

FRANK 2, 5, 6 CC7-19, 29
HISTORIC RELEASE
API #: 05-123-29603
Spill/Release Point ID #: 447515
Remediation Project #: Not Assigned

FIRST QUARTER 2017
Analytical Tables, Figures,
and Laboratory Reports

February 16, 2017



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. - FRANK 2, 5, 6, CC 7-19, 29 HISTORIC 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)
COGCC Standard		0.17	85	100	175	500		23
BH01@3-4'	08/31/16	0.0062	0.021	<0.0050	0.23	<50	120	0.048
BH02@5-6'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH03@8-9'	08/31/16	<0.0020	<0.0050	<0.0050	0.021	<50	54	0.021
BH04@5-6'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH05@5-6'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH06@6-8'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH07@6-9'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH08@5-6'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH08@8-9'	08/31/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH09@2-4'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH10@8-9'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH11@2-4'	09/09/16	0.038	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH12@8-9'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH13@7-8'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH14@8-9'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH15@8-9'	09/09/16	<0.0020	<0.0050	<0.0050	<0.010	<50	<50	<0.010
BH16@9-11'	02/03/17	<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. - FRANK 2, 5, 6, CC 7-19, 29 HISTORIC RELEASE

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH01	09/01/16	Sample Not Collected - 2.19 ft. LNAPL			
BH01	09/09/16	Sample Not Collected - 2.50 ft. LNAPL			
BH01	10/28/16	Well Destroyed During Excavation			
BH01R	02/08/17	<1.0	<1.0	<1.0	3.8
BH02	09/01/16	Sample Not Collected - 2.27 ft. LNAPL			
BH02	09/09/16	Sample Not Collected - 2.58 ft. LNAPL			
BH02	10/28/16	Well Destroyed During Excavation			
BH02R	02/08/17	<1.0	<1.0	<1.0	<1.0
BH03	09/01/16	260	720	65	640
BH03	09/09/16	Sample Not Collected - 0.07 ft. LNAPL			
BH03	10/28/16	Well Destroyed During Excavation			
BH03R	02/08/17	<1.0	<1.0	<1.0	31
BH04	09/01/16	Sample Not Collected - 1.75 ft. LNAPL			
BH04	09/09/16	Sample Not Collected - 2.15 ft. LNAPL			
BH04	10/28/16	Well Destroyed During Excavation			
BH04R	02/08/17	<1.0	<1.0	<1.0	1.6
BH05	09/01/16	19	29	2.2	20
BH05	09/09/16	6.3	12	1.3	14
BH05	10/28/16	Well Destroyed During Excavation			
BH05R	02/08/17	<1.0	1.8	<1.0	1.7
BH06	09/01/16	<1.0	<1.0	<1.0	<1.0
BH06	09/09/16	<1.0	<1.0	<1.0	<1.0
BH06	10/28/16	Well Destroyed During Excavation			
BH06R	02/08/17	<1.0	<1.0	<1.0	<1.0
BH07	09/01/16	<1.0	1.3	<1.0	3.4
BH07	09/09/16	<1.0	<1.0	<1.0	<1.0
BH07	10/28/16	Well Destroyed During Excavation			
BH07R	02/08/17	<1.0	<1.0	<1.0	<1.0
BH09	09/09/16	<1.0	1.0	<1.0	<1.0
BH09	10/28/16	Well Destroyed During Excavation			
BH09R	02/08/17	<1.0	<1.0	<1.0	<1.0
BH10	09/09/16	<1.0	<1.0	8.4	39
BH10	02/08/17	<1.0	<1.0	18	150
BH11	09/09/16	130	20	4.6	27
BH11	10/28/16	Well Destroyed During Excavation			
BH11R	02/08/17	<1.0	<1.0	<1.0	6.6
BH12	09/09/16	<1.0	<1.0	<1.0	<1.0
BH12	10/28/16	Well Destroyed During Excavation			
BH12R	02/08/17	<1.0	<1.0	<1.0	<1.0
BH13	09/09/16	<1.0	<1.0	<1.0	<1.0
BH13	10/28/16	Well Destroyed During Excavation			
BH13R	02/08/17	<1.0	<1.0	<1.0	<1.0

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - FRANK 2, 5, 6, CC 7-19, 29 HISTORIC RELEASE

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
BH14	09/09/16	<1.0	<1.0	<1.0	<1.0
BH14	02/08/17	<1.0	<1.0	<1.0	<1.0
BH15	09/09/16	<1.0	<1.0	<1.0	<1.0
BH15	02/08/17	<1.0	<1.0	<1.0	<1.0
BH16	02/08/17	<1.0	<1.0	<1.0	<1.0

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

LNAPL = Light non-aqueous phase liquid

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. - FRANK 2, 5, 6, CC 7-19, 29 HISTORIC RELEASE

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft. BTOC)	Depth to LNAPL (ft. BTOC)	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	09/01/16	4614.95	NM	13.23	11.04	2.19	4603.36
BH01	09/09/16	4614.95	NM	13.73	11.23	2.50	4603.10
BH01	10/28/16	Well Destroyed During Excavation					
BH01R	02/08/17	4615.93	19.80	14.61	ND	ND	4601.32
BH02	09/01/16	4616.68	NM	15.07	12.80	2.27	4603.31
BH02	09/09/16	4616.68	NM	15.54	12.96	2.58	4603.08
BH02	10/28/16	Well Destroyed During Excavation					
BH02R	02/08/17	4615.85	19.83	14.52	ND	ND	4601.33
BH03	09/01/16	4615.20	22.36	11.79	ND	ND	4603.41
BH03	09/09/16	4615.20	NM	12.08	12.01	0.07	4603.17
BH03	10/28/16	Well Destroyed During Excavation					
BH03R	02/08/17	4614.89	19.42	13.55	ND	ND	4601.34
BH04	09/01/16	4615.54	NM	13.49	11.74	1.75	4603.36
BH04	09/09/16	4615.54	NM	14.04	11.89	2.15	4603.11
BH04	10/28/16	Well Destroyed During Excavation					
BH04R	02/08/17	4615.77	19.76	14.43	ND	ND	4601.34
BH05	09/01/16	4616.26	21.19	12.86	ND	ND	4603.40
BH05	09/09/16	4616.26	21.05	13.10	ND	ND	4603.16
BH05	10/28/16	Well Destroyed During Excavation					
BH05R	02/08/17	4615.77	19.63	14.42	ND	ND	4601.35
BH06	09/01/16	4614.99	21.45	11.58	ND	ND	4603.41
BH06	09/09/16	4614.99	21.00	11.80	ND	ND	4603.19
BH06	10/28/16	Well Destroyed During Excavation					
BH06R	02/08/17	4614.28	19.52	12.82	ND	ND	4601.46
BH07	09/01/16	4615.03	22.51	11.56	ND	ND	4603.47
BH07	09/09/16	4615.03	22.43	11.81	ND	ND	4603.22
BH07	10/28/16	Well Destroyed During Excavation					
BH07R	02/08/17	4614.10	19.50	12.66	ND	ND	4601.44
BH09	09/09/16	4615.12	17.20	12.03	ND	ND	4603.09
BH09	10/28/16	Well Destroyed During Excavation					
BH09R	02/08/17	4613.46	17.60	12.20	ND	ND	4601.26
BH10	09/09/16	4615.46	17.26	12.35	ND	ND	4603.11
BH10	02/08/17	4615.46	17.20	14.19	ND	ND	4601.27
BH11	09/09/16	4615.54	16.92	12.47	ND	ND	4603.07
BH11	10/28/16	Well Destroyed During Excavation					
BH11R	02/08/17	4615.63	19.79	14.36	ND	ND	4601.27
BH12	09/09/16	4615.25	17.24	12.09	ND	ND	4603.16
BH12	10/28/16	Well Destroyed During Excavation					
BH12R	02/08/17	4614.19	19.33	12.83	ND	ND	4601.36
BH13	09/09/16	4614.12	16.47	10.96	ND	ND	4603.16
BH13	10/28/16	Well Destroyed During Excavation					
BH13R	02/08/17	4614.65	19.63	13.21	ND	ND	4601.44

TABLE 3
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. - FRANK 2, 5, 6, CC 7-19, 29 HISTORIC RELEASE

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft. BTOC)	Depth to LNAPL (ft. BTOC)	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH14	09/09/16	4615.12	16.69	12.05	ND	ND	4603.07
BH14	02/08/17	4615.12	16.42	13.56	ND	ND	4601.56
BH15	09/09/16	4614.94	18.15	11.89	ND	ND	4603.05
BH15	02/08/17	4614.94	17.67	13.30	ND	ND	4601.64
BH16	02/08/17	4615.45	19.77	14.18	ND	ND	4601.27

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

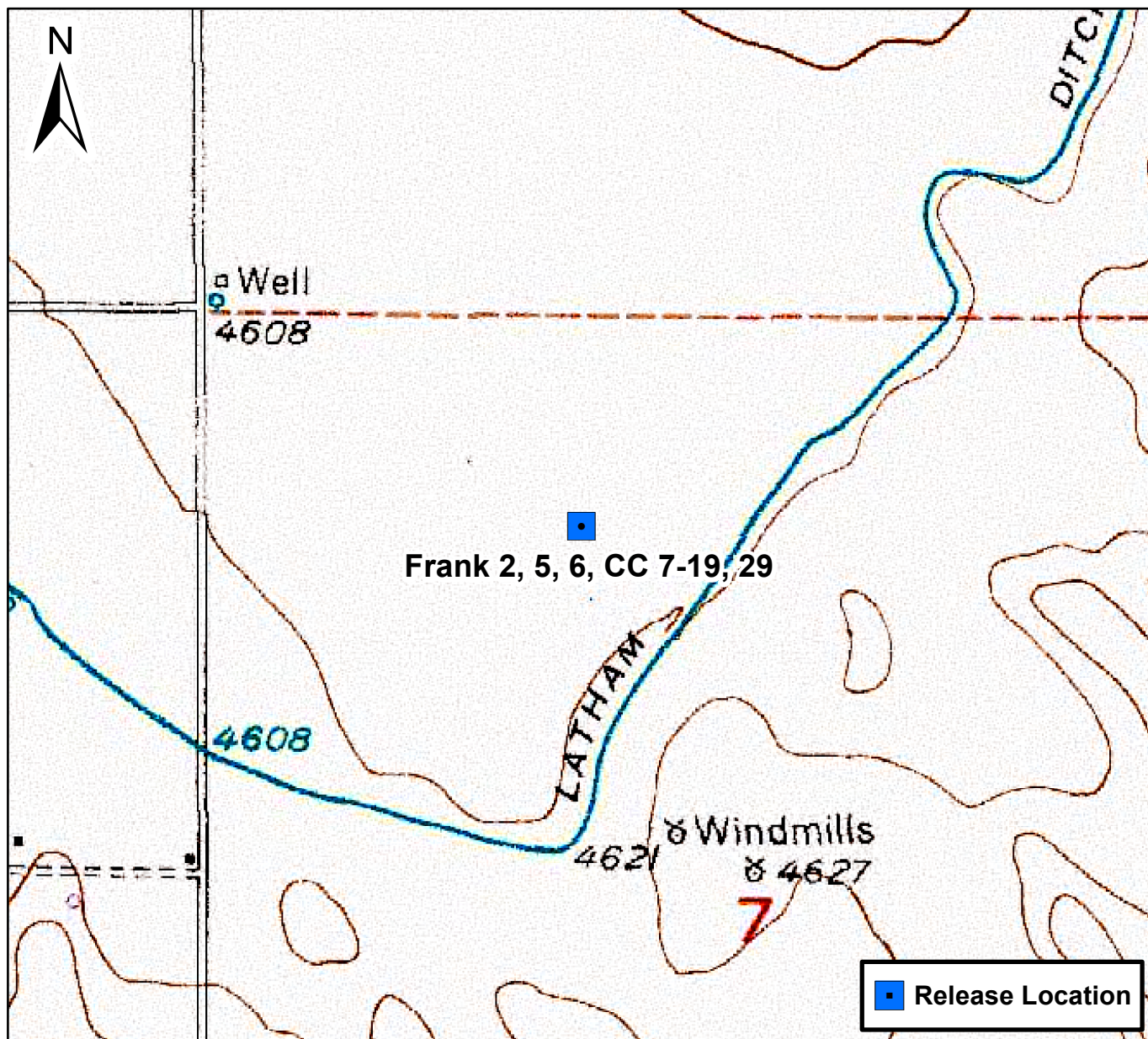
NM = Not measured

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



0 750 1,500 Feet

Figure 1

Site Location Map
 Frank 2, 5, 6, CC 7-19, 29
 Historic Release
 NENW S7 T4N R63W
 Weld County, Colorado





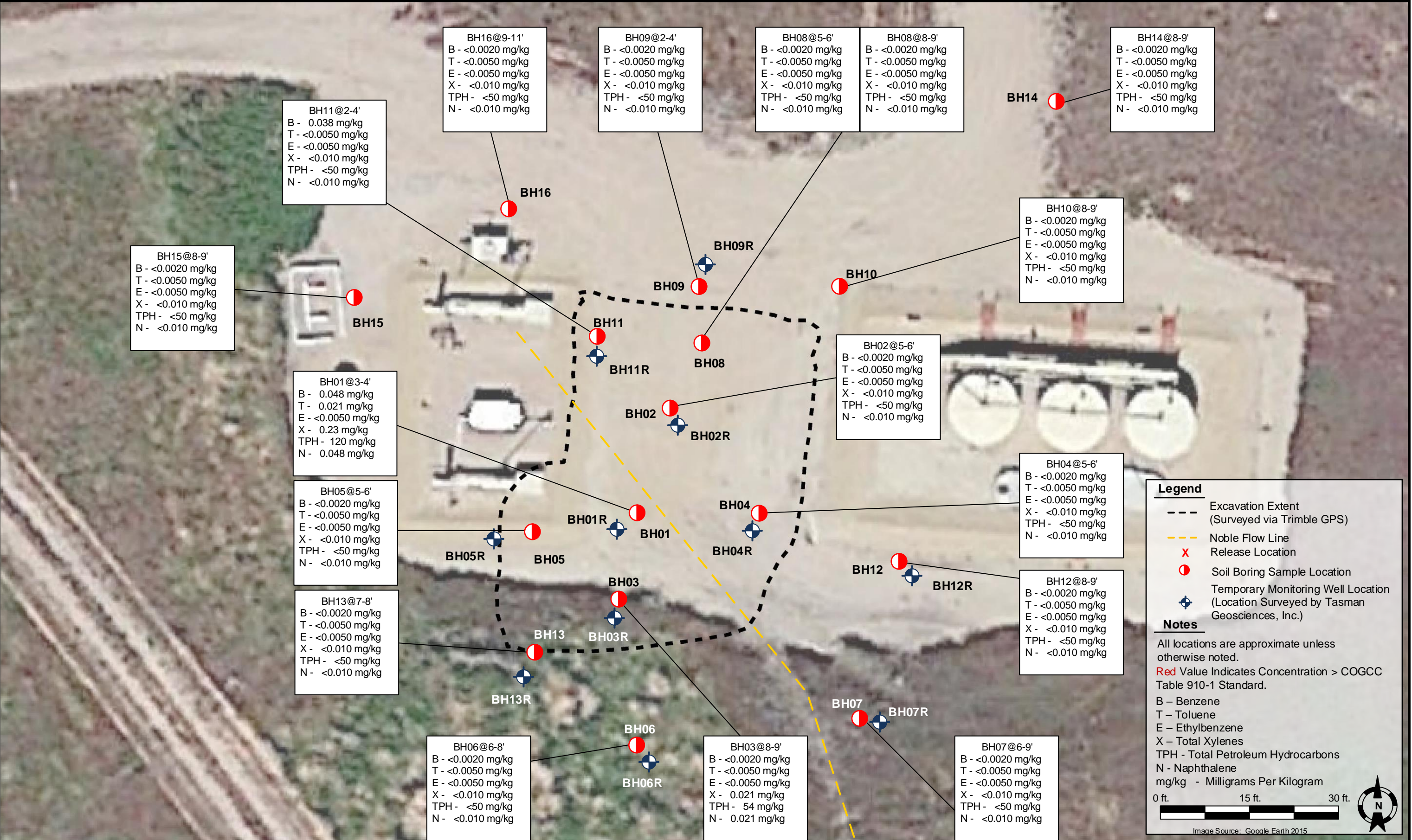
DATE:	February 20, 2017
DESIGNED BY:	ESS
DRAWN BY:	ESS



Noble Energy
Frank 2, 5, 6, CC7-19, 29
Historic Release
Weld County, Colorado

Site Overview Map

FIGURE
2



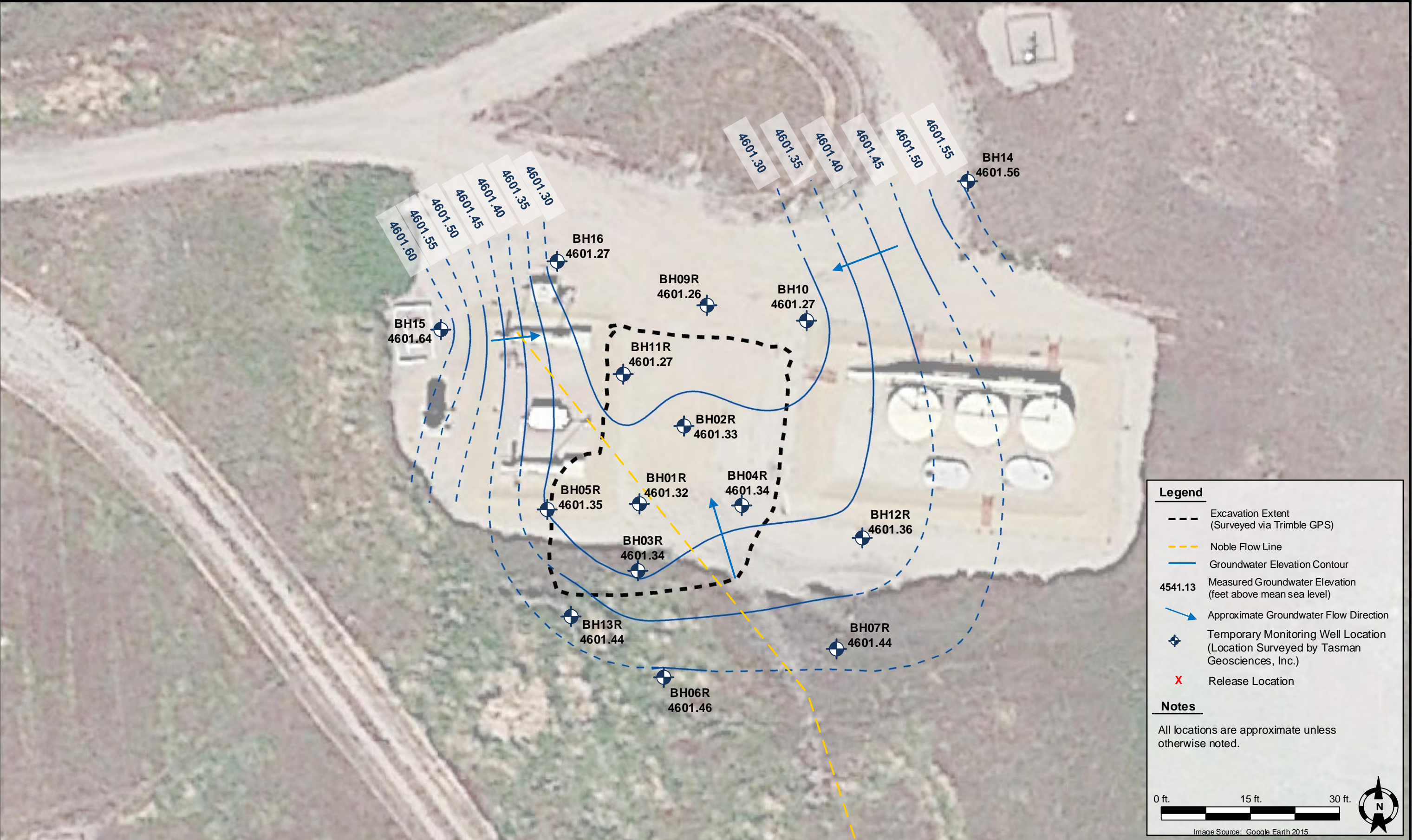
DATE:	February 20, 2017
DESIGNED BY:	ESS
DRAWN BY:	ESS



Noble Energy
Frank 2, 5, 6, CC7-19, 29
Historic Release
Weld County, Colorado

Soil Boring Analytical Results Map

FIGURE
3



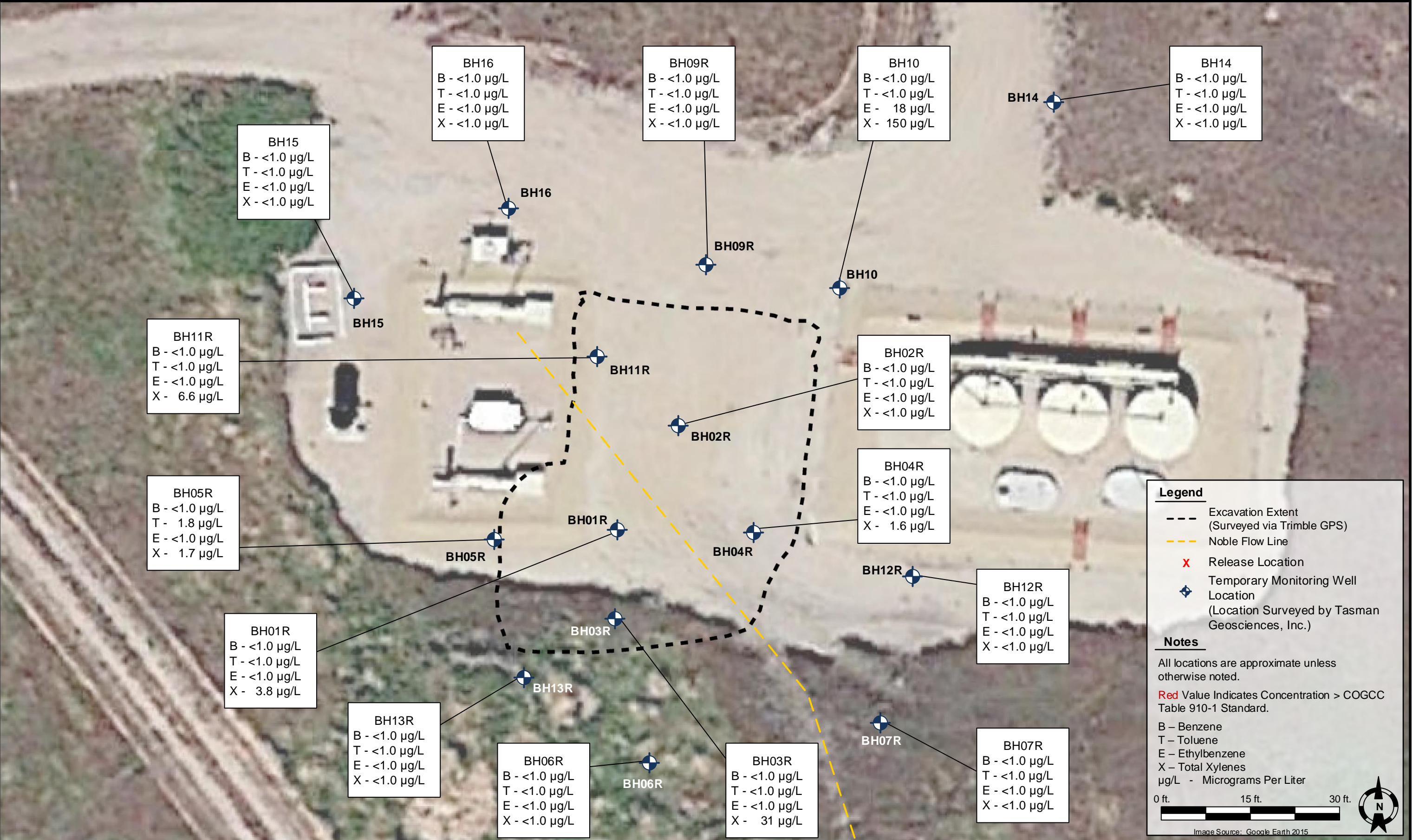
DATE:	February 20, 2017
DESIGNED BY:	JW
DRAWN BY:	JW



Noble Energy
Frank 2, 5, 6, CC7-19, 29
Historic Release
Weld County, Colorado

Groundwater Potentiometric Surface
Contour Map
(02/08/17)

FIGURE
4



DATE:	February 20, 2017
DESIGNED BY:	ESS
DRAWN BY:	ESS



Noble Energy
Frank 2, 5, 6, CC7-19, 29
Hsitoric Release
Weld County, Colorado

Groundwater Analytical Results Map
(02/08/17)

FIGURE
5

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 13, 2017

Brandon Bruns
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Frank 2, 5, 6, CC7-19, 29

Enclosed are the results of analyses for samples received by Summit Scientific on 02/08/17 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury
President



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01R	1702071-01	Water	02/08/17 11:45	02/08/17 16:40
BH02R	1702071-02	Water	02/08/17 12:15	02/08/17 16:40
BH03R	1702071-03	Water	02/08/17 11:55	02/08/17 16:40
BH04R	1702071-04	Water	02/08/17 11:33	02/08/17 16:40
BH05R	1702071-05	Water	02/08/17 12:20	02/08/17 16:40
BH06R	1702071-06	Water	02/08/17 10:56	02/08/17 16:40
BH07R	1702071-07	Water	02/08/17 11:10	02/08/17 16:40
BH09R	1702071-08	Water	02/08/17 11:37	02/08/17 16:40
BH10	1702071-09	Water	02/08/17 11:50	02/08/17 16:40
BH11R	1702071-10	Water	02/08/17 12:02	02/08/17 16:40
BH12R	1702071-11	Water	02/08/17 11:21	02/08/17 16:40
BH13R	1702071-12	Water	02/08/17 12:09	02/08/17 16:40
BH14	1702071-13	Water	02/08/17 11:00	02/08/17 16:40
BH15	1702071-14	Water	02/08/17 11:25	02/08/17 16:40
BH16	1702071-15	Water	02/08/17 11:14	02/08/17 16:40

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: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

Summit Scientific

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

Page 1 of 2

Client: Noble / Tasman Geosciences

Address: 6899 Pecos St, 12th C

City/State/Zip: Denver, CO 80221

Phone: _____ Fax: _____

Sampler Name: Mitch Weller, Max Garza

Project Manager: Brandon Bruns

E-Mail: bbruns@tasman-geo.com

Project Name: Frank 2, 5, 6, CC7-19, 29

Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix		Analyze For:				Special Instructions
				HCl	HNO ₃	None	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTX	8260	
BH 01R	2-8-17	1145	3		X		X				X		
BH 02R		1215											
BH 03R		1155											
BH 04R		1133											
BH 05R		1220											
BH 06R		1056											
BH 07R		1110											
BH 09R		1137											
BH 10		1150											
BH 11R		1202											

Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/8/17 1646</u>	Received by: <u>[Signature]</u>	Date/Time: <u>2/8/17 1640</u>	Turn Around Time (Check)	Notes:
Relinquished by: <u>[Signature]</u>	Date/Time: <u>2/8/17 1700</u>	Received by: <u>[Signature]</u>	Date/Time: <u>2/8/17 1700</u>	Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>	on ice
Relinquished by: _____	Date/Time: _____	Received in Lab by: _____	Date/Time: _____	Sample Integrity: <u>1.8°C</u> Temperature Upon Receipt: _____ Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

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Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

Summit Scientific

1702071.2

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

Page 2 of 2

Client: Noble / Tasman Geosciences

Address: 6899 Pecos St, Unit C

City/State/Zip: Denver, CO 80221

Phone: _____ Fax: _____

Sampler Name: Mitch Weller, Max Garcia

Project Manager: Brandon Bruns

E-Mail: bruns@tasman-geo.com

Project Name: Frank 2, 5, 6, CC7-19, 29

Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix		Analyze For:		Special Instructions	
				HCl	HNO ₃	None	Groundwater	Soil	Air - Canister Serial #	Other (Specify)		BTEX
BH 12R	2-8-17	1121	3			X	X			X		
BH 13R		1209										
BH 14		1100										
BH 15		1125										
BH 16		1114										
Relinquished by: <u>[Signature]</u> Date/Time: <u>2/8/17 1640</u>				Received by: <u>[Signature]</u> Date/Time: <u>2/8/17 1640</u>				Turn Around Time (Check)				Notes: <u>on ip</u>
Relinquished by: <u>[Signature]</u> Date/Time: <u>2/8/17 1700</u>				Received by: <u>[Signature]</u> Date/Time: <u>2/8/17 1700</u>				Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>				
Relinquished by: _____ Date/Time: _____				Received in Lab by: _____ Date/Time: _____				Sample Integrity: Temperature Upon Receipt: <u>1-8°C</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

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Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

Sample Receipt Checklist

S2 Work Order: 1702071
Client: Noble / Tasman Client Project ID: Frank 2, 5, 6, CC7-19, 29
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)	<u>18</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 ⁽¹⁾ ?				
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 ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are short holding time analytes or samples with HTs due within 48 hours present?			✓	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		✓		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			✓	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			✓	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any):				

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

Nakita
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

2/8/17 1700
Date/Time



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH01R
1702071-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	3.8	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		104 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH02R
1702071-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		102 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

Summit Scientific

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Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH03R
1702071-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	31	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH04R
1702071-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	1.6	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>106 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>104 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

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6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH05R
1702071-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	1.8	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	1.7	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		102 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH06R
1702071-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 10:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		104 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH07R
1702071-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	45-146		"	"	"	"	

Summit Scientific

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Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH09R
1702071-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	45-146		"	"	"	"	

Summit Scientific

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Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH10
1702071-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	18	1.0	"	"	"	"	"	"	
Xylenes (total)	150	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

Summit Scientific

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Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH11R
1702071-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	6.6	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	45-146		"	"	"	"	

Summit Scientific

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Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH12R
1702071-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		103 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH13R
1702071-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 12:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		102 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

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: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH14
1702071-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		104 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

Summit Scientific

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



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6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH15
1702071-14 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		100 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	45-146		"	"	"	"	

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: Frank 2, 5, 6, CC7-19, 29
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

BH16
1702071-15 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/08/17 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1702094	02/10/17	02/10/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **02/08/17 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		102 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	45-146		"	"	"	"	

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: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1702094 - EPA 5030 Water MS

Blank (1702094-BLK1)

Prepared & Analyzed: 02/10/17

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3		99.1	37-154			
Surrogate: Toluene-d8	13.8		"	13.3		104	45-149			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		107	45-146			

LCS (1702094-BS1)

Prepared & Analyzed: 02/10/17

Benzene	31.6	1.0	ug/l	33.3		94.7	51-132			
Toluene	33.9	1.0	"	33.3		102	51-138			
Ethylbenzene	38.4	1.0	"	33.1		116	58-146			
m,p-Xylene	75.6	2.0	"	66.5		114	57-144			
o-Xylene	38.3	1.0	"	32.7		117	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.3		104	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	14.6		"	13.3		110	45-146			

Matrix Spike (1702094-MS1)

Source: 1702071-01

Prepared & Analyzed: 02/10/17

Benzene	31.9	1.0	ug/l	33.3	ND	95.6	34-141			
Toluene	33.6	1.0	"	33.3	ND	101	27-151			
Ethylbenzene	38.3	1.0	"	33.1	ND	116	29-160			
m,p-Xylene	74.5	2.0	"	66.5	ND	112	20-166			
o-Xylene	38.5	1.0	"	32.7	3.76	106	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.6		"	13.3		102	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	14.3		"	13.3		108	45-146			

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

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

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

Batch 1702094 - EPA 5030 Water MS

Matrix Spike Dup (1702094-MSD1)		Source: 1702071-01			Prepared & Analyzed: 02/10/17					
Benzene	31.6	1.0	ug/l	33.3	ND	94.7	34-141	0.946	32	
Toluene	33.1	1.0	"	33.3	ND	99.4	27-151	1.56	25	
Ethylbenzene	39.2	1.0	"	33.1	ND	119	29-160	2.24	50	
m,p-Xylene	75.4	2.0	"	66.5	ND	113	20-166	1.29	36	
o-Xylene	38.9	1.0	"	32.7	3.76	108	33-159	1.01	26	
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	14.8		"	13.3		111	45-146			

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
02/13/17 13:14

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