

**FRANK 2, 5, 6 CC7-19, 29**

**HISTORIC RELEASE**

**API #: 05-123-29603**

**Spill/Release Point ID #: 447515**

**Remediation Project #: 10113**

**FIRST QUARTER 2018**

**Analytical Tables, Figures,  
and Laboratory Reports**

February 20, 2018



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**PREPARED ON BEHALF OF**

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**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)
<b>COGCC Standard</b>		<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500</b>		<b>23</b>
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)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
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
BH01R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH01R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH01R	11/09/17	32	<1.0	<1.0	<2.0
BH01R	02/07/18	1.2	<1.0	<1.0	<2.0
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
BH02R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH02R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH02R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH02R	02/07/18	<1.0	<1.0	<1.0	<2.0
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
BH03R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH03R	08/30/17	<1.0	<1.0	<1.0	3.1
BH03R	11/09/17	180	13	51	82
BH03R	02/07/18	10	<1.0	1.1	<2.0
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
BH04R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH04R	08/30/17	2.4	<1.0	<1.0	<2.0
BH04R	11/09/17	62	36	18	75
BH04R	02/07/18	45	65	16	92
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
BH05R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH05R	08/30/17	1.2	<1.0	<1.0	<2.0
BH05R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH05R	02/07/18	<1.0	<1.0	<1.0	<2.0
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
BH06R	05/17/17	<1.0	<1.0	<1.0	<2.0

**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)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
BH06R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH06R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH06R	02/07/18	<1.0	<1.0	<1.0	<2.0
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
BH07R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH07R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH07R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH07R	02/07/18	<1.0	<1.0	<1.0	<2.0
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
BH09R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH09R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH09R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH09R	02/07/18	<1.0	<1.0	<1.0	<2.0
BH10	09/09/16	<1.0	<1.0	8.4	39
BH10	02/08/17	<1.0	<1.0	18	150
BH10	05/17/17	<1.0	<1.0	<1.0	150
BH10	08/30/17	<1.0	<1.0	2.9	33
BH10	11/09/17	2.6	<1.0	66	260
BH10	02/07/18	<1.0	<1.0	62	260
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
BH11R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH11R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH11R	11/09/17	230	<1.0	4.3	45
BH11R	02/07/18	12	<1.0	<1.0	<2.0
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
BH12R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH12R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH12R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH12R	02/07/18	<1.0	<1.0	<1.0	<2.0
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
BH13R	05/17/17	<1.0	<1.0	<1.0	<2.0
BH13R	08/30/17	<1.0	<1.0	<1.0	<2.0
BH13R	11/09/17	<1.0	<1.0	<1.0	<2.0
BH13R	02/07/18	<1.0	<1.0	<1.0	<2.0

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**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - FRANK 2, 5, 6, CC 7-19, 29**  
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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>
BH14	09/09/16	<1.0	<1.0	<1.0	<1.0
BH14	02/08/17	<1.0	<1.0	<1.0	<1.0
BH14	05/17/17	<1.0	<1.0	<1.0	<2.0
BH14	08/30/17	<1.0	<1.0	<1.0	<2.0
BH14	11/09/17	<1.0	<1.0	<1.0	<2.0
BH14	02/07/18	<1.0	<1.0	<1.0	<2.0
BH15	09/09/16	<1.0	<1.0	<1.0	<1.0
BH15	02/08/17	<1.0	<1.0	<1.0	<1.0
BH15	05/17/17	<1.0	<1.0	<1.0	<2.0
BH15	08/30/17	<1.0	<1.0	<1.0	<2.0
BH15	11/09/17	<1.0	<1.0	<1.0	<2.0
BH15	02/07/18	<1.0	<1.0	<1.0	<2.0
BH16	02/08/17	<1.0	<1.0	<1.0	<1.0
BH16	05/17/17	<1.0	<1.0	<1.0	<2.0
BH16	08/30/17	<1.0	<1.0	<1.0	<2.0
BH16	11/09/17	<1.0	<1.0	<1.0	<2.0
BH16	02/07/18	<1.0	<1.0	<1.0	<2.0

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
BH01R	05/17/17	4616.31	19.73	13.91	ND	ND	4602.40
BH01R	08/30/17	4616.31	19.63	12.37	ND	ND	4603.94
BH01R	11/09/17	4616.31	19.44	13.43	ND	ND	4602.88
BH01R	02/07/17	4616.31	19.64	14.81	ND	ND	4601.50
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
BH02R	05/17/17	4616.23	19.75	13.85	ND	ND	4602.38
BH02R	08/30/17	4616.23	19.77	12.30	ND	ND	4603.93
BH02R	11/09/17	4616.23	19.51	13.36	ND	ND	4602.87
BH02R	02/07/17	4616.23	19.80	14.72	ND	ND	4601.51
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
BH03R	05/17/17	4615.27	19.38	12.98	ND	ND	4602.29
BH03R	08/30/17	4615.27	19.28	11.29	ND	ND	4603.98
BH03R	11/09/17	4615.27	19.25	12.39	ND	ND	4602.88
BH03R	02/07/17	4615.27	19.26	13.76	ND	ND	4601.51
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
BH04R	05/17/17	4616.15	19.69	13.72	ND	ND	4602.43
BH04R	08/30/17	4616.15	19.73	12.20	ND	ND	4603.95
BH04R	11/09/17	4616.15	19.65	13.25	ND	ND	4602.90
BH04R	02/07/17	4616.15	19.72	14.63	ND	ND	4601.52
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
BH05R	05/17/17	4616.15	19.60	13.71	ND	ND	4602.44
BH05R	08/30/17	4616.15	19.47	12.17	ND	ND	4603.98
BH05R	11/09/17	4616.15	19.43	13.25	ND	ND	4602.90
BH05R	02/07/17	4616.15	19.48	14.62	ND	ND	4601.53

**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)
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
BH06R	05/17/17	4614.66	19.48	12.15	ND	ND	4602.51
BH06R	08/30/17	4614.66	19.39	10.60	ND	ND	4604.06
BH06R	11/09/17	4614.66	19.27	11.68	ND	ND	4602.98
BH06R	02/07/17	4614.66	19.35	13.07	ND	ND	4601.59
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
BH07R	05/17/17	4614.48	19.31	12.01	ND	ND	4602.47
BH07R	08/30/17	4614.48	19.23	10.42	ND	ND	4604.06
BH07R	11/09/17	4614.48	19.08	11.48	ND	ND	4603.00
BH07R	02/07/17	4614.48	19.16	12.88	ND	ND	4601.60
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
BH09R	05/17/17	4613.84	17.49	11.50	ND	ND	4602.34
BH09R	08/30/17	4613.84	17.51	9.94	ND	ND	4603.90
BH09R	11/09/17	4613.84	17.48	11.01	ND	ND	4602.83
BH09R	02/07/17	4613.84	17.50	12.41	ND	ND	4601.43
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
BH10	05/17/17	4615.46	16.25	13.51	ND	ND	4601.95
BH10	08/30/17	4615.46	17.12	11.93	ND	ND	4603.53
BH10	11/09/17	4615.46	17.05	12.99	ND	ND	4602.47
BH10	02/07/17	4615.46	17.17	14.38	ND	ND	4601.08
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
BH11R	05/17/17	4616.01	19.71	13.63	ND	ND	4602.38
BH11R	08/30/17	4616.01	19.54	12.10	ND	ND	4603.91
BH11R	11/09/17	4616.01	19.41	13.18	ND	ND	4602.83
BH11R	02/07/17	4616.01	19.47	14.55	ND	ND	4601.46
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
BH12R	05/17/17	4614.57	19.21	12.15	ND	ND	4602.42

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**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)
BH12R	08/30/17	4614.57	19.20	10.57	ND	ND	4604.00
BH12R	11/09/17	4614.57	19.13	11.63	ND	ND	4602.94
BH12R	02/07/17	4614.57	19.20	13.04	ND	ND	4601.53
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
BH13R	05/17/17	4615.03	19.52	12.53	ND	ND	4602.50
BH13R	08/30/17	4615.03	19.47	11.00	ND	ND	4604.03
BH13R	11/09/17	4615.03	19.43	12.08	ND	ND	4602.95
BH13R	02/07/17	4615.03	19.52	13.45	ND	ND	4601.58
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
BH14	05/17/17	4615.12	16.41	12.88	ND	ND	4602.24
BH14	08/30/17	4615.12	16.34	11.30	ND	ND	4603.82
BH14	11/09/17	4615.12	16.21	12.35	ND	ND	4602.77
BH14	02/07/17	4615.12	16.42	13.77	ND	ND	4601.35
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
BH15	05/17/17	4614.94	17.62	12.61	ND	ND	4602.33
BH15	08/30/17	4614.94	17.64	11.07	ND	ND	4603.87
BH15	11/09/17	4614.94	17.58	12.17	ND	ND	4602.77
BH15	02/07/17	4614.94	17.83	13.51	ND	ND	4601.43
BH16	02/08/17	4615.45	19.77	14.18	ND	ND	4601.27
BH16	05/17/17	4615.83	19.70	13.49	ND	ND	4602.34
BH16	08/30/17	4615.83	19.72	11.95	ND	ND	4603.88
BH16	11/09/17	4615.83	19.65	13.04	ND	ND	4602.79
BH16	02/07/17	4615.83	19.73	14.38	ND	ND	4601.45

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

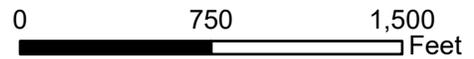
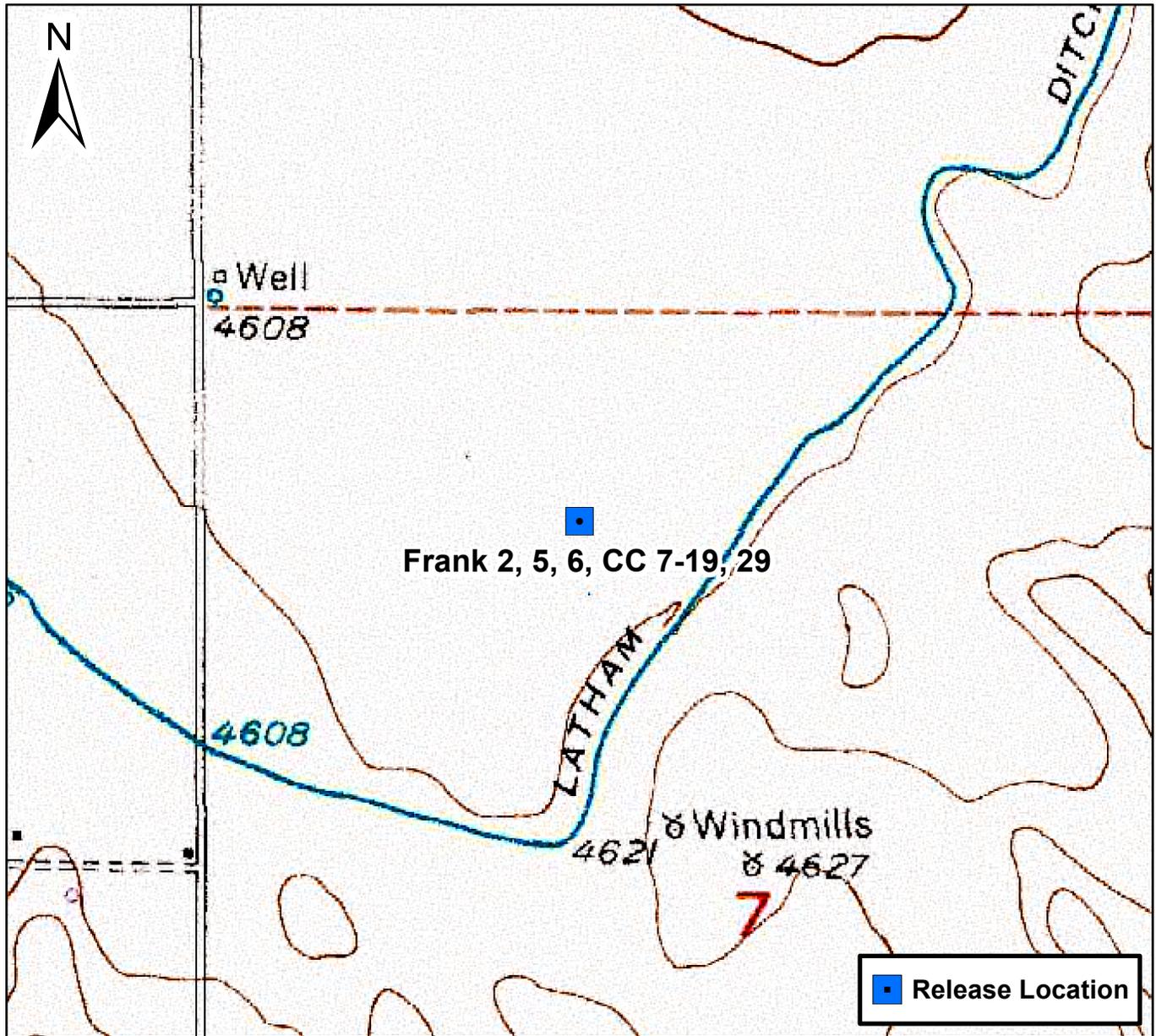
NM = Not measured

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





**Legend**

- Excavation Extent - 2016 (Collected via Trimble GPS)
- - - Noble Flowline
- X Release Location
- Replacement Monitoring Well (Collected via Trimble GPS)
- Monitoring Well (Collected via Trimble GPS)
- Monitoring Well – Destroyed (Collected via Trimble GPS)

**Notes**

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.

GPS – Global Positioning System

0 ft. 15 ft. 30 ft.

Image Source: Google Earth; 2016 Google  
Projection: WGS 84 UTM Zone 13 North

DATE:	09/13/2017
DESIGNED BY:	JW
DRAWN BY:	JW

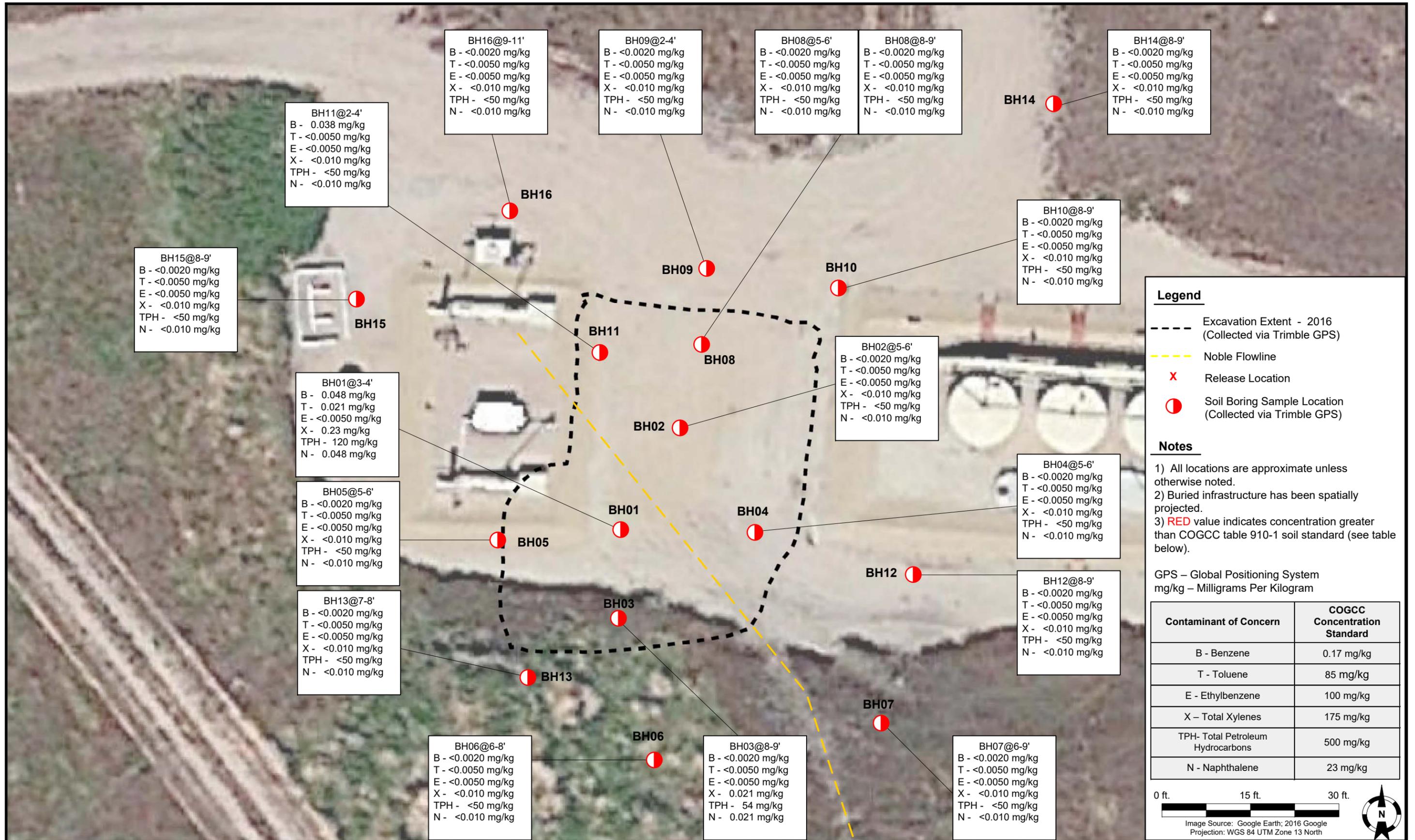
**TASMAN**  
GEOSCIENCES

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

**Noble Energy, Inc. – DJ Basin**  
**Frank 2, 5, 6, CC7-19, 29 Historic Release**  
 NENW, Section 7, Township 4 North, Range 63 West  
 Weld County, Colorado

Site Overview Map

FIGURE  
2



DATE: 09/13/2017

DESIGNED BY: JW

DRAWN BY: JW

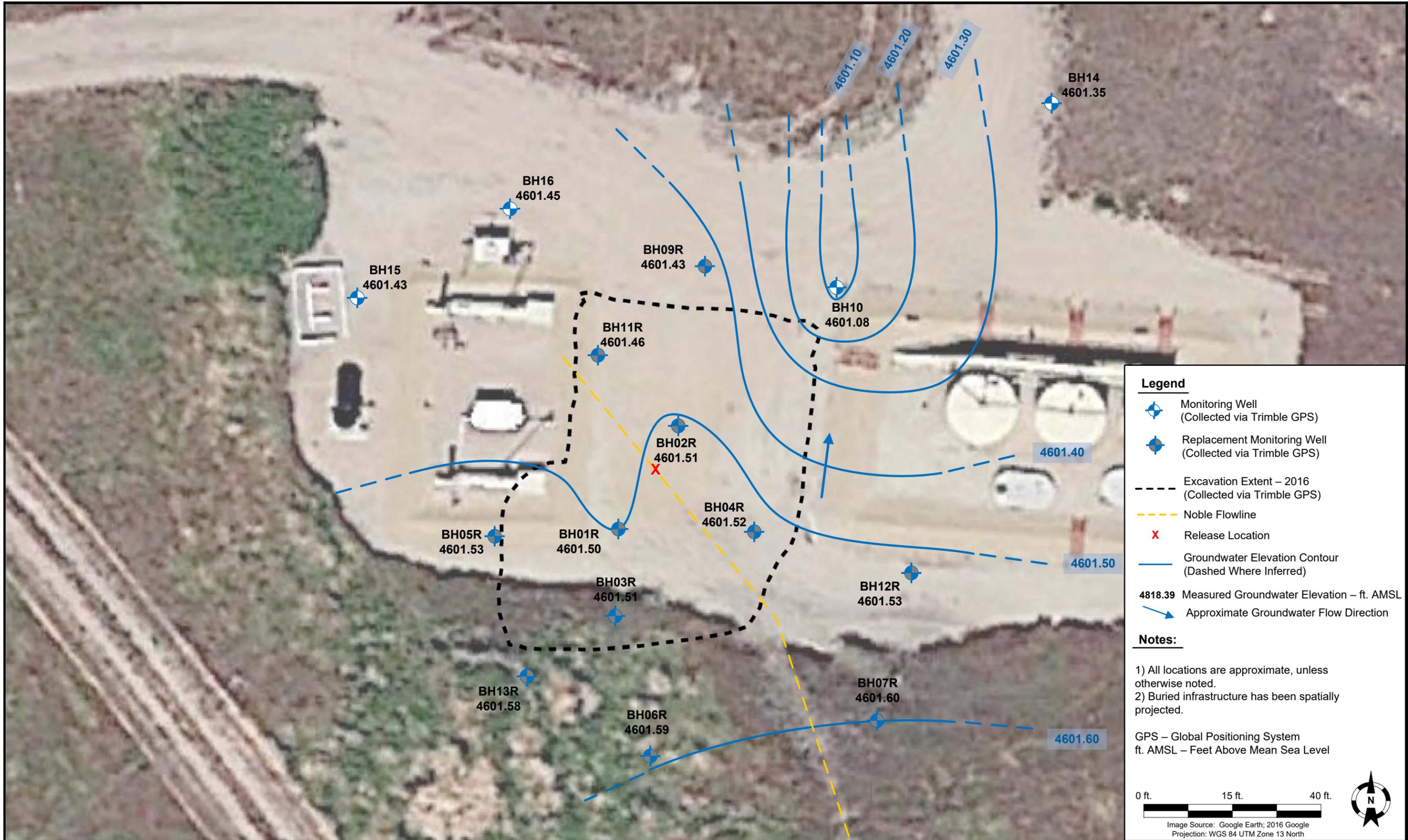


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Denver, CO 80221

**Noble Energy, Inc. – DJ Basin**  
**Frank 2, 5, 6, CC7-19, 29 Historic Release**  
NENW, Section 7, Township 4 North, Range 63 West  
Weld County, Colorado

Borehole Soil Analytical  
Results Map  
(08/31/2016 – 02/03/2017)

FIGURE  
3



DATE:	2/21/2018
DESIGNED BY:	DA
DRAWN BY:	GB

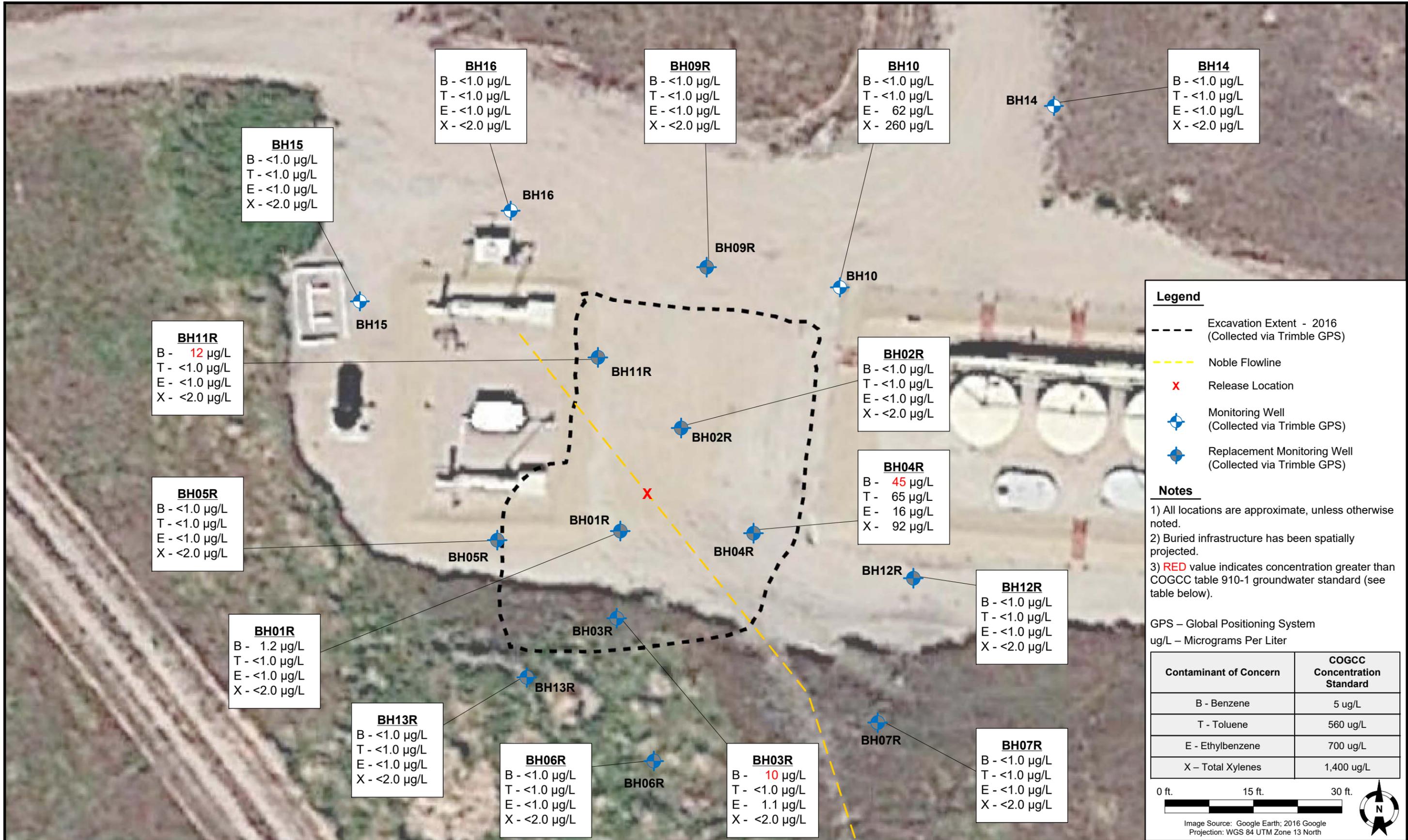


**TASMAN**  
GEOSCIENCES

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

**Noble Energy, Inc. – DJ Basin**  
**Frank 2, 5, 6, CC7-19, 29 Historic Release**  
 NENW, Section 7, Township 4 North, Range 63 West  
 Weld County, Colorado

Groundwater Potentiometric  
 Surface Contour Map  
 (02/07/2018)



**Legend**

- Excavation Extent - 2016 (Collected via Trimble GPS)
- - - Noble Flowline
- X Release Location
- Monitoring Well (Collected via Trimble GPS)
- Replacement Monitoring Well (Collected via Trimble GPS)

**Notes**

- All locations are approximate, unless otherwise noted.
- Buried infrastructure has been spatially projected.
- RED value indicates concentration greater than COGCC table 910-1 groundwater standard (see table below).

GPS – Global Positioning System  
ug/L – Micrograms Per Liter

Contaminant of Concern	COGCC Concentration Standard
B - Benzene	5 ug/L
T - Toluene	560 ug/L
E - Ethylbenzene	700 ug/L
X – Total Xylenes	1,400 ug/L

0 ft. 15 ft. 30 ft.

Image Source: Google Earth; 2016 Google  
Projection: WGS 84 UTM Zone 13 North

DATE: 02/21/2018

DESIGNED BY: DA

DRAWN BY: GB



**Noble Energy, Inc. – DJ Basin**  
**Frank 2, 5, 6, CC7-19, 29 Historic Release**  
NENW, Section 7, Township 4 North, Range 63 West  
Weld County, Colorado

Groundwater Analytical  
Results Map  
(02/07/2018)

FIGURE  
5

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 13, 2018

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 02/07/18 18:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

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

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/18 08:45

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01R	1802053-01	Water	02/07/18 10:30	02/07/18 18:45
BH02R	1802053-02	Water	02/07/18 10:42	02/07/18 18:45
BH03R	1802053-03	Water	02/07/18 10:50	02/07/18 18:45
BH04R	1802053-04	Water	02/07/18 11:08	02/07/18 18:45
BH05R	1802053-05	Water	02/07/18 11:20	02/07/18 18:45
BH06R	1802053-06	Water	02/07/18 11:30	02/07/18 18:45
BH07R	1802053-07	Water	02/07/18 11:42	02/07/18 18:45
BH09R	1802053-08	Water	02/07/18 12:00	02/07/18 18:45
BH10	1802053-09	Water	02/07/18 11:55	02/07/18 18:45
BH11R	1802053-10	Water	02/07/18 11:45	02/07/18 18:45
BH12R	1802053-11	Water	02/07/18 11:35	02/07/18 18:45
BH13R	1802053-12	Water	02/07/18 11:20	02/07/18 18:45
BH14	1802053-13	Water	02/07/18 11:15	02/07/18 18:45
BH15	1802053-14	Water	02/07/18 11:00	02/07/18 18:45
BH16	1802053-15	Water	02/07/18 10:30	02/07/18 18:45

Summit Scientific

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# Summit Scientific

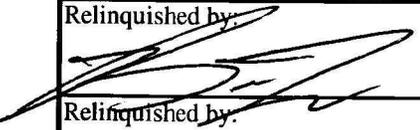
1802053.1

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

Page 1 of 2

Client: Noble/Tasman  
Address: 6899 Pecos St. Unit C  
City/State/Zip: Denver, CO 80221  
Phone: 3034871228 Fax: \_\_\_\_\_  
Sampler Name: Branson Fields

Project Manager: Brandon Bruns, Invoice: Jacob Evans (Noble)  
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 <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	8260 BTEX	8260B GBTEXN	8015 DRO	pH, EC, SAR								
BH01R	2/7/18	1030	3	X				X					X										
BH02R	↓	1042	↓	↓				↓					↓										
BH03R	↓	1050	↓	↓				↓					↓										
BH04R	↓	1108	↓	↓				↓					↓										
BH05R	↓	1120	↓	↓				↓					↓										
BH06R	↓	1130	↓	↓				↓					↓										
BH07R	↓	1142	↓	↓				↓					↓										
BH09R	↓	1200	↓	↓				↓					↓										
BH10	↓	1155	↓	↓				↓					↓										
BH11R	↓	1145	↓	↓				↓					↓										
Relinquished by: 				Date/Time: <u>2/7/18 @ 18:45</u>				Received by: 				Date/Time: <u>2-7-18 18:45</u>				Turn Around Time (Check)				Notes:			
Relinquished by:				Date/Time:				Received by:				Date/Time:				Same Day <input type="checkbox"/>						72 Hours <input type="checkbox"/>	
Relinquished by:				Date/Time:				Received by:				Date/Time:				24 Hours <input type="checkbox"/>						Standard <input checked="" type="checkbox"/>	
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Sample Integrity:							
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Temperature Upon Receipt: <u>2.7</u>							
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							

# Summit Scientific

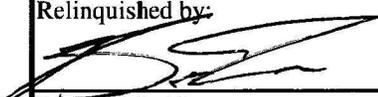
1802053.2

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303-277-9310 ♦ 303-374-5933 Fax

Page 2 of 2

Client: Noble/Tasman  
Address: 6899 Pecos St. Unit C  
City/State/Zip: Denver, CO 80221  
Phone: 3034871228 Fax: \_\_\_\_\_  
Sampler Name: Branson Fields

Project Manager: Brandon Bruns, Invoice: Jacob Evans (Noble)  
E-Mail: bbruns@tasman-geo.com  
Project Name: Frank 25,6 CC7-19,29  
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								
BH12R	2/7/18	1135	3	X				X					X										
BH13R		1120																					
BH14		1115																					
BH15		1106																					
BH16		1030																					
Relinquished by: 				Date/Time: <u>2/7/18 @ 18:45</u>				Received by: <u>LA 2-7-18</u>				Date/Time: <u>18:45</u>				Turn Around Time (Check)							
Relinquished by:				Date/Time:				Received by:				Date/Time:				Same Day <input type="checkbox"/>				72 Hours <input type="checkbox"/>			
Relinquished by:				Date/Time:				Received 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>2.7</u>				Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			





Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

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

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/18 08:45

**BH01R**  
**1802053-01 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.2</b>	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		112 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	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:**  
02/13/18 08:45

**BH02R**  
**1802053-02 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	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 Brunns

**Reported:**  
02/13/18 08:45

**BH03R**  
**1802053-03 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>10</b>	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.1</b>	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	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:**  
02/13/18 08:45

**BH04R**  
**1802053-04 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>45</b>	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
<b>Toluene</b>	<b>65</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>16</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>92</b>	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		113 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	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:**  
02/13/18 08:45

**BH05R**  
**1802053-05 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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:**  
02/13/18 08:45

**BH06R**  
**1802053-06 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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:**  
02/13/18 08:45

**BH07R**  
**1802053-07 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	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:**  
02/13/18 08:45

**BH09R**  
**1802053-08 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	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:**  
02/13/18 08:45

**BH10**  
**1802053-09 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>62</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>260</b>	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:55**

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>		98.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	45-146		"	"	"	"	

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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:**  
02/13/18 08:45

**BH11R**  
**1802053-10 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>12</b>	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	45-146		"	"	"	"	

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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:**  
02/13/18 08:45

**BH12R**  
**1802053-11 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

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

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/18 08:45

**BH13R**  
**1802053-12 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

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6899 Pecos Street  
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Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/18 08:45

**BH14**  
**1802053-13 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

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6899 Pecos Street  
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Project: Frank 2, 5, 6, CC7-19, 29

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/18 08:45

**BH15**  
**1802053-14 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

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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:**  
02/13/18 08:45

**BH16**  
**1802053-15 (Water)**

**Summit Scientific**

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

Date Sampled: **02/07/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1802092	02/11/18	02/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **02/07/18 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	45-146		"	"	"	"	

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

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
02/13/18 08:45

**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 1802092 - EPA 5030 Water MS**

**Blank (1802092-BLK1)**

Prepared & Analyzed: 02/11/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.7</i>		<i>"</i>	<i>13.3</i>		<i>103</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.1</i>		<i>"</i>	<i>13.3</i>		<i>98.1</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.8</i>		<i>"</i>	<i>13.3</i>		<i>104</i>	<i>45-146</i>			

**LCS (1802092-BS1)**

Prepared & Analyzed: 02/11/18

Benzene	37.8	1.0	ug/l	33.3		113	51-132			
Toluene	38.6	1.0	"	33.3		116	51-138			
Ethylbenzene	43.2	1.0	"	33.1		131	58-146			
m,p-Xylene	82.9	2.0	"	66.5		125	57-144			
o-Xylene	41.0	1.0	"	32.7		126	53-146			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.8</i>		<i>"</i>	<i>13.3</i>		<i>111</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.4</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.5</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-146</i>			

**Matrix Spike (1802092-MS1)**

Source: 1802053-01

Prepared & Analyzed: 02/11/18

Benzene	38.1	1.0	ug/l	33.3	1.24	111	34-141			
Toluene	37.4	1.0	"	33.3	ND	112	27-151			
Ethylbenzene	43.2	1.0	"	33.1	ND	131	29-160			
m,p-Xylene	82.3	2.0	"	66.5	ND	124	20-166			
o-Xylene	40.8	1.0	"	32.7	ND	125	33-159			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.1</i>		<i>"</i>	<i>13.3</i>		<i>113</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>12.9</i>		<i>"</i>	<i>13.3</i>		<i>96.9</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-146</i>			

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6899 Pecos Street  
Denver CO, 80221

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

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
02/13/18 08:45

**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 1802092 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1802092-MSD1)</b>	<b>Source: 1802053-01</b>			<b>Prepared &amp; Analyzed: 02/11/18</b>						
Benzene	39.0	1.0	ug/l	33.3	1.24	113	34-141	2.13	32	
Toluene	39.1	1.0	"	33.3	ND	117	27-151	4.37	25	
Ethylbenzene	43.5	1.0	"	33.1	ND	132	29-160	0.715	50	
m,p-Xylene	83.2	2.0	"	66.5	ND	125	20-166	1.09	36	
o-Xylene	41.2	1.0	"	32.7	ND	126	33-159	0.853	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.0</i>		<i>"</i>	<i>13.3</i>		<i>112</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>99.3</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>45-146</i>			

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

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
02/13/18 08:45

### 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