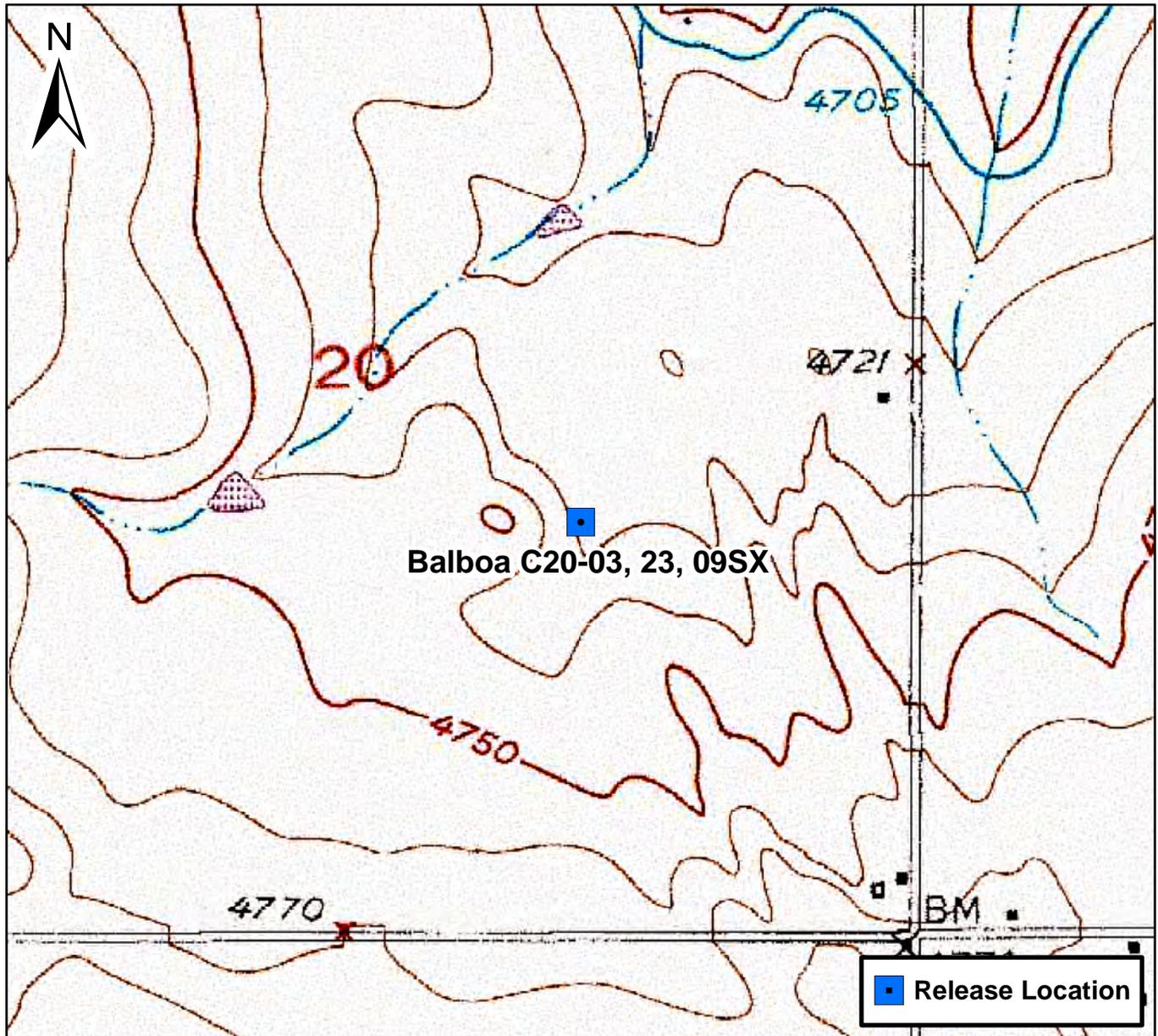
NM = Not measured

ND = No LNAPL detected

\* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water)+(LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be approximately 0.75



### Figure 1

Site Location Map  
 Balboa C20-03, 23, 09SX  
 NWSE S20 T4N R64W  
 Weld County, Colorado





PROJECT NO:  
DRAWN BY: ESS  
DATE:09/16/2016

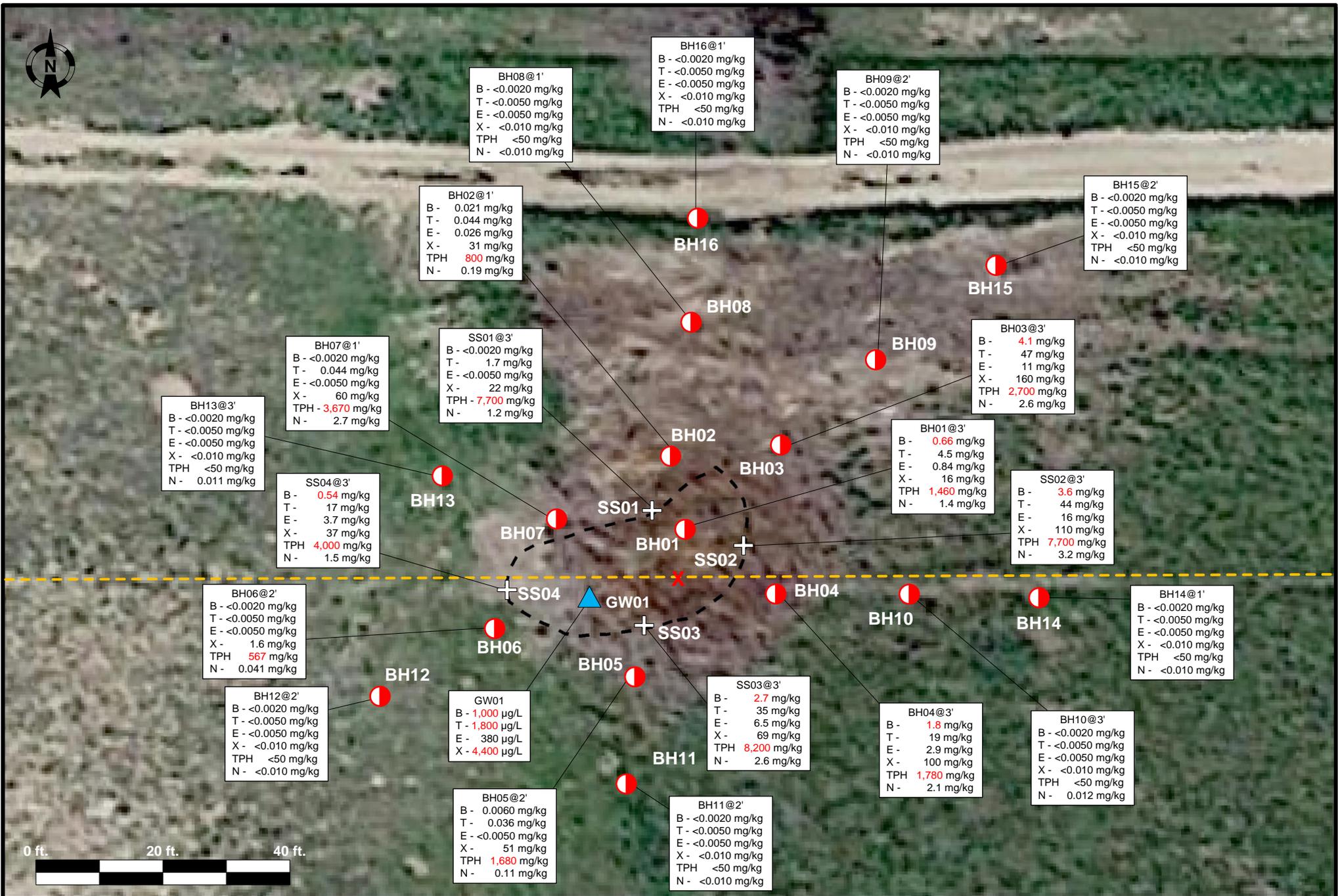


**Facility**  
Noble Energy  
Balboa C20-03, 23, 09SX  
Weld County, CO

**LEGEND:**

- Excavation Extent (Surveyed Via Trimble Unit)
- Noble Flow Line
- Approximate Release Location
- Soil Boring and Monitoring Well Location

Site Overview Map  
Figure 2



PROJECT NO:  
DRAWN BY: ESS  
DATE:09/16/2016



**Facility**  
Noble Energy  
Balboa C20-03, 23, 09SX  
Weld County, CO

**LEGEND:**  
 - - - Excavation Extent (Surveyed Via Trimble Unit)  
 - - - Noble Flow Line  
 ▲ Excavation Groundwater Sample  
 ⊕ Excavation Soil Sample Location

**X** Approximate Release Location  
 ● Borehole Soil Sample Location  
 mg/kg Milligrams Per Kilogram  
 μg/L Micrograms Per Liter

B - Benzene  
 T - Toluene  
 E - Ethylbenzene  
 X - Total Xylenes  
 TPH - Total Petroleum Hydrocarbons  
 N - Naphthalene

Borehole Soil and Excavation Soil and Groundwater Analytical Results Map  
 Figure 3



PROJECT NO:  
DRAWN BY: ESS  
DATE:09/16/2016



**Facility**  
Noble Energy  
Balboa C20-03, 23, 09SX  
Weld County, CO

**LEGEND:**

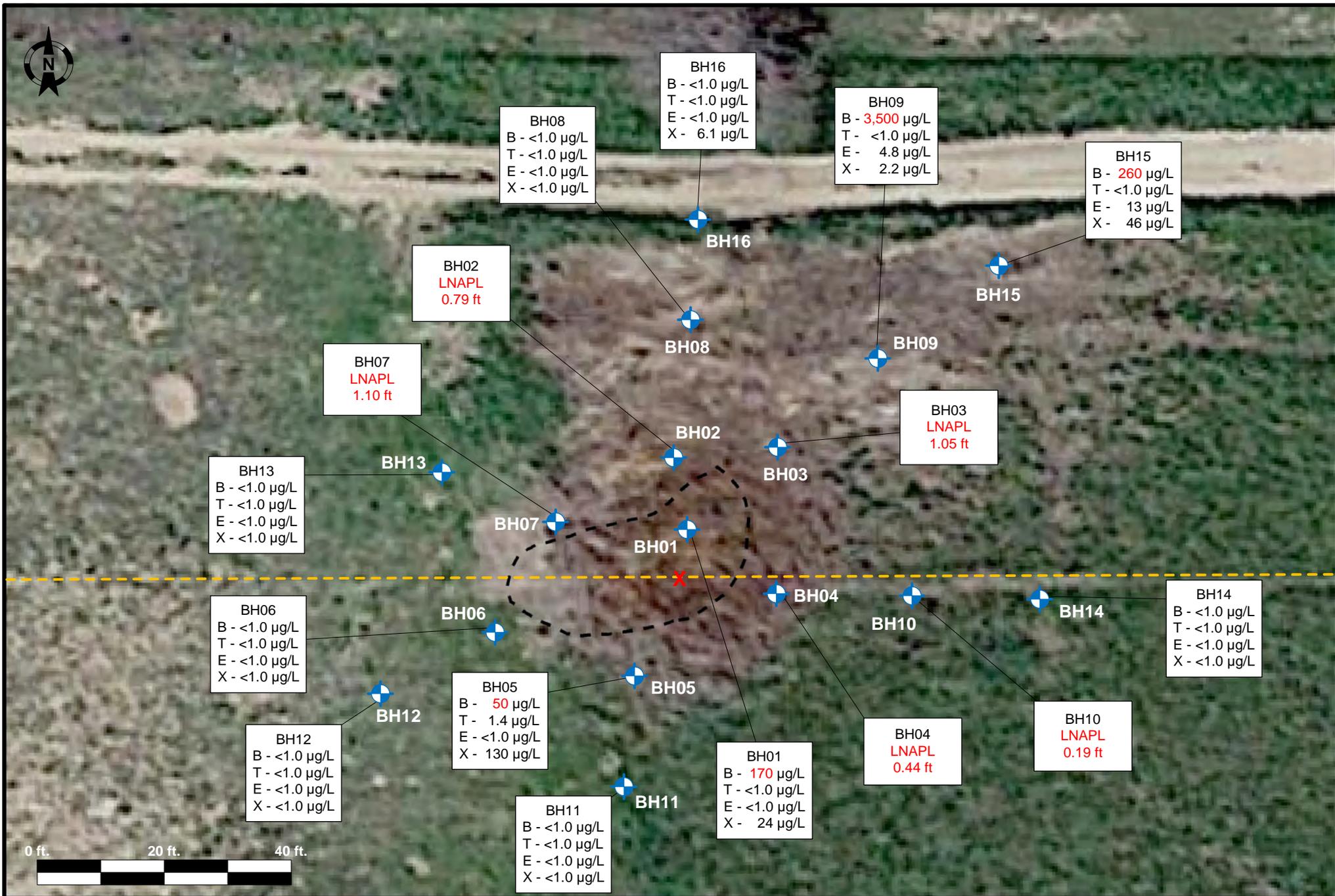
- - - Excavation Extent (Surveyed Via Trimble Unit)
- - - Noble Flow Line

- X Approximate Release Location
- ◆ Groundwater Monitoring Well

- Groundwater Elevation Contour
- 4726.63 Measured Groundwater Elevation
- Flow Direction

Groundwater Potentiometric Surface Contour Map (08/12/16)

Figure 4



PROJECT NO:  
DRAWN BY: ESS  
DATE: 09/16/2016



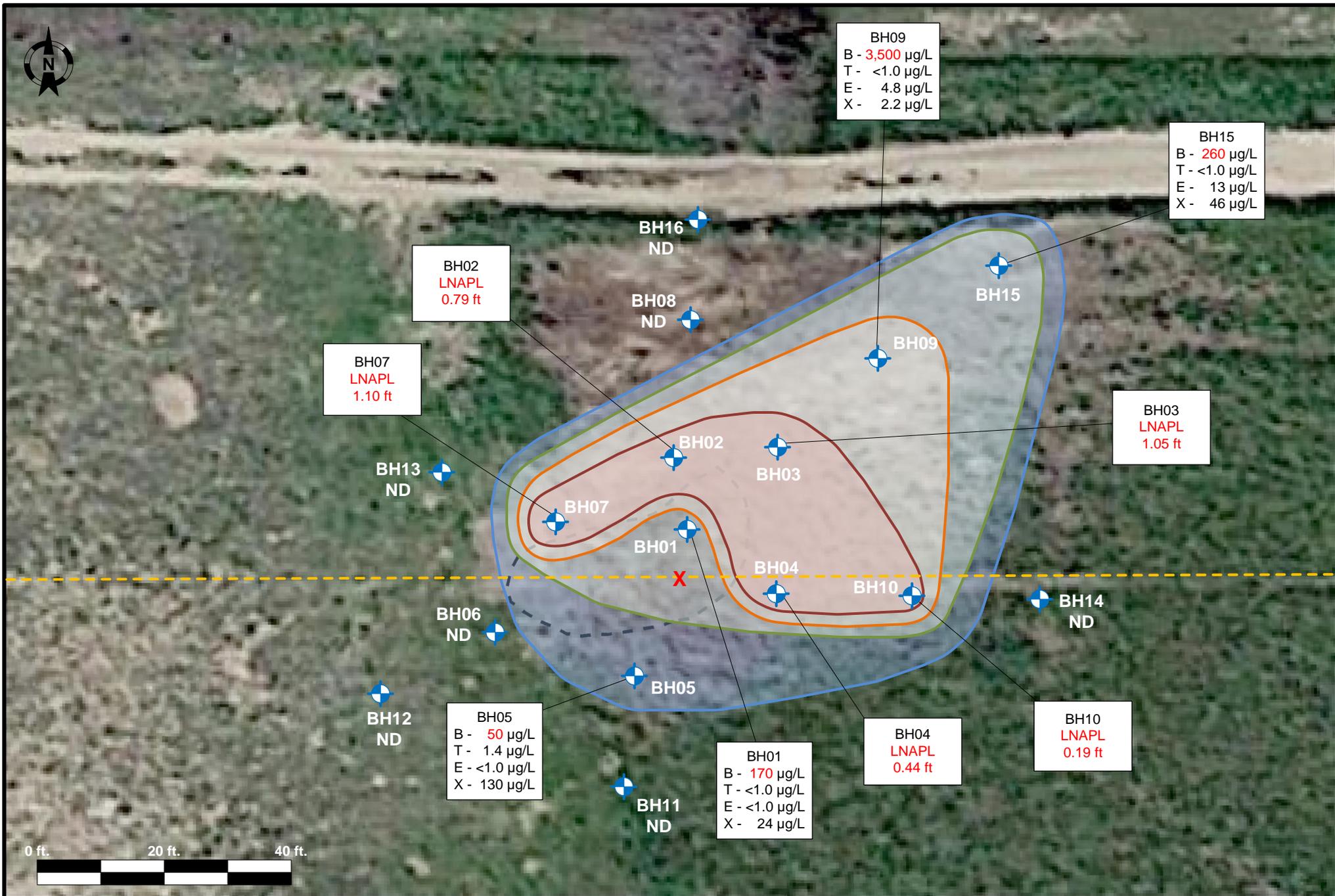
**Facility**  
Noble Energy  
Balboa C20-03, 23, 09SX  
Weld County, CO

**LEGEND:**  
 - - - Excavation Extent (Surveyed Via Trimble Unit)  
 - - - Noble Flow Line

Monitoring Well Location  
 Approximate Release Location  
 $\mu\text{g/L}$  Micrograms Per Liter

B - Benzene  
T - Toluene  
E - Ethylbenzene  
X - Total Xylenes

Groundwater Analytical Results Map (08/12/16)  
Figure 5



**BH09**  
 B - 3,500 µg/L  
 T - <1.0 µg/L  
 E - 4.8 µg/L  
 X - 2.2 µg/L

**BH15**  
 B - 260 µg/L  
 T - <1.0 µg/L  
 E - 13 µg/L  
 X - 46 µg/L

**BH02**  
 LNAPL  
 0.79 ft

**BH07**  
 LNAPL  
 1.10 ft

**BH03**  
 LNAPL  
 1.05 ft

**BH05**  
 B - 50 µg/L  
 T - 1.4 µg/L  
 E - <1.0 µg/L  
 X - 130 µg/L

**BH01**  
 B - 170 µg/L  
 T - <1.0 µg/L  
 E - <1.0 µg/L  
 X - 24 µg/L

**BH04**  
 LNAPL  
 0.44 ft

**BH10**  
 LNAPL  
 0.19 ft

PROJECT NO:  
 DRAWN BY: ESS  
 DATE: 09/27/2016



**Facility**  
 Noble Energy  
 Balboa C20-03, 23, 09SX  
 Weld County, CO

**LEGEND:**  
 - - - Excavation Extent (Surveyed Via Trimble Unit)  
 - - - Noble Flow Line

Monitoring Well Location  
 Approximate Release Location  
 µg/L Micrograms Per Liter

LNAPL  
 Benzene > 1,000 µg/L  
 Benzene > 100 µg/L  
 Benzene > 10 µg/L

B - Benzene  
 T - Toluene  
 E - Ethylbenzene  
 X - Total Xylenes

Benzene  
 Iso-Concentration  
 Contour Map  
 (08/12/16)  
 Figure 6

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 31, 2016

Brandon Bruns  
Tasman Geosciences  
6899 Pecos Street  
Denver, CO 80221  
RE: Noble - Balboa C20-03, 23, 9SX

Enclosed are the results of analyses for samples received by Summit Scientific on 07/29/16 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/31/16 13:03

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@3'	1607239-01	Soil	07/29/16 08:30	07/29/16 18:00
SS02@3'	1607239-02	Soil	07/29/16 08:32	07/29/16 18:00
SS03@3'	1607239-03	Soil	07/29/16 08:34	07/29/16 18:00
SS04@3'	1607239-04	Soil	07/29/16 08:36	07/29/16 18:00
GW01	1607239-05	Water	07/29/16 12:40	07/29/16 18:00

Summit Scientific

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



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/31/16 13:03

# Summit Scientific 1607239

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-9310 • 303-374-5933 Fax

Page 1 of 1

Client: Tasman Noble  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: 720-616-8383 Fax: \_\_\_\_\_  
Sampler Name: Jacob Whitener  
Project Manager: Brandon Bruns  
E-Mail: bbruns@tasman-geo.com  
Project Name: Balboa C20-03, 23, 9SX  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix			Analyze For:						Special Instructions		
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	SE20 BTEX	GBTEX-N 820	TPH-DRO, GAO 205				
5501 @ 3'	7-29-16	0830	1		X			X				X	X					
5502 @ 3'	7-29-16	0832	1		X			X				X	X					
5503 @ 3'	7-29-16	0834	1		X			X				X	X					
5504 @ 3'	7-29-16	0836	1		X			X				X	X					
GW01	7-29-16	1240	3		X			X				X						
Relinquished by: _____ Date/Time: <u>7-29-16</u>				Received by: _____ Date/Time: <u>7/29/16 5:45</u>				Turn Around Time (Check)				Notes:						
Relinquished by: _____ Date/Time: <u>7/29-16 15:01</u>				Received by: _____ Date/Time: <u>7-29-16 18:20</u>				Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/>				Standard <input type="checkbox"/>						
Relinquished by: _____ Date/Time: _____				Received in Lab by: _____ Date/Time: _____				48 Hours <input type="checkbox"/>				Sample Integrity: <u>7.7</u> on ice						
								Temperature Upon Receipt: <u>7.7</u>				Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>						

www.s2scientific.com



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
07/31/16 13:03

**Sample Receipt Checklist**

S2 Work Order: 1667239

Client: Tasman Client Project ID: Noble - Balboa C20-03, 23, 9SX

Shipped Via: \_\_\_\_\_ Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Cooler ID					
Temp (°C)	10				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?				
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>			
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?				
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>			
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

[Signature]  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

7-29-16  
Date/Time

[Signature]



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/31/16 13:03

**SS01@3'**  
**1607239-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/29/16 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>3100</b>	50	mg/kg	1	1607308	07/29/16	07/30/16	8015M	

Date Sampled: **07/29/16 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		127 %	30-150		"	"	"	"	

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

Date Sampled: **07/29/16 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>1.2</b>	1.0	mg/kg	100	1607309	07/29/16	07/30/16	EPA 8260B	
Benzene	ND	0.0020	"	1	"	"	"	"	
<b>Toluene</b>	<b>1.7</b>	0.50	"	100	"	"	"	"	
Ethylbenzene	ND	0.0050	"	1	"	"	"	"	
<b>Xylenes (total)</b>	<b>22</b>	1.0	"	100	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>4600</b>	50	"	"	"	"	"	"	

Date Sampled: **07/29/16 08:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		87.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/31/16 13:03

SS02@3'  
1607239-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/16 08:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	2700	50	mg/kg	1	1607308	07/29/16	07/30/16	8015M	

Date Sampled: 07/29/16 08:32

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/16 08:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	3.2	1.0	mg/kg	100	1607309	07/29/16	07/30/16	EPA 8260B	
Benzene	3.6	0.20	"	"	"	"	"	"	
Toluene	44	0.50	"	"	"	"	"	"	
Ethylbenzene	16	0.50	"	"	"	"	"	"	
Xylenes (total)	110	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5000	50	"	"	"	"	"	"	

Date Sampled: 07/29/16 08:32

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		92.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		79.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		126 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/31/16 13:03

SS03@3'  
1607239-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/29/16 08:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	2800	50	mg/kg	1	1607308	07/29/16	07/30/16	8015M	

Date Sampled: 07/29/16 08:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		145 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/29/16 08:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	2.6	1.0	mg/kg	100	1607309	07/29/16	07/30/16	EPA 8260B	
Benzene	2.7	0.20	"	"	"	"	"	"	
Toluene	35	0.50	"	"	"	"	"	"	
Ethylbenzene	6.5	0.50	"	"	"	"	"	"	
Xylenes (total)	69	1.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5400	50	"	"	"	"	"	"	

Date Sampled: 07/29/16 08:34

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		122 %	21-167		"	"	"	"	

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  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/31/16 13:03

**SS04@3'**  
**1607239-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/29/16 08:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>900</b>	50	mg/kg	1	1607308	07/29/16	07/30/16	8015M	

Date Sampled: **07/29/16 08:36**

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

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

Date Sampled: **07/29/16 08:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>1.5</b>	1.0	mg/kg	100	1607309	07/29/16	07/30/16	EPA 8260B	
<b>Benzene</b>	<b>0.54</b>	0.20	"	"	"	"	"	"	
<b>Toluene</b>	<b>17</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3.7</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>37</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3100</b>	50	"	"	"	"	"	"	

Date Sampled: **07/29/16 08:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.2 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/31/16 13:03

**GW01**  
**1607239-05 (Water)**

**Summit Scientific**

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

Date Sampled: **07/29/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1000</b>	100	ug/l	100	1607307	07/29/16	07/29/16	EPA 8260B	
<b>Toluene</b>	<b>1800</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>380</b>	100	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>4400</b>	100	"	"	"	"	"	"	

Date Sampled: **07/29/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/31/16 13:03

**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 1607308 - EPA 3550A**

**Blank (1607308-BLK1)**

Prepared & Analyzed: 07/29/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.2		"	12.5		97.2	30-150				

**LCS (1607308-BS1)**

Prepared & Analyzed: 07/29/16

C10-C28 (DRO)	438	50	mg/kg	499		87.7	73-134				
<i>Surrogate: o-Terphenyl</i>	12.4		"	12.5		99.2	30-150				

**Matrix Spike (1607308-MS1)**

Source: 1607237-01

Prepared & Analyzed: 07/29/16

C10-C28 (DRO)	396	50	mg/kg	456	15.5	83.5	50-148				
<i>Surrogate: o-Terphenyl</i>	11.2		"	11.4		98.1	30-150				

**Matrix Spike Dup (1607308-MSD1)**

Source: 1607237-01

Prepared & Analyzed: 07/29/16

C10-C28 (DRO)	402	50	mg/kg	465	15.5	83.1	50-148	1.45	20		
<i>Surrogate: o-Terphenyl</i>	11.4		"	11.7		97.8	30-150				

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
07/31/16 13:03

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

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

**Batch 1607307 - EPA 5030 Water MS**

**Blank (1607307-BLK1)**

Prepared & Analyzed: 07/29/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.8		"	13.3		103	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		97.0	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	45-146			

**LCS (1607307-BS1)**

Prepared & Analyzed: 07/29/16

Benzene	40.2	1.0	ug/l	33.3		121	51-132			
Toluene	41.9	1.0	"	33.3		126	51-138			
Ethylbenzene	42.8	1.0	"	33.1		130	58-146			
m,p-Xylene	88.5	2.0	"	66.5		133	57-144			
o-Xylene	43.6	1.0	"	32.7		134	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.3	45-146			

**Matrix Spike (1607307-MS1)**

Source: 1607207-01

Prepared & Analyzed: 07/29/16

Benzene	42.1	1.0	ug/l	33.3	ND	126	34-141			
Toluene	44.9	1.0	"	33.3	ND	135	27-151			
Ethylbenzene	45.2	1.0	"	33.1	ND	137	29-160			
m,p-Xylene	94.6	2.0	"	66.5	ND	142	20-166			
o-Xylene	45.5	1.0	"	32.7	ND	139	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.0	45-149			
Surrogate: 4-Bromofluorobenzene	12.8		"	13.3		96.2	45-146			

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
07/31/16 13:03

**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 1607307 - EPA 5030 Water MS**

Matrix Spike Dup (1607307-MSD1)	Source: 1607207-01			Prepared & Analyzed: 07/29/16						
Benzene	41.6	1.0	ug/l	33.3	ND	125	34-141	1.27	32	
Toluene	44.3	1.0	"	33.3	ND	133	27-151	1.39	25	
Ethylbenzene	46.1	1.0	"	33.1	ND	139	29-160	2.02	50	
m,p-Xylene	94.7	2.0	"	66.5	ND	142	20-166	0.148	36	
o-Xylene	46.8	1.0	"	32.7	ND	143	33-159	2.75	26	
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.3		111	37-154			
Surrogate: Toluene-d8	13.0		"	13.3		97.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.2	45-146			

**Batch 1607309 - EPA 5030 Soil MS**

Blank (1607309-BLK1)	Prepared & Analyzed: 07/29/16									
Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0357		"	0.0400		89.2	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.6	21-167			

LCS (1607309-BS1)	Prepared & Analyzed: 07/29/16									
Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.0886	0.0020	"	0.100		88.6	58-130			
Toluene	0.103	0.0050	"	0.100		103	61-134			
Ethylbenzene	0.110	0.0050	"	0.0992		110	74-139			
m,p-Xylene	0.222	0.010	"	0.200		111	73-137			
o-Xylene	0.104	0.0050	"	0.0980		106	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0366		"	0.0400		91.5	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	21-167			

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
07/31/16 13:03

**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 1607309 - EPA 5030 Soil MS**

**Matrix Spike (1607309-MS1)**

Source: 1607237-01

Prepared & Analyzed: 07/29/16

Naphthalene	ND	0.010	mg/kg		0.00345		10-158			
Benzene	0.0845	0.0020	"	0.0921	ND	91.8	30-131			
Toluene	0.0982	0.0050	"	0.0921	0.00370	103	30-134			
Ethylbenzene	0.101	0.0050	"	0.0913	0.00342	107	22-153			
m,p-Xylene	0.211	0.010	"	0.184	0.0459	89.6	10-159			
o-Xylene	0.102	0.0050	"	0.0902	0.00844	103	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0376		"	0.0368		102	23-173			
Surrogate: Toluene-d8	0.0361		"	0.0368		98.1	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0368		103	21-167			

**Matrix Spike Dup (1607309-MSD1)**

Source: 1607237-01

Prepared & Analyzed: 07/29/16

Naphthalene	0.00332	0.010	mg/kg		0.00345		10-158		42	
Benzene	0.0835	0.0020	"	0.0929	ND	89.9	30-131	1.19	34	
Toluene	0.0996	0.0050	"	0.0929	0.00370	103	30-134	1.35	30	
Ethylbenzene	0.105	0.0050	"	0.0922	0.00342	110	22-153	3.69	24	
m,p-Xylene	0.221	0.010	"	0.186	0.0459	94.5	10-159	4.90	68	
o-Xylene	0.109	0.0050	"	0.0911	0.00844	110	31-151	6.59	38	
Surrogate: 1,2-Dichloroethane-d4	0.0364		"	0.0372		97.8	23-173			
Surrogate: Toluene-d8	0.0359		"	0.0372		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0372		105	21-167			

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Noble - Balboa C20-03, 23, 9SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/31/16 13:03

### 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

*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

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 16, 2016

Brandon Bruns  
Tasman Geosciences  
6899 Pecos Street  
Denver, CO 80221  
RE: Balboa C20-03,23,09SX

Enclosed are the results of analyses for samples received by Summit Scientific on 08/11/16 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/16/16 12:00

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@3'	1608095-01	Soil	08/11/16 09:10	08/11/16 17:30
BH02@1'	1608095-02	Soil	08/11/16 09:25	08/11/16 17:30
BH03@3'	1608095-03	Soil	08/11/16 09:50	08/11/16 17:30
BH04@3'	1608095-04	Soil	08/11/16 10:10	08/11/16 17:30
BH05@2'	1608095-05	Soil	08/11/16 10:25	08/11/16 17:30
BH06@2'	1608095-06	Soil	08/11/16 10:40	08/11/16 17:30
BH07@1'	1608095-07	Soil	08/11/16 10:50	08/11/16 17:30
BH08@1'	1608095-08	Soil	08/11/16 11:50	08/11/16 17:30
BH09@2'	1608095-09	Soil	08/11/16 12:10	08/11/16 17:30
BH10@3'	1608095-10	Soil	08/11/16 12:25	08/11/16 17:30
BH11@2'	1608095-11	Soil	08/11/16 12:40	08/11/16 17:30
BH12@2'	1608095-12	Soil	08/11/16 12:55	08/11/16 17:30
BH13@3'	1608095-13	Soil	08/11/16 13:10	08/11/16 17:30
BH14@1'	1608095-14	Soil	08/11/16 14:00	08/11/16 17:30
BH15@2'	1608095-15	Soil	08/11/16 14:40	08/11/16 17:30
BH16@1'	1608095-16	Soil	08/11/16 15:00	08/11/16 17:30

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

Summit Scientific 1608095.1

741 Corporate Circle Suite I Golden, Colorado 80401  
303-277-9310 303-374-5933 Fax

Client: Noble/Tasman Address: \_\_\_\_\_ Page 1 of 2  
City/State/Zip: \_\_\_\_\_ Project Manager: Brandon Bruns Invoice: Jacob Emmer  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
Sampler Name: Eric Siegel Project Name: Balboa C20-03,23,09SX  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:				Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN		8016 DRO
BH01e3'	8/11/16	9:10	1												
BH02e1'		9:25				X		X							
BH03e3'		9:50													
BH04e3'		10:10													
BH05e2'		10:25													
BH06e2'		10:40													
BH07e1'		10:50													
BH08e1'		11:50													
BH09e2'		12:10													
BH10e3'		12:25													
Relinquished by: <u>E.A. Lind</u>		Date/Time: <u>8/11/16 17:30</u>	Received by: <u>[Signature]</u>		Date/Time: <u>8-11-16 17:30</u>	Turn Around Time (Check)		Notes:							
Relinquished by: <u>[Signature]</u>		Date/Time: <u>8-11-16 18:20</u>	Received by: <u>[Signature]</u>		Date/Time: <u>8-11-16 18:20</u>	Same Day <input type="checkbox"/>		72 Hours <input type="checkbox"/>							
Relinquished by: _____		Date/Time: _____	Received in Lab by: _____		Date/Time: _____	24 Hours <input type="checkbox"/>		Standard <input checked="" type="checkbox"/>							
Relinquished by: _____		Date/Time: _____	Received in Lab by: _____		Date/Time: _____	48 Hours <input type="checkbox"/>		Sample Integrity:							
Relinquished by: _____		Date/Time: _____	Received in Lab by: _____		Date/Time: _____	Temperature Upon Receipt: <u>1.7</u>		intact: Yes <input type="checkbox"/> No <input type="checkbox"/>							

www.s2scientific.com



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

Summit Scientific

1608095.2

741 Corporate Circle Suite 1 Golden, Colorado 80401  
303-277-9310 303-374-5933 Fax

Page 2 of 2

Client: Noble/Tasman  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Sampler Name: Eric Siegel

Project Manager: Brandon Bruns, Invoice: Jacob Evans  
E-Mail: \_\_\_\_\_  
Project Name: Balboa C20-03,23,09SX  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:				Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN		8015 DRO
BH12e2'	8/11/16	12:40	1			X									
BH12e2'		12:05	1												
BH13e3'		13:10	1												
BH14e1'		14:00	1												
BH15e2'		14:40	1												
BH16e1'	↓	15:00	↓												

Relinquished by: <i>E. A. Bruns</i>	Date/Time: 8/11/16 17:30	Received by: <i>[Signature]</i>	Date/Time: 8-11-16 17:30	Turn Around Time (Check) Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: <i>MP</i>	Date/Time: 8-11-16 18:20	Received by: <i>[Signature]</i>	Date/Time: 8-11-16 18:20		
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

www.summitscientific.com



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

Sample Receipt Checklist

S2 Work Order: 1608095

Client: Tasman

Client Project ID: Balboa C20-03,23,095X

Shipped Via: H.O. on ice  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

Matrix (check all that apply):  Air  Soil/Solid  Water  Other: \_\_\_\_\_  
(Describe)

Cooler ID					
Temp (°C)	<u>1.7</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Merip  
Custodian Printed Name

BA 8-11-16  
Signature or Initials of Custodian

18:20  
Date/Time



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH01@3'**  
**1608095-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>660</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 09:10**

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

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

Date Sampled: **08/11/16 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>1.4</b>	1.0	mg/kg	100	1608135	08/12/16	08/13/16	EPA 8260B	
<b>Benzene</b>	<b>0.66</b>	0.20	"	"	"	"	"	"	
<b>Toluene</b>	<b>4.5</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.84</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>16</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>800</b>	500	"	10	"	"	"	"	

Date Sampled: **08/11/16 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH02@1'**  
**1608095-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>650</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 09:25**

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

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

Date Sampled: **08/11/16 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.19</b>	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
<b>Benzene</b>	<b>0.021</b>	0.0020	"	"	"	"	"	"	
<b>Toluene</b>	<b>0.044</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.026</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>31</b>	1.0	"	100	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>150</b>	50	"	1	"	"	"	"	

Date Sampled: **08/11/16 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	21-167		"	"	"	"	

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

**BH03@3'**  
**1608095-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>700</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 09:50**

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

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

Date Sampled: **08/11/16 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>2.6</b>	1.0	mg/kg	100	1608135	08/12/16	08/13/16	EPA 8260B	
<b>Benzene</b>	<b>4.1</b>	0.20	"	"	"	"	"	"	
<b>Toluene</b>	<b>47</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>11</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>160</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2000</b>	500	"	10	"	"	"	"	

Date Sampled: **08/11/16 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92.3 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		16.3 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		126 %	21-167		"	"	"	"	

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH04@3'**  
**1608095-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>380</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		97.8 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>2.1</b>	1.0	mg/kg	100	1608135	08/12/16	08/13/16	EPA 8260B	
<b>Benzene</b>	<b>1.8</b>	0.20	"	"	"	"	"	"	
<b>Toluene</b>	<b>19</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>2.9</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>100</b>	1.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1400</b>	500	"	10	"	"	"	"	

Date Sampled: **08/11/16 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		92.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		86.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %	21-167		"	"	"	"	

Summit Scientific

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH05@2'**  
**1608095-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>280</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		97.0 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.11</b>	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
<b>Benzene</b>	<b>0.0060</b>	0.0020	"	"	"	"	"	"	
<b>Toluene</b>	<b>0.036</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>51</b>	1.0	"	100	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1400</b>	500	"	10	"	"	"	"	

Date Sampled: **08/11/16 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		93.5 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		87.9 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %	21-167		"	"	"	"	

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH06@2'**  
**1608095-06 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>490</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 10:40**

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

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

Date Sampled: **08/11/16 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.041</b>	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>1.6</b>	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>77</b>	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %	21-167		"	"	"	"	

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6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH07@1'**  
**1608095-07 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>770</b>	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 10:50**

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

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

Date Sampled: **08/11/16 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>2.7</b>	1.0	mg/kg	100	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	1	"	"	"	"	
<b>Toluene</b>	<b>0.044</b>	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>60</b>	1.0	"	100	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2900</b>	500	"	10	"	"	"	"	

Date Sampled: **08/11/16 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		90.1 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		139 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

**BH08@1'**  
**1608095-08 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.7 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		66.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.6 %	21-167		"	"	"	"	

Summit Scientific

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6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH09@2'**  
**1608095-09 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.8 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

Summit Scientific

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6899 Pecos Street  
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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH10@3'**  
**1608095-10 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.9 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.012</b>	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

**BH11@2'**  
**1608095-11 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		99.1 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.8 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH12@2'**  
**1608095-12 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.8 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH13@3'**  
**1608095-13 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		101 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Naphthalene</b>	<b>0.011</b>	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.7 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/16/16 12:00

**BH14@1'**  
**1608095-14 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.8 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	21-167		"	"	"	"	

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  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/16/16 12:00

**BH15@2'**  
**1608095-15 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.5 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	21-167		"	"	"	"	

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  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

**BH16@1'**  
**1608095-16 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **08/11/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1608136	08/12/16	08/13/16	8015M	

Date Sampled: **08/11/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.6 %	30-150		"	"	"	"	

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

Date Sampled: **08/11/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1608135	08/12/16	08/13/16	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **08/11/16 15:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/16/16 12:00

**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 1608136 - EPA 3550A**

<b>Blank (1608136-BLK1)</b>				Prepared & Analyzed: 08/12/16							
C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -Terphenyl	12.4		"	12.5	99.4	30-150					
<b>LCS (1608136-BS1)</b>				Prepared & Analyzed: 08/12/16							
C10-C28 (DRO)	412	50	mg/kg	499	82.5	73-134					
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5	95.7	30-150					
<b>Matrix Spike (1608136-MS1)</b>				Source: 1608093-01		Prepared & Analyzed: 08/12/16					
C10-C28 (DRO)	422	50	mg/kg	499	9.68	82.7	50-148				
Surrogate: <i>o</i> -Terphenyl	12.2		"	12.5	97.3	30-150					
<b>Matrix Spike Dup (1608136-MSD1)</b>				Source: 1608093-01		Prepared & Analyzed: 08/12/16					
C10-C28 (DRO)	426	50	mg/kg	499	9.68	83.4	50-148	0.862	20		
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5	95.3	30-150					

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
08/16/16 12:00

**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 1608135 - EPA 5030 Soil MS**

**Blank (1608135-BLK1)**

Prepared: 08/12/16 Analyzed: 08/13/16

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.4</i>		<i>21-167</i>		

**LCS (1608135-BS1)**

Prepared: 08/12/16 Analyzed: 08/13/16

Naphthalene	0.0119	0.010	mg/kg					66-138		
Benzene	0.0818	0.0020	"	0.100		81.8		58-130		
Toluene	0.0867	0.0050	"	0.100		86.7		61-134		
Ethylbenzene	0.0848	0.0050	"	0.0992		85.4		74-139		
m,p-Xylene	0.170	0.010	"	0.200		85.1		73-137		
o-Xylene	0.0903	0.0050	"	0.0980		92.1		73-141		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0413</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0400</i>		<i>93.6</i>		<i>21-167</i>		

**Matrix Spike (1608135-MS1)**

Source: 1608093-01

Prepared: 08/12/16 Analyzed: 08/13/16

Naphthalene	0.0125	0.010	mg/kg		0.0127			10-158		
Benzene	0.0732	0.0020	"	0.100	0.0103	63.0		30-131		
Toluene	0.0492	0.0050	"	0.100	0.00948	39.7		30-134		
Ethylbenzene	0.0398	0.0050	"	0.0992	0.0123	27.7		22-153		
m,p-Xylene	0.0806	0.010	"	0.200	0.0131	33.8		10-159		
o-Xylene	0.0800	0.0050	"	0.0980	0.0118	69.6		31-151		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>98.1</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.7</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0362</i>		<i>"</i>	<i>0.0400</i>		<i>90.4</i>		<i>21-167</i>		

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/16/16 12:00

**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 1608135 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1608135-MSD1)</b>	<b>Source: 1608093-01</b>			Prepared: 08/12/16		Analyzed: 08/13/16				
Naphthalene	0.0130	0.010	mg/kg		0.0127		10-158	3.77	42	
Benzene	0.0704	0.0020	"	0.100	0.0103	60.1	30-131	3.97	34	
Toluene	0.0562	0.0050	"	0.100	0.00948	46.8	30-134	13.4	30	
Ethylbenzene	0.0575	0.0050	"	0.0992	0.0123	45.5	22-153	36.3	24	S-02
m,p-Xylene	0.100	0.010	"	0.200	0.0131	43.6	10-159	21.6	68	
o-Xylene	0.0820	0.0050	"	0.0980	0.0118	71.6	31-151	2.41	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0335</i>		<i>"</i>	<i>0.0400</i>		<i>83.7</i>	<i>21-167</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  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/16/16 12:00

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- 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

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 18, 2016

Brandon Bruns  
Tasman Geosciences  
6899 Pecos Street  
Denver, CO 80221  
RE: Balboa C20-03,23,09SX

Enclosed are the results of analyses for samples received by Summit Scientific on 08/12/16 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1608110-01	Water	08/12/16 10:15	08/12/16 17:00
BH05	1608110-02	Water	08/12/16 10:30	08/12/16 17:00
BH06	1608110-03	Water	08/12/16 10:45	08/12/16 17:00
BH08	1608110-04	Water	08/12/16 10:55	08/12/16 17:00
BH09	1608110-05	Water	08/12/16 11:00	08/12/16 17:00
BH11	1608110-06	Water	08/12/16 11:10	08/12/16 17:00
BH12	1608110-07	Water	08/12/16 11:20	08/12/16 17:00
BH13	1608110-08	Water	08/12/16 11:35	08/12/16 17:00
BH14	1608110-09	Water	08/12/16 11:45	08/12/16 17:00
BH15	1608110-10	Water	08/12/16 11:50	08/12/16 17:00
BH16	1608110-11	Water	08/12/16 12:00	08/12/16 17:00

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/18/16 09:59

Summit Scientific 1608110.1

741 Corporate Circle Suite I Golden, Colorado 80401  
303-277-9310 303-374-5933 Fax

Client: Noble/Tasman Page 1 of 2  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Sampler Name: Eric Siegel  
 Project Manager: Brandon Bruns, Invoice: Jacob Evans  
 E-Mail: \_\_\_\_\_  
 Project Name: Balboa C20-03,23,09 SX  
 Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:				Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN	8015 DRO		pH, EC, SAR
BH01	8/12/16	10:15	3			X										
BH05		10:30														
BH06		10:45														
BH08		10:55														
BH09		11:00														
BH11		11:10														
BH12		11:20														
BH13		11:35														
BH14		11:45														
BH15		11:50														

Relinquished by: <u>Eric Siegel</u>	Date/Time: <u>8/12/16 17:00</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/12/16 17:00</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>4.7°C</u> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes: <u>on ice</u>
Relinquished by: <u>[Signature]</u>	Date/Time: <u>8/12/16 17:20</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/12/16 17:20</u>		
Relinquished by: _____	Date/Time: _____	Received in Lab by: _____	Date/Time: _____		

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/18/16 09:59

**Sample Receipt Checklist**

S2 Work Order: 1608110  
 Client: Noble Tasman Client Project ID: Balboa C20-03,23,09SX  
 Shipped Via: P/U (UPS, FedEx, Hand Delivered, Pick-up, etc.) Airbill #: \_\_\_\_\_  
 Matrix (check all that apply): \_\_\_\_\_ Air \_\_\_\_\_ Soil/Solid  Water \_\_\_\_\_ Other: \_\_\_\_\_ (Describe)

Cooler ID					
Temp (°C)	4.7				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita  
Custodian Printed Name

[Signature]  
Signature or Initials of Custodian

8/12/16 1200  
Date/Time

[Signature]



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH01**  
**1608110-01 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>170</b>	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>24</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		85.4 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/18/16 09:59

**BH05**  
**1608110-02 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>50</b>	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
<b>Toluene</b>	<b>1.4</b>	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>130</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %	45-146		"	"	"	"	

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH06**  
**1608110-03 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>110 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>98.9 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH08**  
**1608110-04 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		93.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %	45-146		"	"	"	"	

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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/18/16 09:59

**BH09**  
**1608110-05 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3500</b>	100	ug/l	100	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>4.8</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2.2</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %	45-146		"	"	"	"	

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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH11**  
**1608110-06 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>103 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>100 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>	<i>45-146</i>		"	"	"	"	

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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH12**  
**1608110-07 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>109 %</i>	<i>37-154</i>		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		<i>102 %</i>	<i>45-149</i>		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>45-146</i>		"	"	"	"	

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Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH13**  
**1608110-08 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>108 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>101 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH14**  
**1608110-09 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

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Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

**BH15**  
**1608110-10 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>260</b>	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>13</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>46</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		52.6 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	45-146		"	"	"	"	

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/18/16 09:59

**BH16**  
**1608110-11 (Water)**

**Summit Scientific**

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

Date Sampled: **08/12/16 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1608167	08/16/16	08/17/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>6.1</b>	1.0	"	"	"	"	"	"	

Date Sampled: **08/12/16 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
08/18/16 09:59

### 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 1608167 - EPA 5030 Water MS

##### Blank (1608167-BLK1)

Prepared & Analyzed: 08/16/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102	37-154			
Surrogate: Toluene-d8	13.8		"	13.3		104	45-149			
Surrogate: 4-Bromofluorobenzene	14.1		"	13.3		106	45-146			

##### LCS (1608167-BS1)

Prepared & Analyzed: 08/16/16

Benzene	26.0	1.0	ug/l	33.3		78.0	51-132			
Toluene	30.0	1.0	"	33.3		90.0	51-138			
Ethylbenzene	32.4	1.0	"	33.1		97.9	58-146			
m,p-Xylene	69.6	2.0	"	66.5		105	57-144			
o-Xylene	32.5	1.0	"	32.7		99.6	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.3		107	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.5	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

##### Matrix Spike (1608167-MS1)

Source: 1608118-05

Prepared & Analyzed: 08/16/16

Benzene	26.7	1.0	ug/l	33.3	ND	80.1	34-141			
Toluene	30.3	1.0	"	33.3	ND	91.0	27-151			
Ethylbenzene	33.8	1.0	"	33.1	ND	102	29-160			
m,p-Xylene	74.8	2.0	"	66.5	ND	112	20-166			
o-Xylene	33.9	1.0	"	32.7	ND	104	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.3		112	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.7	45-149			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	45-146			

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
08/18/16 09:59

**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 1608167 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1608167-MSD1)</b>	<b>Source: 1608118-05</b>			<b>Prepared &amp; Analyzed: 08/16/16</b>						
Benzene	27.1	1.0	ug/l	33.3	ND	81.4	34-141	1.64	32	
Toluene	30.9	1.0	"	33.3	ND	92.8	27-151	1.99	25	
Ethylbenzene	33.1	1.0	"	33.1	ND	100	29-160	2.15	50	
m,p-Xylene	71.1	2.0	"	66.5	ND	107	20-166	5.06	36	
o-Xylene	33.0	1.0	"	32.7	ND	101	33-159	2.63	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.6</i>		<i>"</i>	<i>13.3</i>		<i>117</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.0</i>		<i>"</i>	<i>13.3</i>		<i>97.4</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.7</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>45-146</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  
6899 Pecos Street  
Denver CO, 80221

Project: Balboa C20-03,23,09SX

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
08/18/16 09:59

### 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



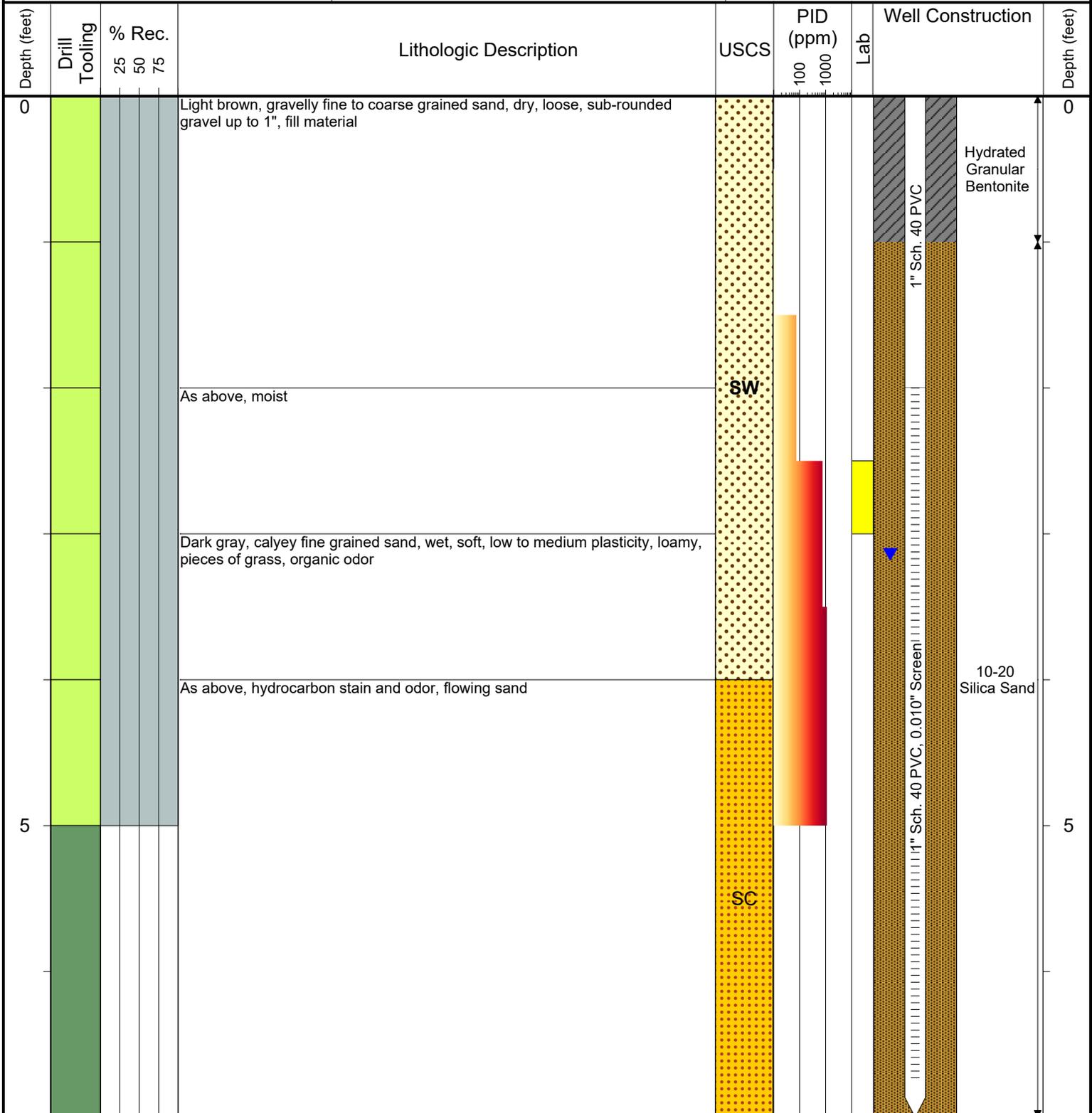
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 3.14

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH01**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295901868655  
 LONGITUDE (DEGREES): -104.57079198353  
 CASING ELEVATION (FT. AMSL): 4732.77  
 GROUND ELEVATION (FT. AMSL): 4730



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



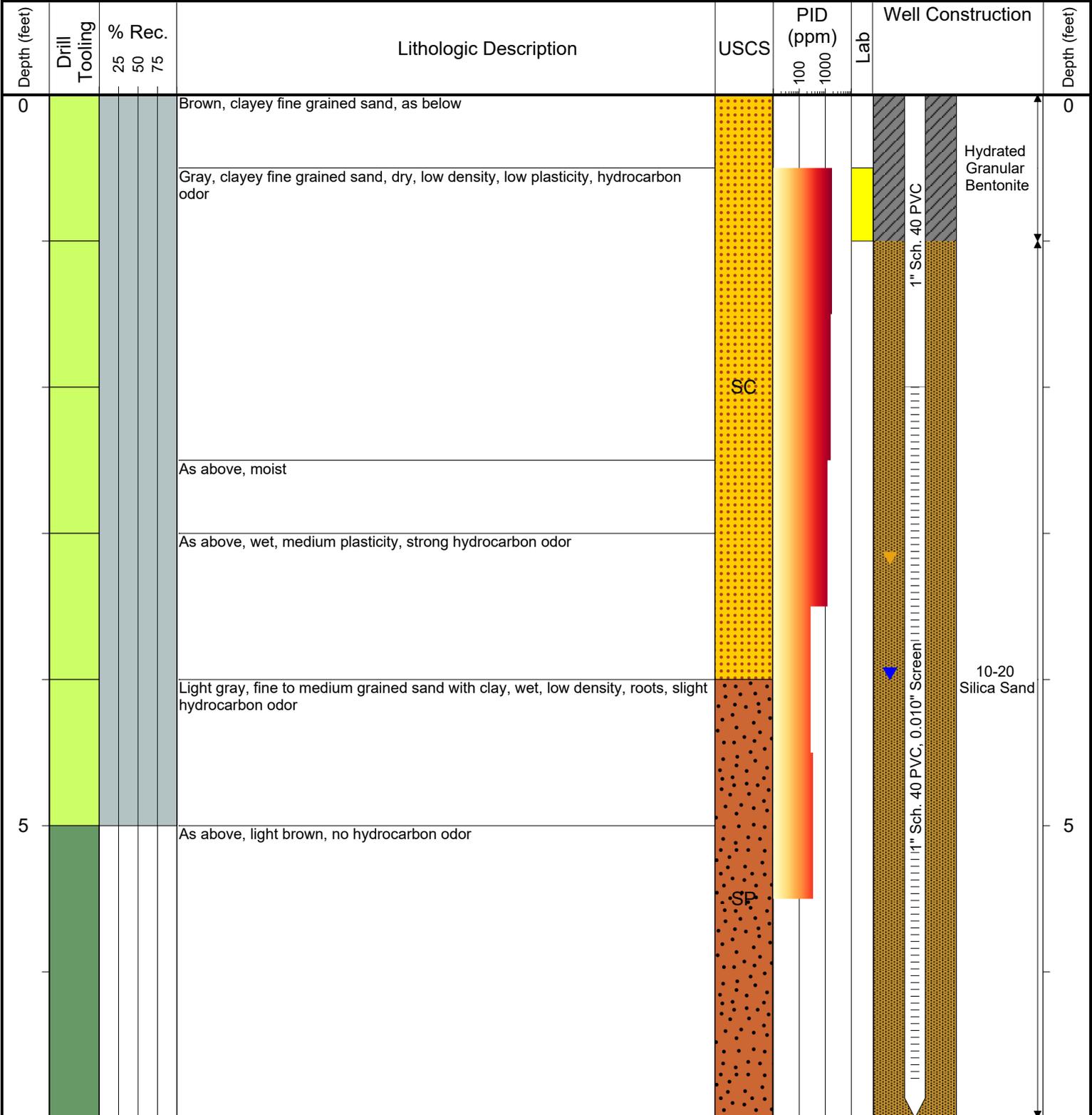
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 3.96

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH02

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295932958301  
 LONGITUDE (DEGREES): -104.57079820981  
 CASING ELEVATION (FT. AMSL): 4732.9  
 GROUND ELEVATION (FT. AMSL): 4729.94



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



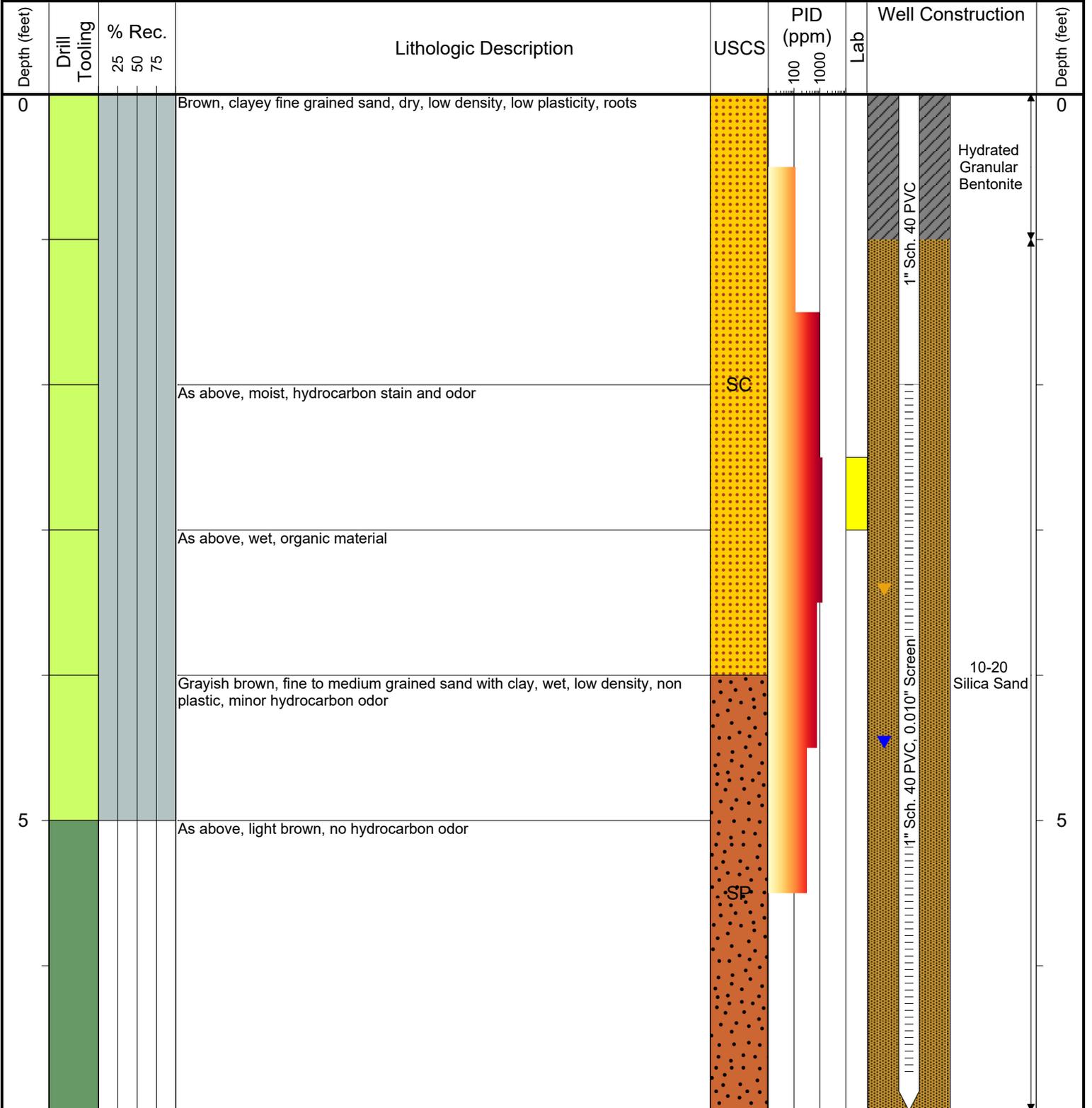
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.46

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH03**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295937000567  
 LONGITUDE (DEGREES): -104.57073973898  
 CASING ELEVATION (FT. AMSL): 4733.02  
 GROUND ELEVATION (FT. AMSL): 4729.89



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



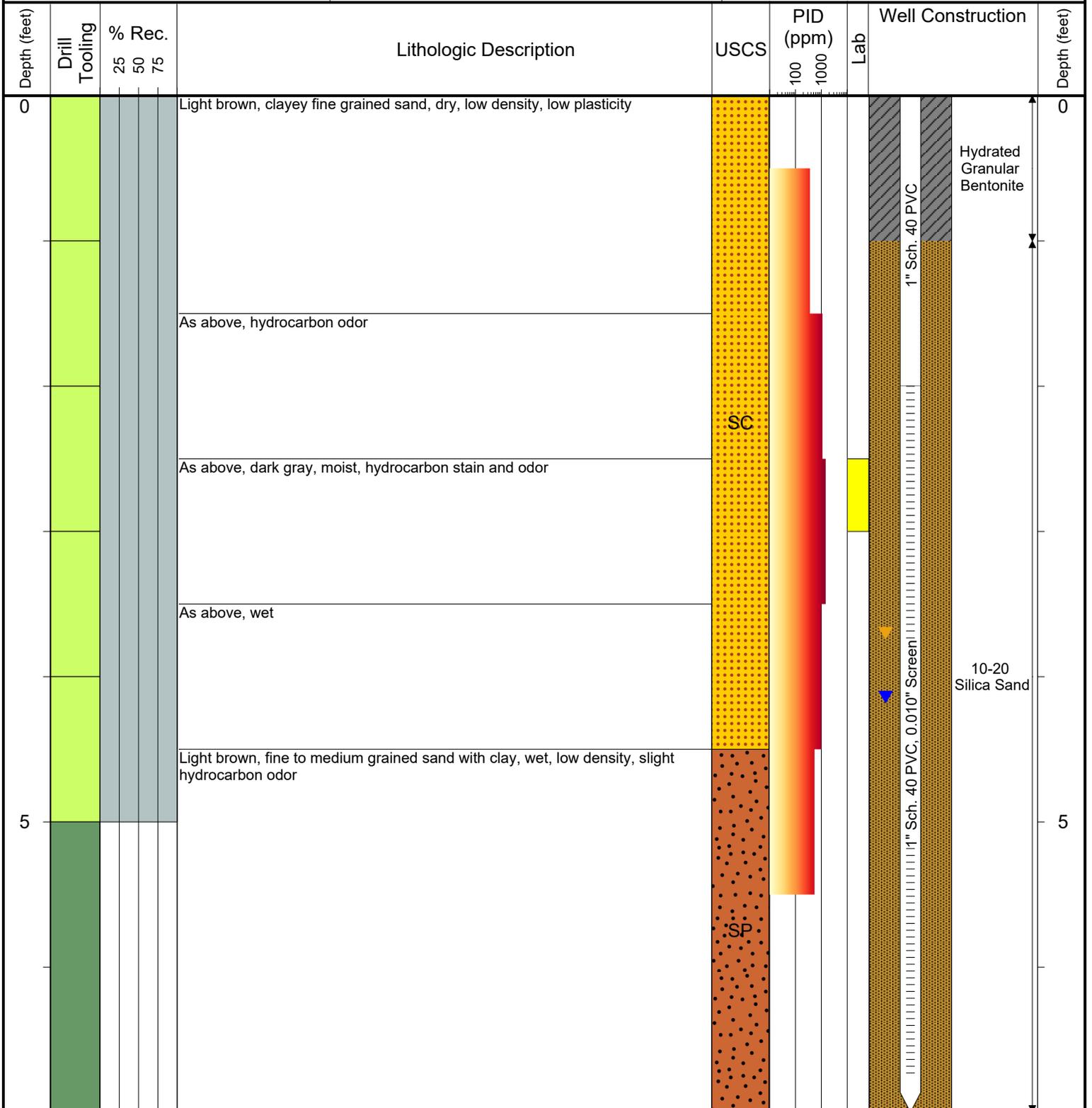
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.14

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH04**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295873909804  
 LONGITUDE (DEGREES): -104.57074022758  
 CASING ELEVATION (FT. AMSL): 4733.39  
 GROUND ELEVATION (FT. AMSL): 4730.24



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



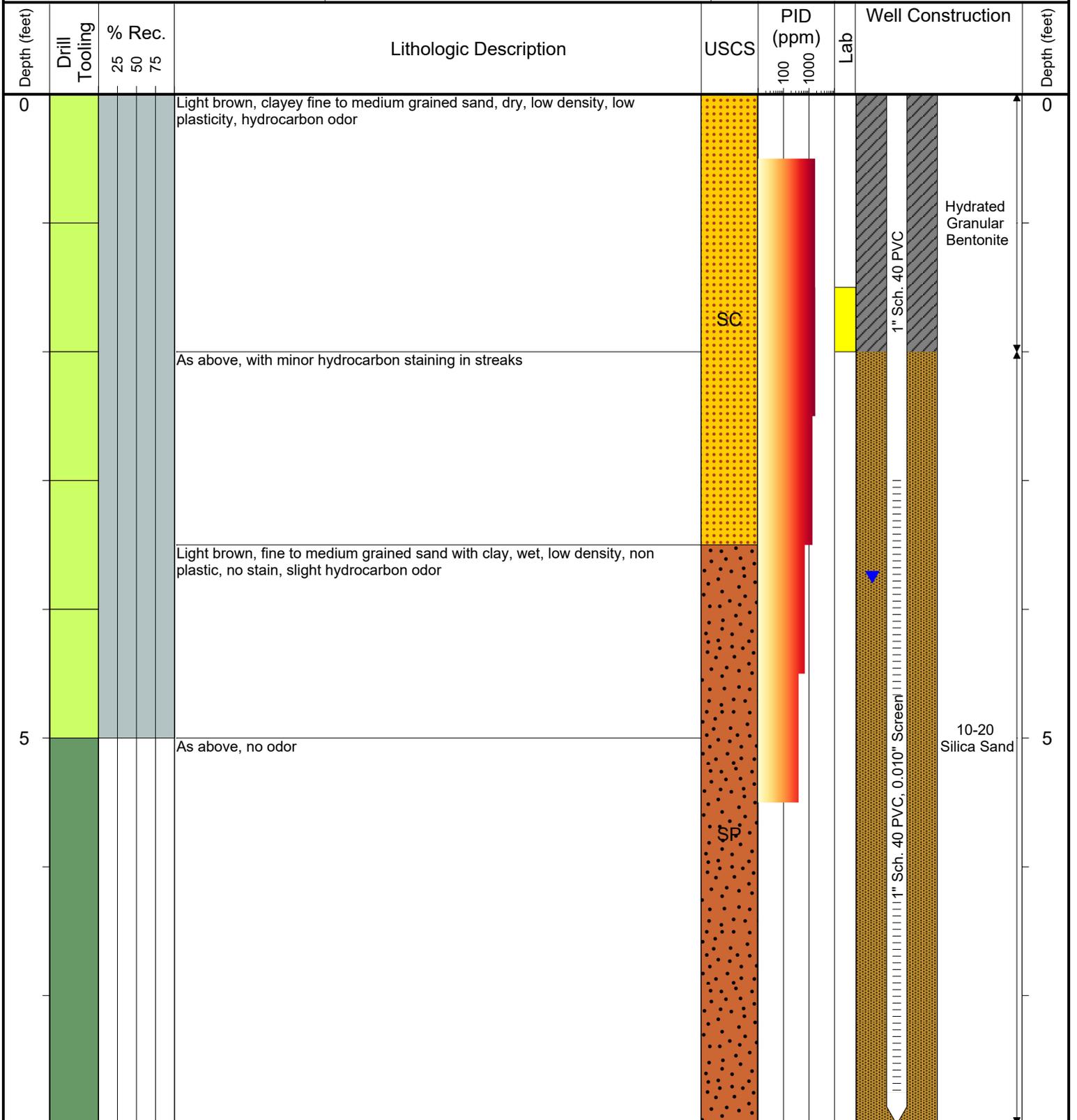
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 8  
 DEPTH TO WATER (FT. BGS): 3.75

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH05**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295837481041  
 LONGITUDE (DEGREES): -104.5708210521  
 CASING ELEVATION (FT. AMSL): 4732.68  
 GROUND ELEVATION (FT. AMSL): 4730.77



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



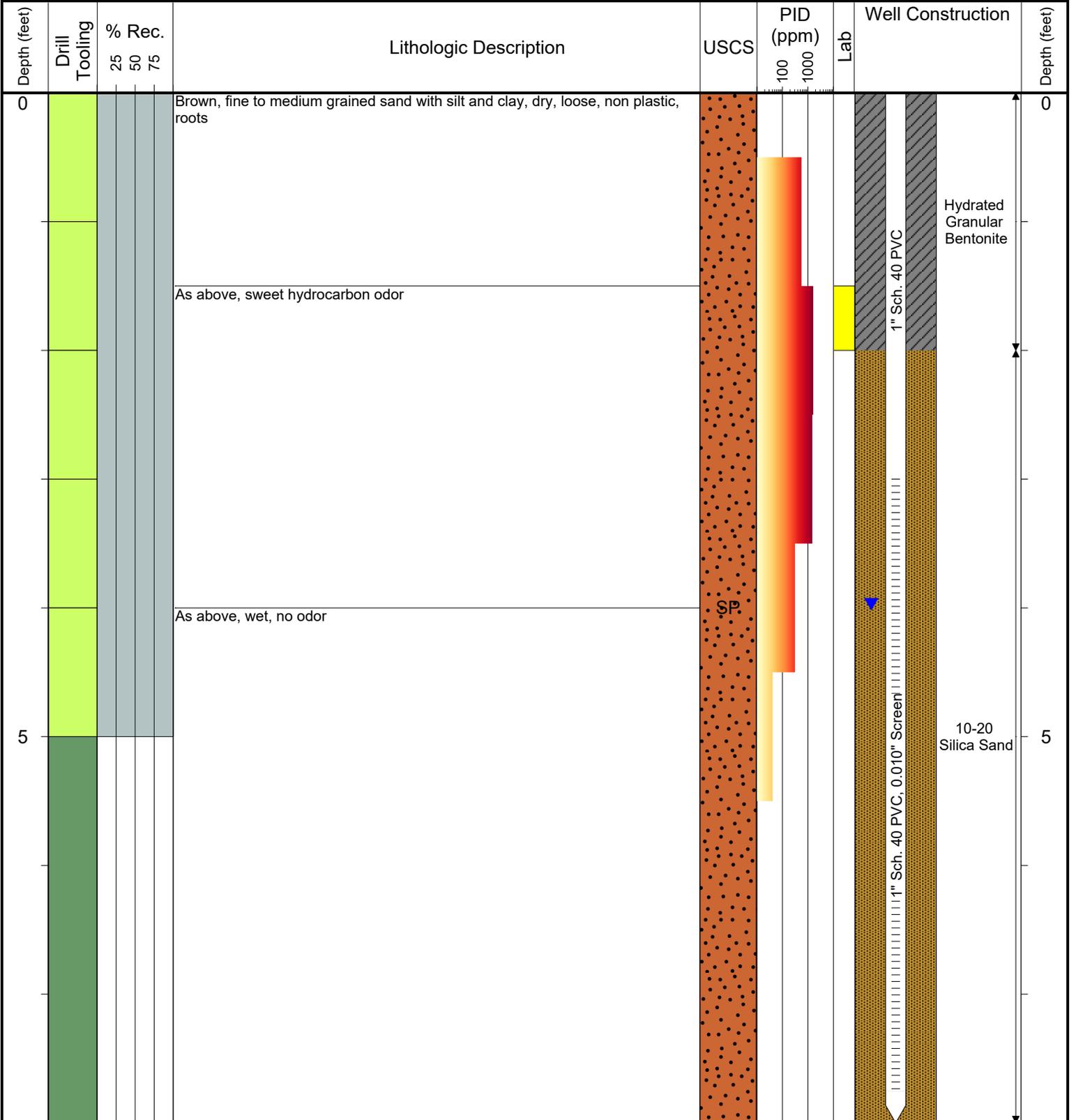
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 8  
 DEPTH TO WATER (FT. BGS): 3.97

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH06

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295856774881  
 LONGITUDE (DEGREES): -104.5708996571  
 CASING ELEVATION (FT. AMSL): 4733.06  
 GROUND ELEVATION (FT. AMSL): 4731.22



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



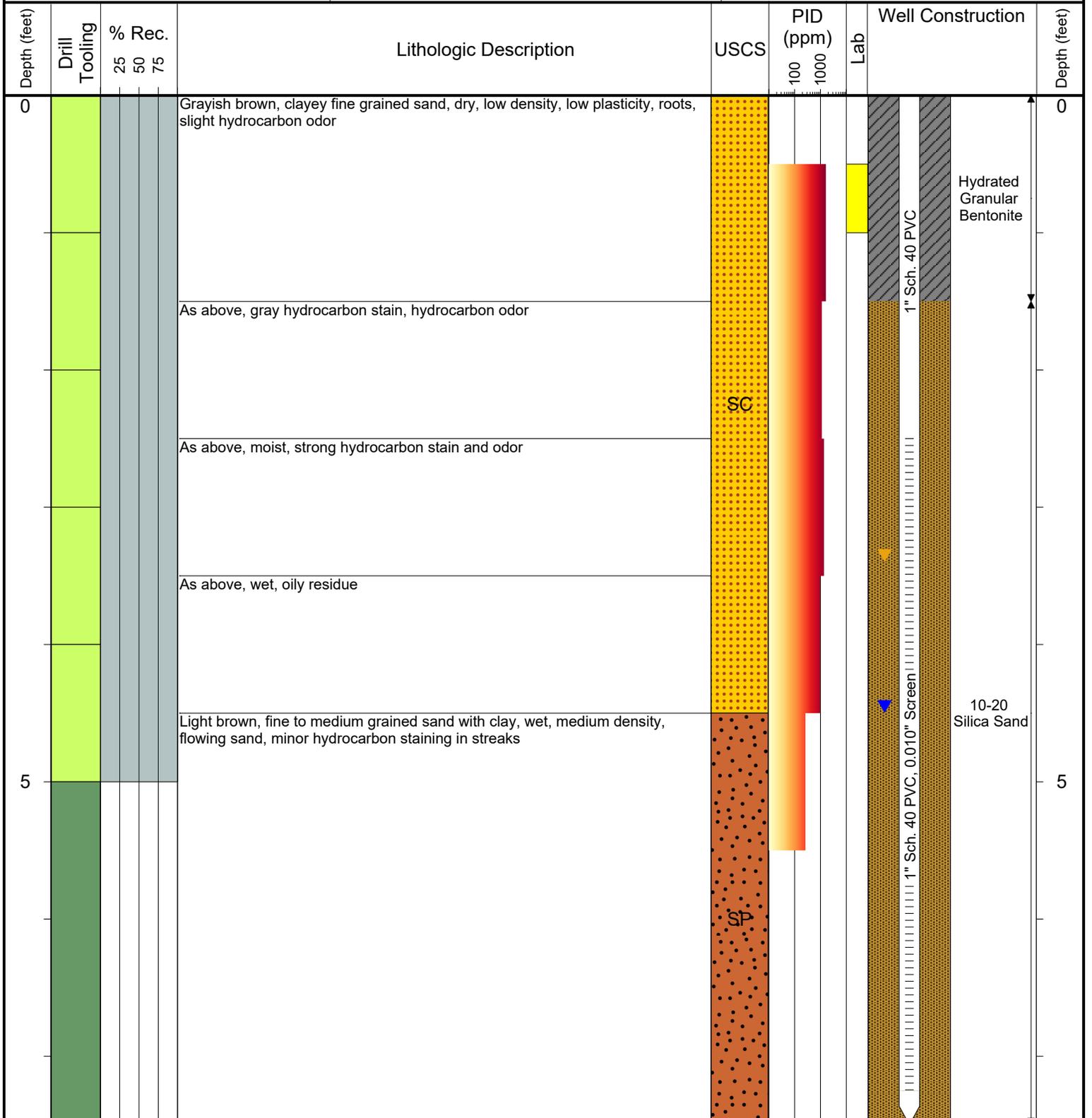
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7.5  
 DEPTH TO WATER (FT. BGS): 4.45

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH07**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295905389241  
 LONGITUDE (DEGREES): -104.57086496205  
 CASING ELEVATION (FT. AMSL): 4732.95  
 GROUND ELEVATION (FT. AMSL): 4730.3



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



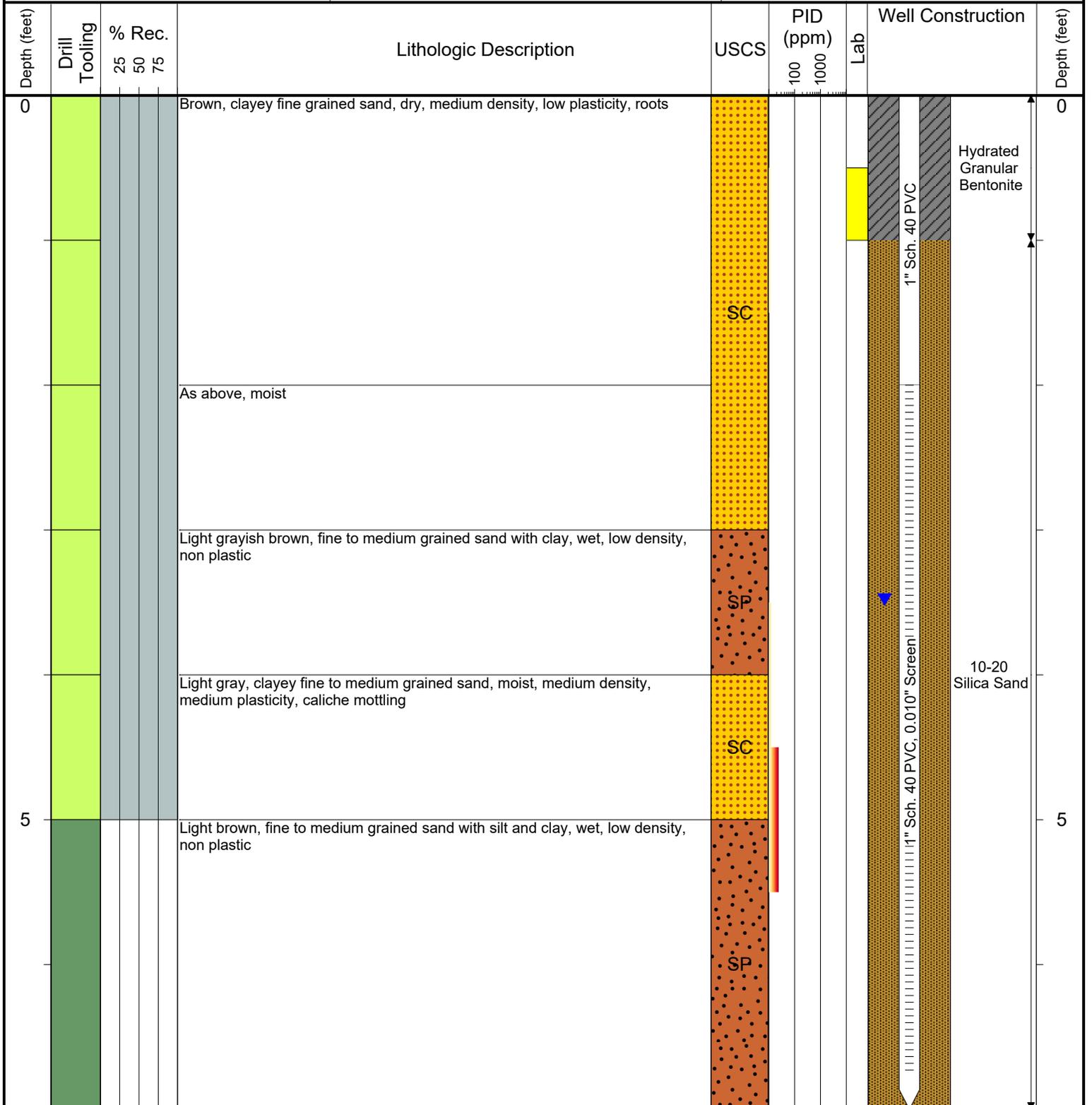
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 3.48

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH08**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295993155367  
 LONGITUDE (DEGREES): -104.57078962778  
 CASING ELEVATION (FT. AMSL): 4732.79  
 GROUND ELEVATION (FT. AMSL): 4729.82



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



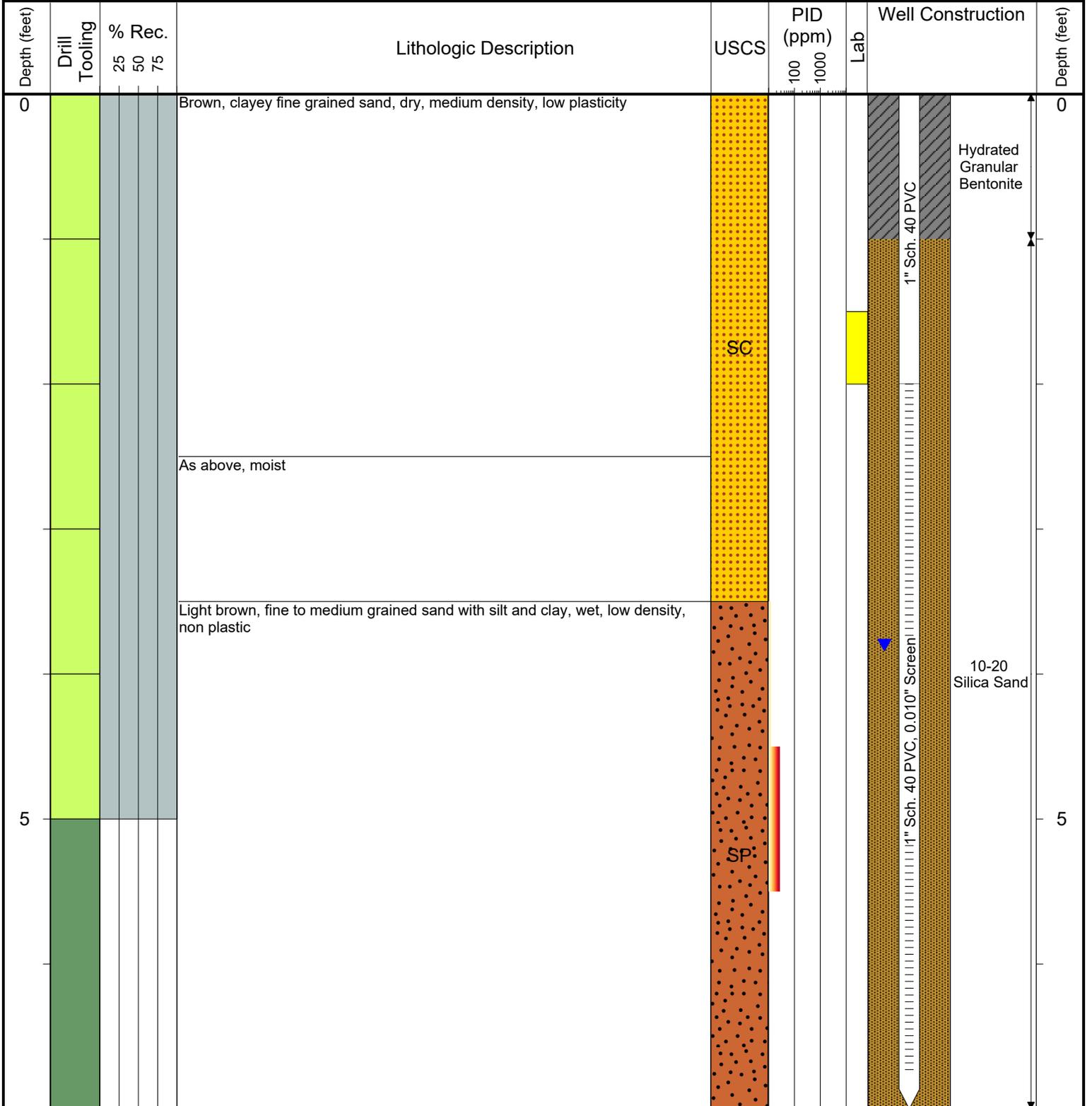
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 3.8

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH09**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295976127668  
 LONGITUDE (DEGREES): -104.57068404971  
 CASING ELEVATION (FT. AMSL): 4732.9  
 GROUND ELEVATION (FT. AMSL): 4730.06



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



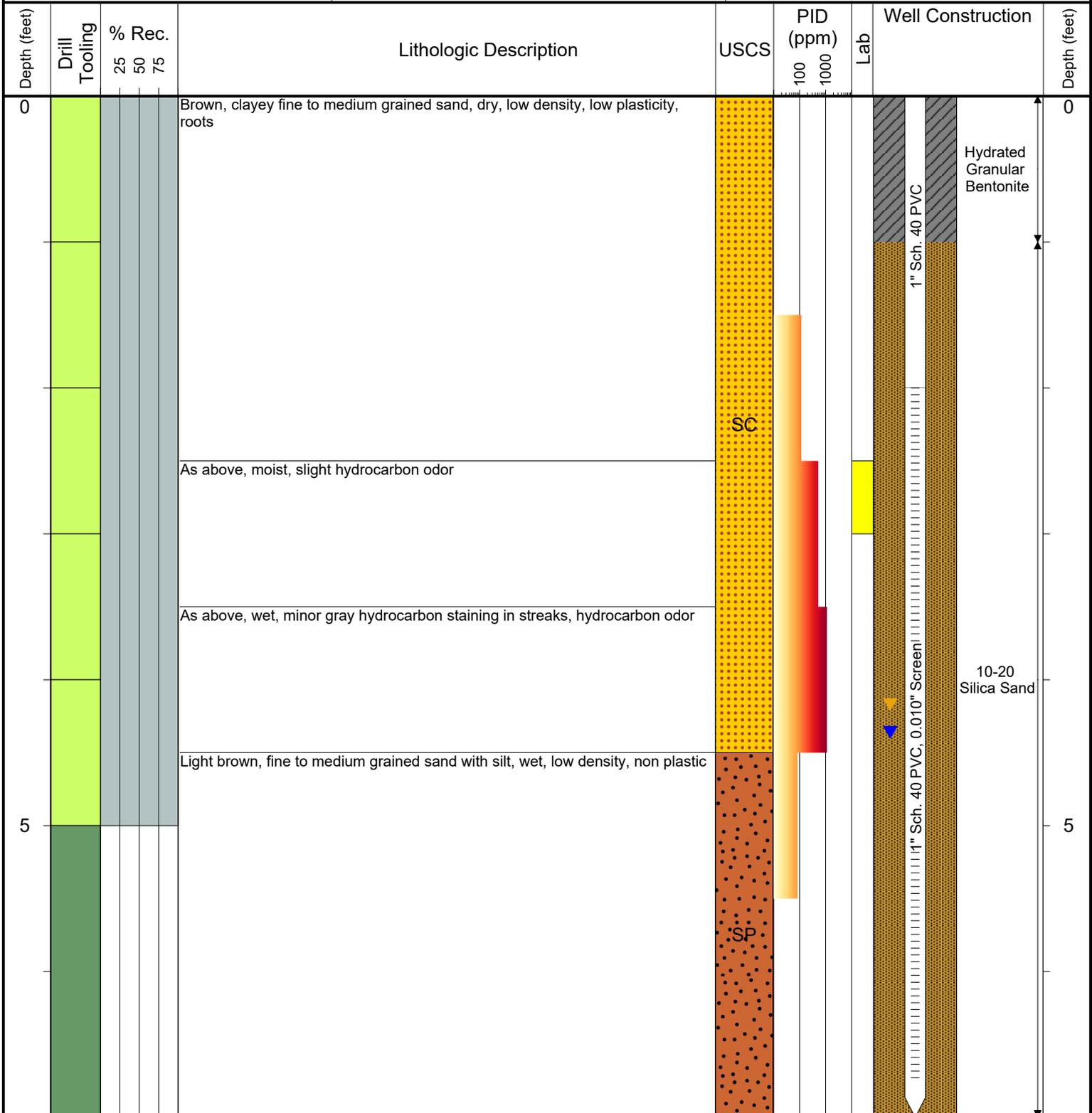
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.36

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH10

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295872306964  
 LONGITUDE (DEGREES): -104.57066424202  
 CASING ELEVATION (FT. AMSL): 4733.61  
 GROUND ELEVATION (FT. AMSL): 4730.34



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



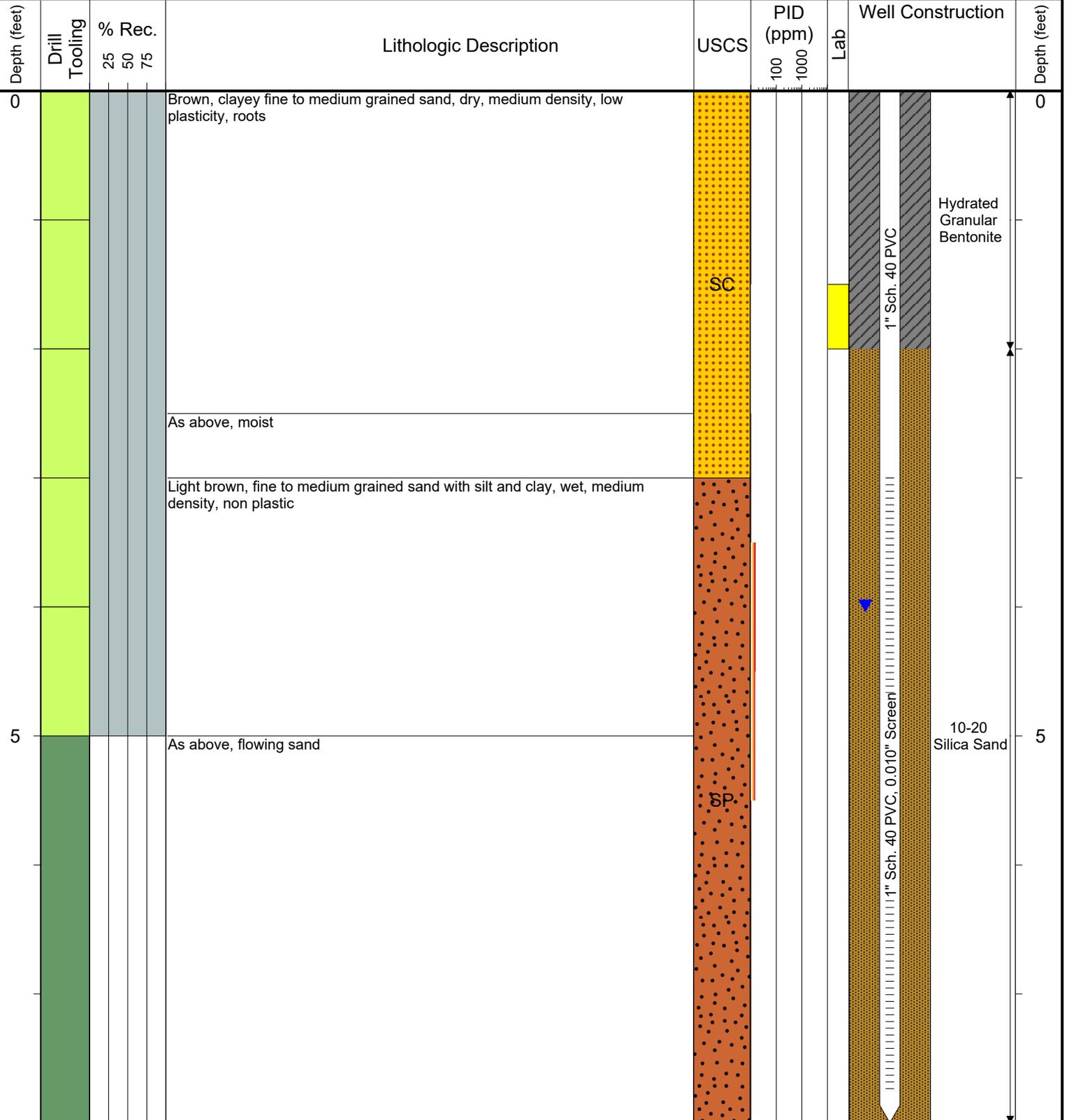
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 8  
 DEPTH TO WATER (FT. BGS): 3.99

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH11

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295788414429  
 LONGITUDE (DEGREES): -104.57082696283  
 CASING ELEVATION (FT. AMSL): 4733.08  
 GROUND ELEVATION (FT. AMSL): 4731.05



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



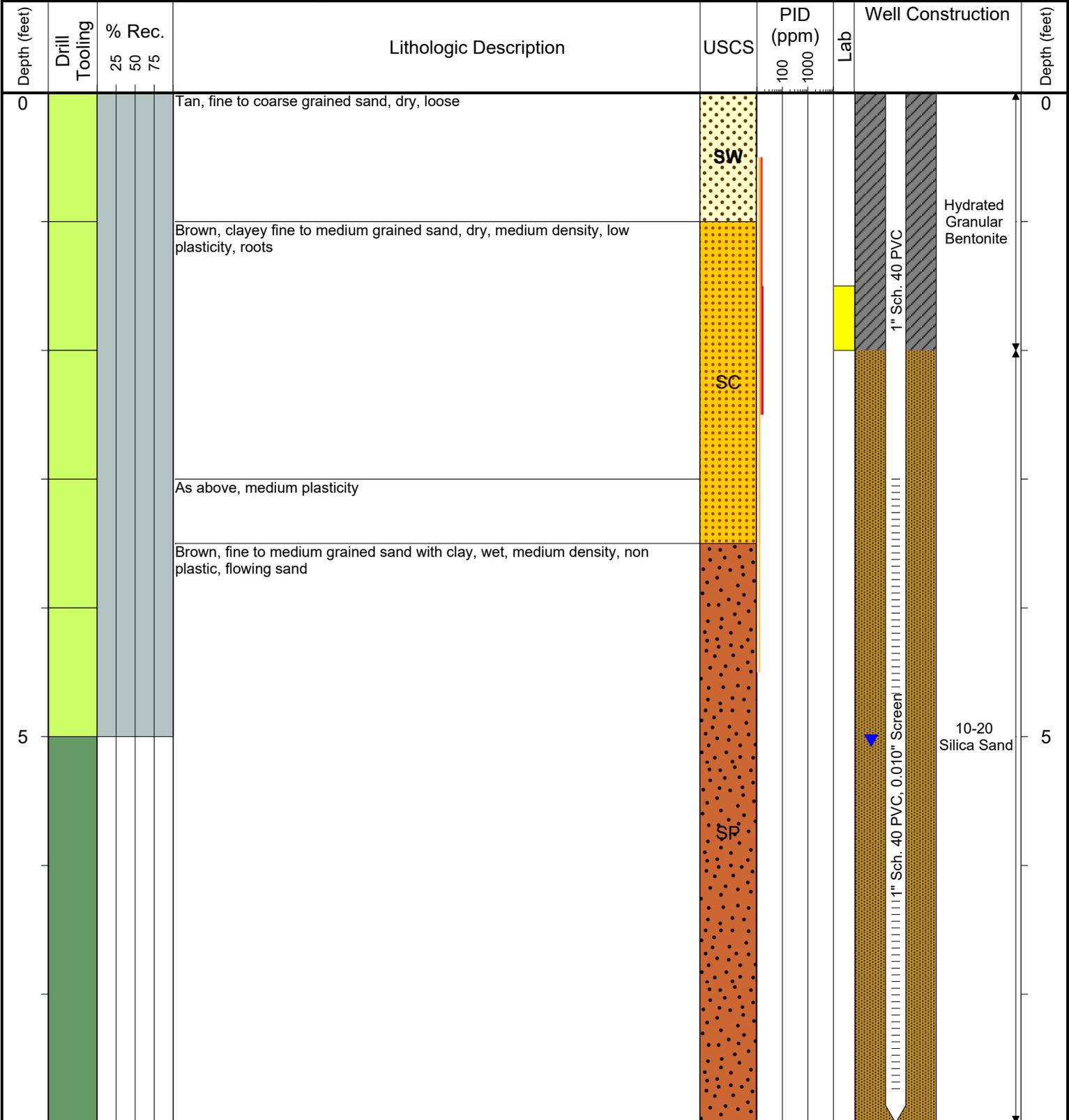
6899 Pecos Street, Unit C  
Denver, Colorado 80221

CLIENT: Noble Energy, Inc.  
 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 8  
 DEPTH TO WATER (FT. BGS): 5.03

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH12**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.29582959396  
 LONGITUDE (DEGREES): -104.57096445938  
 CASING ELEVATION (FT. AMSL): 4734.34  
 GROUND ELEVATION (FT. AMSL): 4732.2



**Drilling / Sample Method:**

- Hand Auger
- Hollow Stem Auger
- Macro-Core
- CME Continuous Core

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



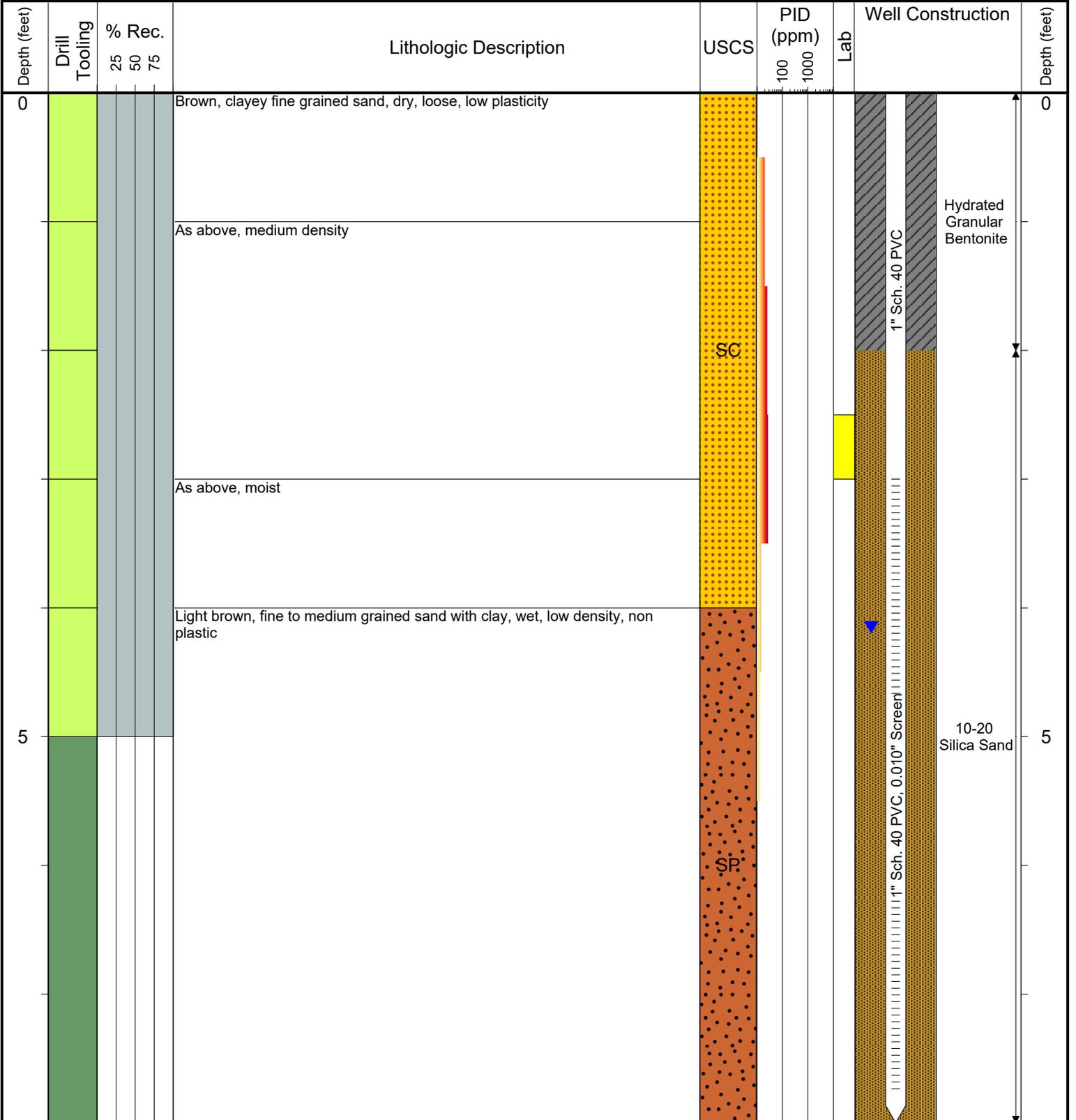
6899 Pecos Street, Unit C  
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 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 8  
 DEPTH TO WATER (FT. BGS): 4.15

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH13

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.295926891643  
 LONGITUDE (DEGREES): -104.57092869749  
 CASING ELEVATION (FT. AMSL): 4733.08  
 GROUND ELEVATION (FT. AMSL): 4730.98



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



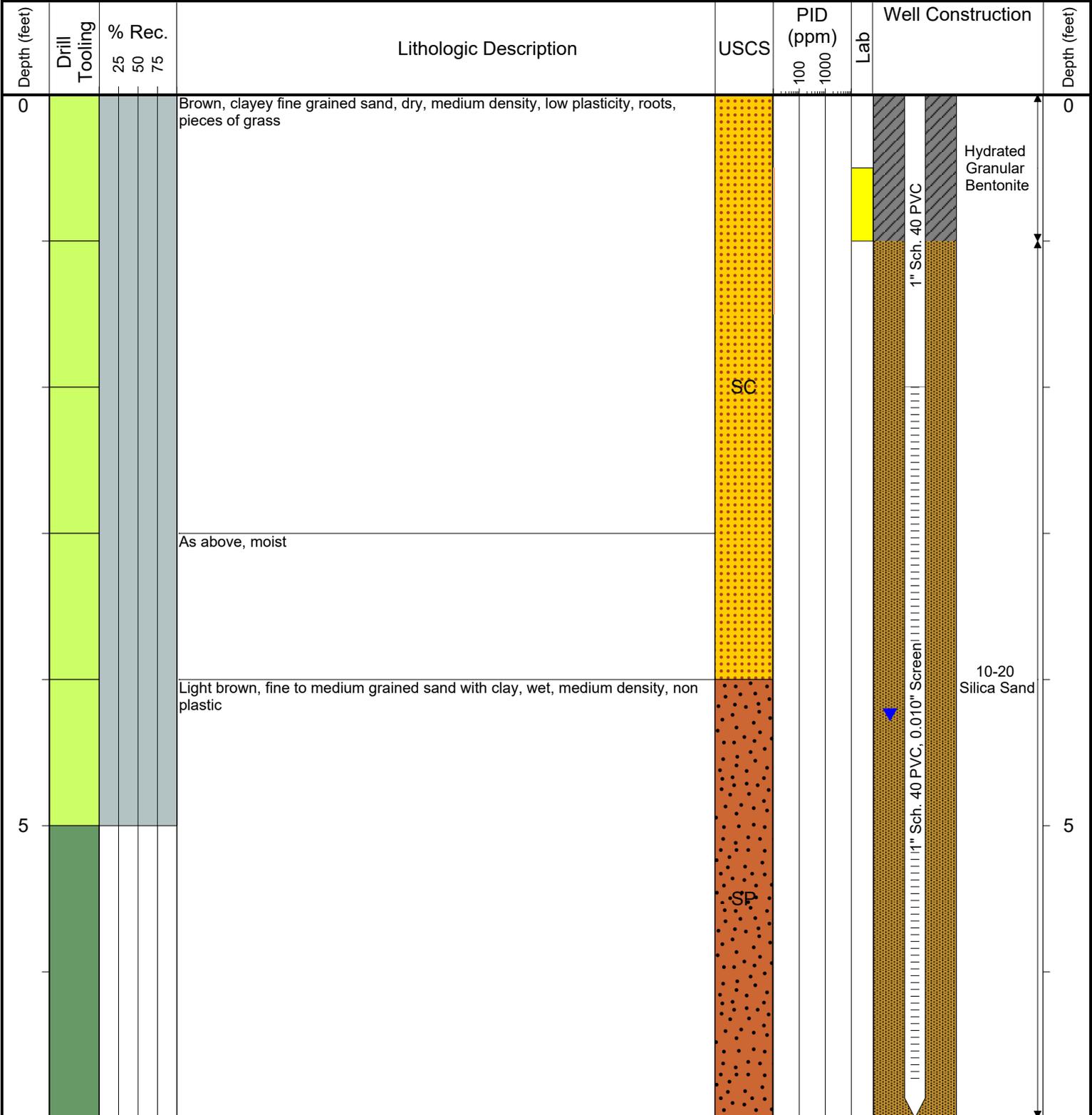
6899 Pecos Street, Unit C  
Denver, Colorado 80221

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 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.24

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH14**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.29587088063  
 LONGITUDE (DEGREES): -104.57059206206  
 CASING ELEVATION (FT. AMSL): 4733.44  
 GROUND ELEVATION (FT. AMSL): 4730.35



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



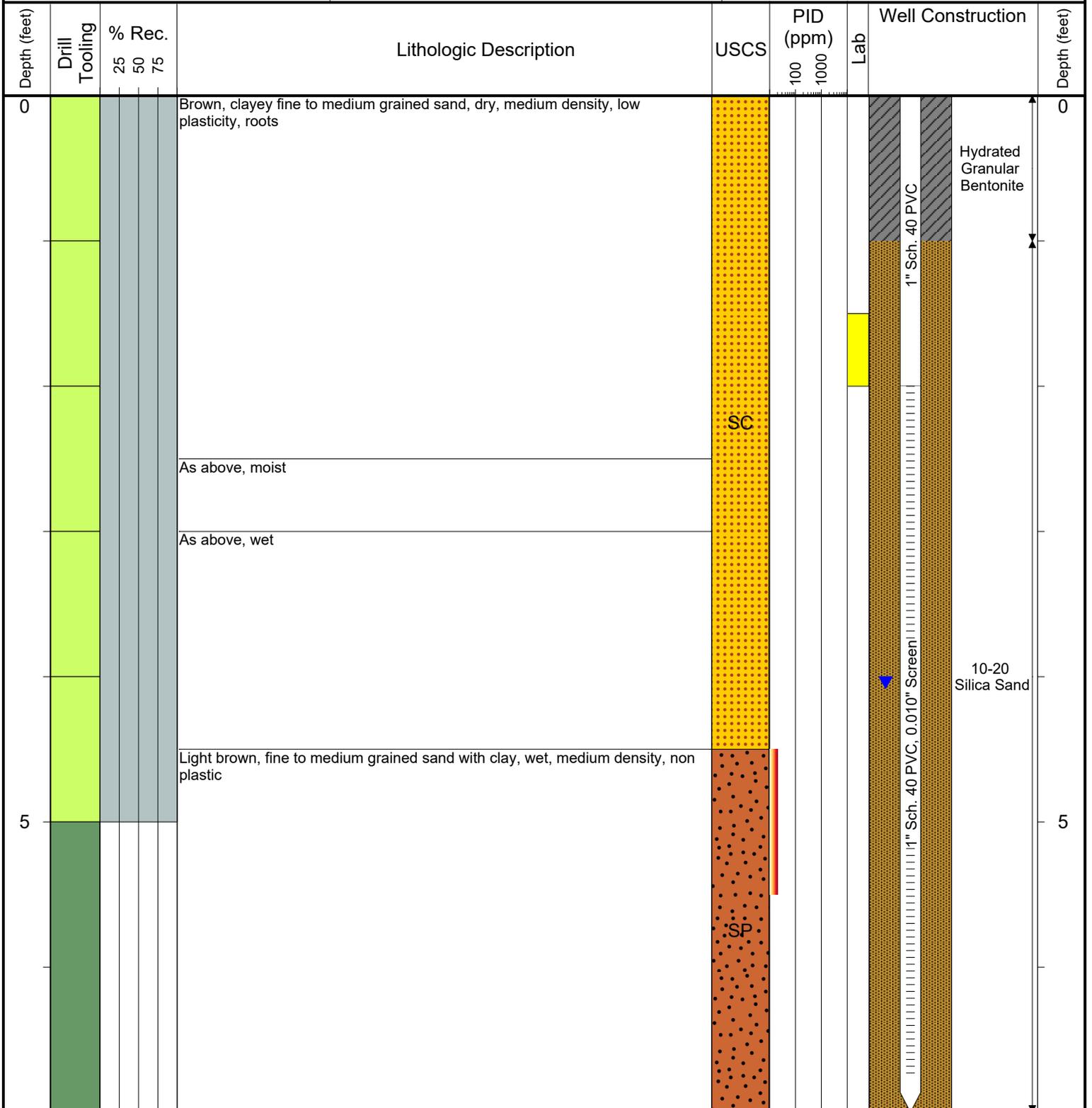
6899 Pecos Street, Unit C  
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 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.04

Balboa C20-03, 23, 09SX

BORING / WELL ID: BH15

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.296016646609  
 LONGITUDE (DEGREES): -104.57061456348  
 CASING ELEVATION (FT. AMSL): 4732.8  
 GROUND ELEVATION (FT. AMSL): 4729.94



Drilling / Sample Method:

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

Laboratory Sample Types:

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab



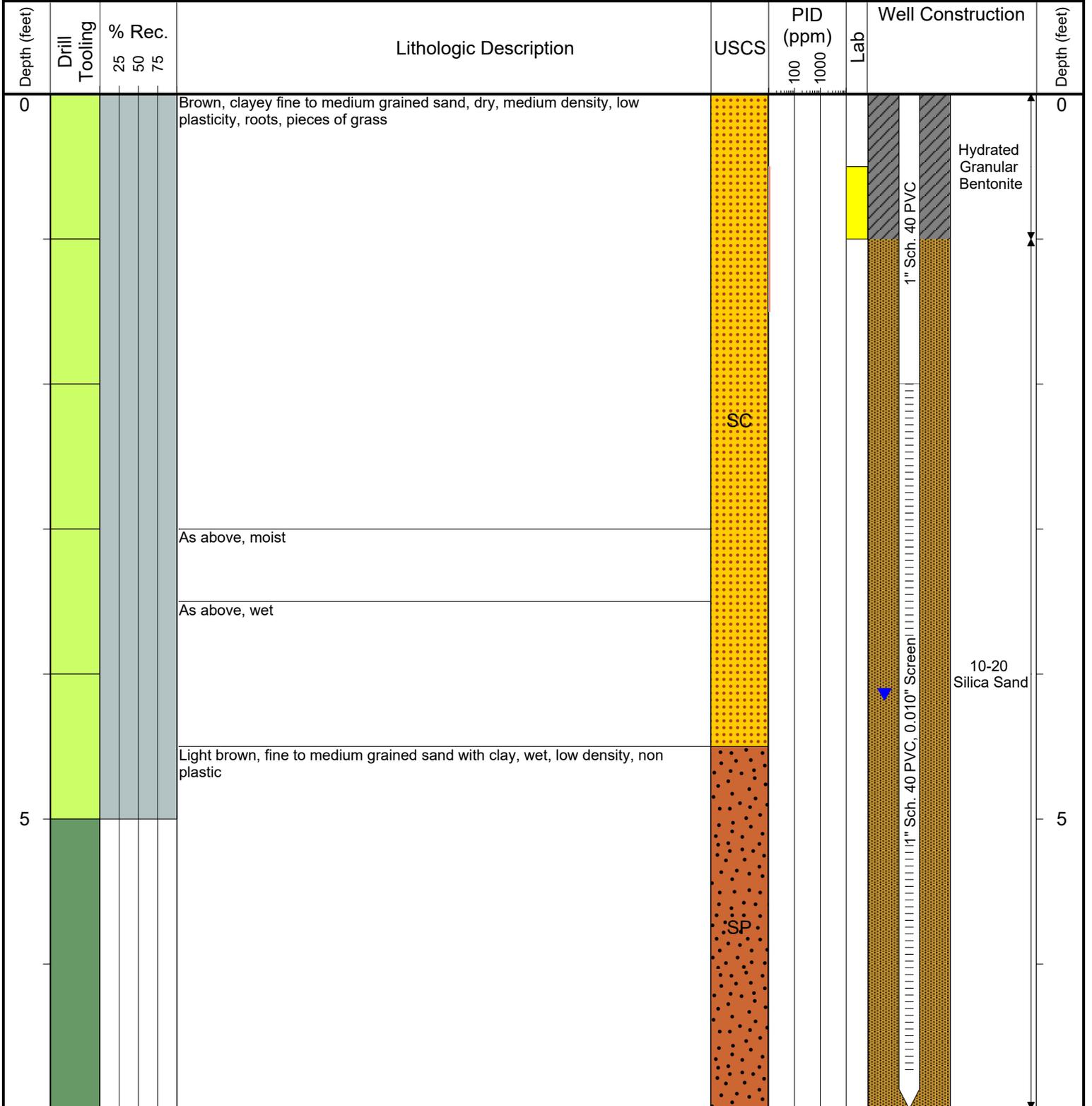
6899 Pecos Street, Unit C  
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 LOGGED BY: Eric Siegel, P.G.  
 PROJECT MANAGER: Brandon Bruns, P.E.  
 DRILLING CONTRACTOR: Tasman Geosciences, Inc.  
 DRILLING EQUIPMENT: Power Probe  
 DRILL BIT SIZE (INCHES): 2.375  
 DATE STARTED - COMPLETED: 8/11/16  
 TOTAL BORING DEPTH (FT. BGS): 7  
 DEPTH TO WATER (FT. BGS): 4.14

**Balboa C20-03, 23, 09SX**

**BORING / WELL ID: BH16**

LOCATION: Weld County, CO  
 LATITUDE (DEGREES): 40.296037672837  
 LONGITUDE (DEGREES): -104.57078455548  
 CASING ELEVATION (FT. AMSL): 4733.25  
 GROUND ELEVATION (FT. AMSL): 4730.34



**Drilling / Sample Method:**

- Macro-Core
- Hand Auger
- CME Continuous Core
- Hollow Stem Auger

**Laboratory Sample Types:**

- Geotechnical Lab
- Analytical Chemistry Lab
- Geotechnical & Analytical Chemistry Lab