



# Tank Battery Closure Checklist

## COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional attachments (optional):		Pit Closure		Wellhead Closure		Flowline Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Frank 1, 12-2, 7-4		Date: 1/26/2022						Remediation Project #: 20156
Associated Wells:		Age of Site:						Number of Photos Attached: 16
Location: (GPS coordinates of southeaster berm) 40.332435, -104.490151								Estimated Facility Size (acres):
General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Good, no visible signs of erosion, corrosion, or contamination								
USCS Soil Type: Clayey Sand					Estimated Depth to Groundwater: > 8 ft			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) Hydrocarbon impacts on floor of Partially Buried Vault excavation. Impacts down to 8ft and continue to an unknown depth.								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None observed								
<b>Tanks</b>								
Tank Contents	Produced Water	Crude Oil						
Size (barrels)								
Age								
Construction Material								
Tank type (AST/PBV, etc.)	AST	PBV						
Visual Integrity of Tank	good	good						
Condition of tank footprint	good							
PID Readings								
Soil impacts present at valves or hatches?	none observed	impacts at excavation base						
PID Readings	0.0 - 170.2	0.0 -170.2						
Sample taken? Location/ Sample ID#	Yes - see below	Yes - see below						
Photo Number(s)	1-16	1-16						
Other observations regarding tanks: Additional floor sample taken upon encountering contamination (FS02@8'). Samples taken on all 4 sidewalls and base of excavation (SS01-04@2.5', FS01@5') Sample taken at base of AST, AST01@0.5'.								
<b>Separators</b>								
Separator size								
Vertical or Horizontal	Horizontal							
Age								
Soil impacts observed?	None observed							
PID Readings	0.2 - 0.4							
Sample taken? Location/ Sample ID#	Yes, see below							
Photo Number(s)	1-16							
Other observations regarding separators Samples taken at Flowline and Dumpline ends of separator (SEP01-FL@2' & SEP01-DL@3')								
<b>Third Party Equipment</b>								
Type								
Age								



Third Party																		
Removal Date																		
Sample taken?																		
PID Readings																		
Photo Number(s)																		
<b>Other Facility Equipment</b>																		
Equipment type	Flare																	
Equipment Condition	good																	
Age																		
Soil impacts observed during	None observed																	
PID Readings	0.0																	
Sample taken?	Yes, see below																	
Photo Number(s)	1-16																	
Other observations regarding other facility or third party equipment:																		
Sample taken below meter house and flare. (MH01@0.5' & Flare01@0.5')																		
<b>Summary</b>																		
Was impacted soil identified?																		
No		Yes - less than 10 cubic yards				Yes - more than 10 cubic yards												
Total number of samples field screened: 13					Total number of samples collected: 13													
Highest PID Reading: 170.2					Total number of samples submitted to lab for analysis: 11													
If more than 10 cubic yards of impacted soil were observed:																		
Vertical extent:					Estimated spill volume:													
Lateral extent:					Volume of soil removed:													
Is additional investigation required?																		
Was groundwater encountered during the investigation?																		
No		Yes - not impacted or in contact with impacted soils				Yes - groundwater impacted and/or in contact with impacted soils												
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No													
Date Groundwater was encountered:					Commencement date of removal:													
Sheen on groundwater?		Yes	No		Volume of groundwater removed prior to sampling:													
Free product observed?		Yes	No		Volume of groundwater removed post sampling:													
Total number of samples collected:					Total Volume of groundwater removed:													
Total number of samples submitted to lab for analysis:																		

## Photographic Log

									
						Equipment ID:SS01		Equipment Type:	
						Material:	Volume:	Contents:	
						Notes/Conditions: <sup>P</sup>			
Equipment ID:SS02		Equipment Type:							
Material:	Volume:	Contents:							
Notes/Conditions:									





## Photographic Log

													
Equipment ID:SS03			Equipment Type:			Equipment ID:SS04			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							





## Photographic Log

													
Equipment ID:FS01			Equipment Type:			Equipment ID:AST01			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							





## Photographic Log

													
Equipment ID: FLARE01			Equipment Type:			Equipment ID: FLARE02			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							





## Photographic Log

													
Equipment ID:FS02			Equipment Type:			Equipment ID:FS02			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							





## Photographic Log

													
Equipment ID: FS02			Equipment Type:			Equipment ID: FS02			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							



## Photographic Log

					
<b>Equipment ID:</b> SEP01-DL01		<b>Equipment Type:</b>			
<b>Material:</b>	<b>Volume:</b>	<b>Contents:</b>		<b>Equipment ID:</b> SEP01-DL02	
				<b>Equipment Type:</b>	
<b>Material:</b>		<b>Volume:</b>		<b>Contents:</b>	
<b>Notes/Conditions:</b>			<b>Notes/Conditions:</b>		



## Photographic Log


**Equipment ID:**SEP01-FL01

**Equipment Type:**
**Material:**
**Volume:**
**Contents:**
**Notes/Conditions:**

**Equipment ID:**BG01

**Equipment Type:**
**Material:**
**Volume:**
**Contents:**
**Notes/Conditions:**



**TABLE 1**  
**SOIL SAMPLE LOCATIONS**  
**NOBLE ENERGY, INC. - FRANK 1, 12-02, 7-4**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude <sup>1</sup>	Longitude	PDOP
SS01@2.5'	01/26/22	0.0	No Staining	No Odor	Lab	40.33218898	-104.4898938	1.2
SS02@2.5'	01/26/22	0.1	No Staining	No Odor	Lab	40.33248341	-104.4899736	1.1
SS03@2.5'	01/26/22	2.7	No Staining	Slight HC Odor	Lab	40.33225264	-104.4898718	1.3
SS04@2.5'	01/26/22	0.6	No Staining	No Odor	Lab	40.33247177	-104.4898084	1
FS01@6'	01/26/22	8.3	HC Staining	Slight HC Odor	Lab	40.33247061	-104.4898094	1
AST01@0.5'	01/26/22	0.0	No Staining	No Odor	Lab	40.33247209	-104.4898545	1.1
FLARE01@0.5'	01/26/22	0.0	No Staining	No Odor	Grab	40.33242250	-104.4901558	1.3
FLARE02@0.5'	01/26/22	0.0	No Staining	No Odor	Grab	40.33221208	-104.4898689	1.2
FS02@8'	01/26/22	170.2	HC Staining	Strong HC Odor	Lab	40.33219198	-104.4898444	1.2
SEP01-DL01@3'	01/26/22	0.2	No Staining	No Odor	Lab	40.33248591	-104.4899208	1.1
SEP01-DL02@3'	01/26/22	0.3	No Staining	No Odor	Lab	40.33220410	-104.4898842	1.2
SEP01-FL01@3'	01/26/22	0.4	No Staining	No Odor	Lab	40.33217970	-104.4898835	1.2
BG01@6'	01/26/22	0.0	No Staining	No Odor	Lab	40.33220253	-104.4898896	1.1

Notes:

PID = Photo-ionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2  
SOIL ANALYTICAL DATA  
NOBLE ENERGY, INC. - FRANK 1,12-2,7-4 FAC

Soil Sample ID	Date	<sup>1</sup> Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL <sup>2</sup>		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL <sup>2,3</sup>		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS01@2.5'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS02@2.5'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS03@2.5'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SS04@2.5'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FS01@6'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	0.63	380	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0381	<0.00500	<0.00500	0.0394	<0.00500	<0.00500	0.0324	0.0564
FS02@8'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.46	690	990	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.120	<0.00500	<0.00500	0.535	<0.00500	<0.00500	2.28	2.69
SEP01-DL01@3'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-DL02@3'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
SEP01-FL01@3'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
AST01@0.5'	01/26/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL <sup>2</sup>		6 - 8.3	<6	<4mmhos/cm	2
SS01@2.5'	01/26/22	7.64	0.18	0.0508	0.168
SS02@2.5'	01/26/22	7.90	0.0994	0.0414	0.194
SS03@2.5'	01/26/22	8.59	0.152	0.0572	0.128
SS04@2.5'	01/26/22	8.73	0.0433	0.0419	0.176
FS01@6'	01/26/22	8.57	0.226	0.0802	0.163
FS02@8'	01/26/22	8.87	0.688	0.0918	0.309
SEP01-DL01@3'	01/26/22	8.77	0.0746	0.0408	0.399
SEP01-DL02@3'	01/26/22	7.47	0.110	0.0392	0.414
SEP01-FL01@3'	01/26/22	7.62	0.0683	0.0382	1.25
AST01@0.5'	01/26/22	7.70	0.0631	0.042	0.133
BG01@6'	01/26/22	8.47	NA	NA	NA

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL <sup>2</sup>		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL <sup>2,3</sup>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FS02@8'	01/26/22	5.76	207	0.274	<0.30	19.7	13.4	17.1	3.15	<0.142	80.5
BG01@6'	01/26/21	1.89	177	NA	NA	NA	NA	NA	1.25	NA	NA

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.

2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.

3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millmhos per centimeter

mg/L = Milligrams per liter

NA = Not Analyzed

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

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzanthracene

Benzo(b) = Benzofluoranthene

Benzo(k) = Benzofluoranthene

Benzo(a) = Benzopyrene

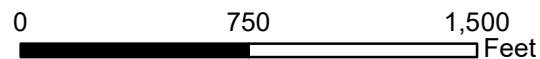
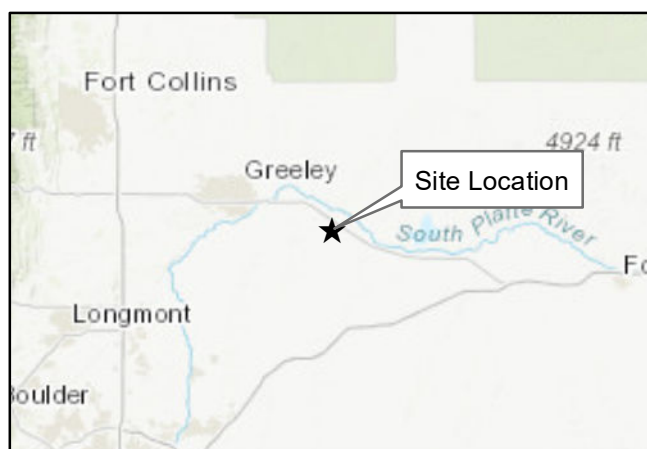
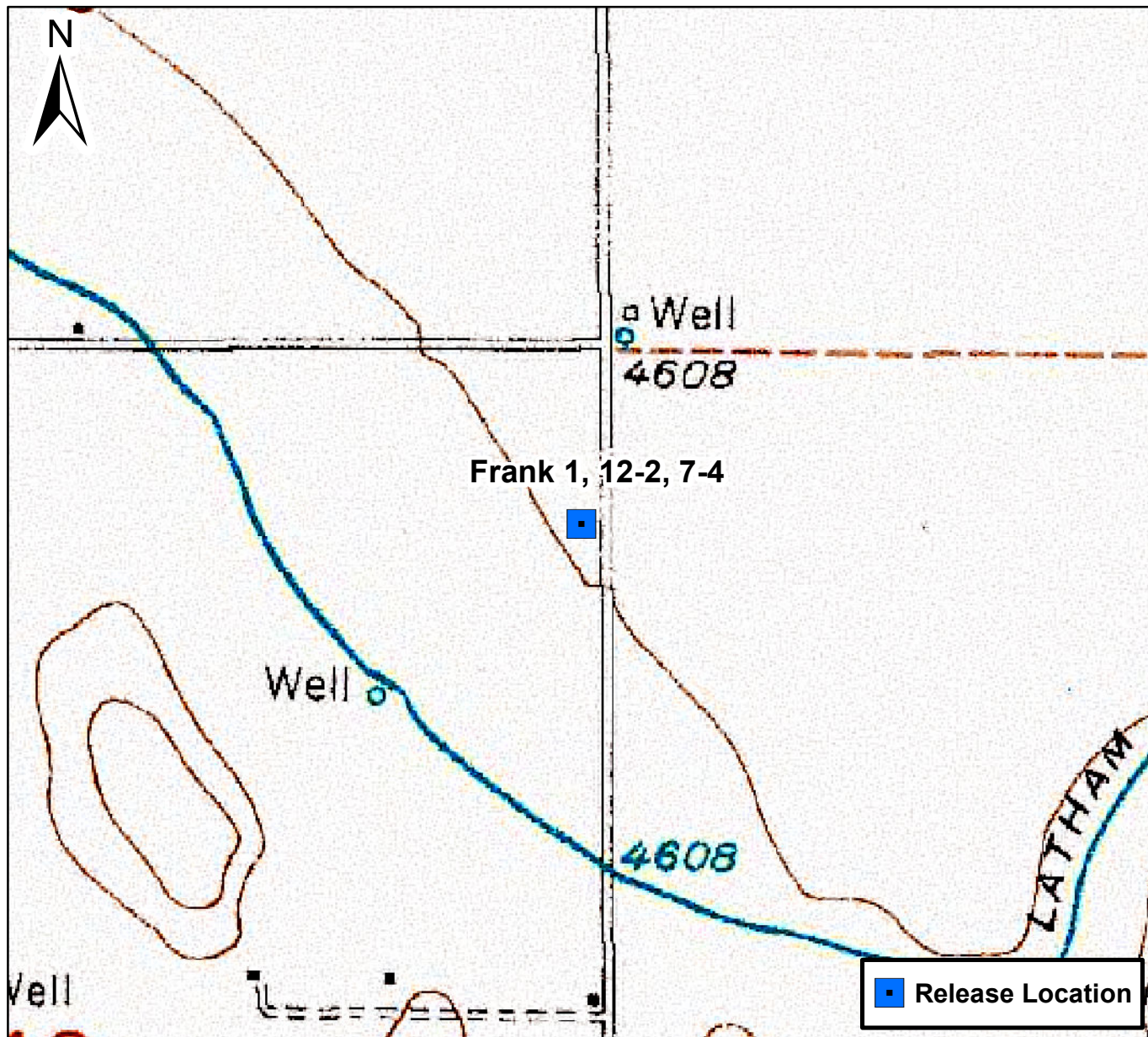
A,H = Dibenzoanthracene

1,2,3-CD = Indenopyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene



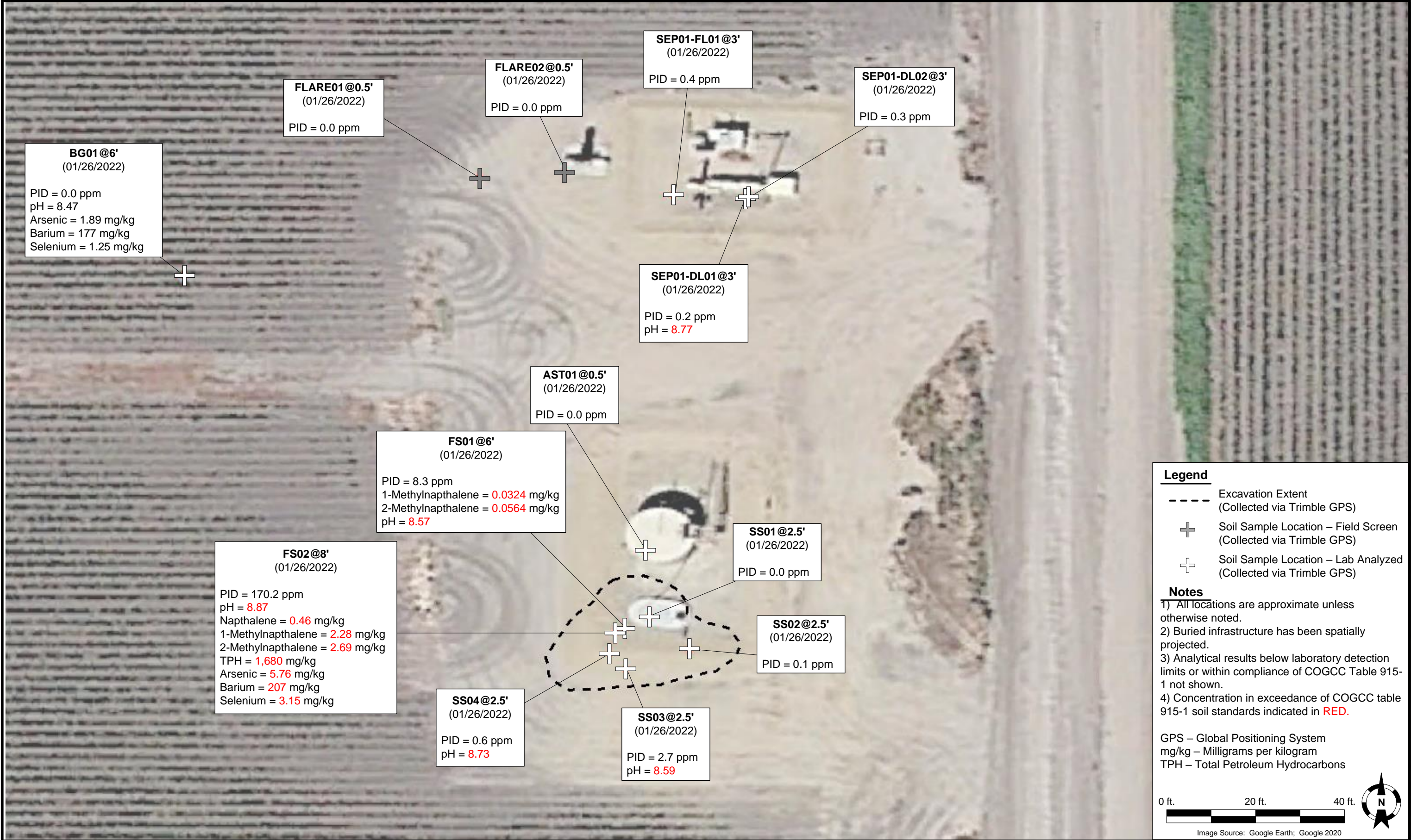



## Figure 1

Site Location Map  
 Frank 1, 12-2, 7-4  
 NENE S12 T4N R64W  
 Weld County, Colorado







DATE:	01/26/2022	 <b>TASMAN</b> Tasman Geosciences, Inc. 6855 W 119 <sup>th</sup> Avenue Broomfield, CO 80020	<b>Noble Energy, Inc. – DJ Basin</b> <b>Frank 1, 12-2, 7-4</b> NENE, Section 12, Township 4 North, Range 64 West Weld County, Colorado	Wellhead Closure & Soil Analytical Results Map (01/26/2022)	FIGURE 2
DESIGNED BY:	JW				
DRAWN BY:	SQ				



# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 04, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Frank 1,12-2,7-4 FAC

Work Order #2201334

Enclosed are the results of analyses for samples received by Summit Scientific on 01/26/22 16:20. 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  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@2.5'	2201334-01	Soil	01/26/22 12:02	01/26/22 16:20
SS02@2.5'	2201334-02	Soil	01/26/22 12:04	01/26/22 16:20
SS03@2.5'	2201334-03	Soil	01/26/22 12:06	01/26/22 16:20
SS04@2.5'	2201334-04	Soil	01/26/22 12:08	01/26/22 16:20
FS01@6'	2201334-05	Soil	01/26/22 12:10	01/26/22 16:20
FS02@8'	2201334-06	Soil	01/26/22 13:20	01/26/22 16:20
SEP01-DL01@3'	2201334-07	Soil	01/26/22 13:35	01/26/22 16:20
SEP01-DL02@3'	2201334-08	Soil	01/26/22 13:45	01/26/22 16:20
SEP01-FL01@3'	2201334-09	Soil	01/26/22 13:47	01/26/22 16:20
BG01@6'	2201334-10	Soil	01/26/22 14:15	01/26/22 16:20
AST01@0.5'	2201334-11	Soil	01/26/22 12:35	01/26/22 16:20

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.*



$S_2$ 

303-277-9310

Page 1 of 2

Project Manager: Jake Whritenour, Invoice: Jeff White

E-Mail: [Jwhritenour@tasman-geo.com](mailto:Jwhritenour@tasman-geo.com)

Phone: 2038290530

Project Name: Frank 1, 12-2, 7-4 FAC

Sampler Name: Halina North

Project Number:

[www.s2scientific.com](http://www.s2scientific.com)



# Summit Scientific

S<sub>2</sub>

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

2201334.2

Page 2 of 2

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenour, Invoice: Jeff White

Address: 6855 W. 119th Ave.

E-Mail: Jwhritenour@tasman-geo.com

City/State/Zip: Broomfield / CO/ 80020

Phone: 303 829 0530

Project Name: Frank 1, 12-2, 7-4 FAC

Sampler Name: Halina North

Project Number:

1/26/22 12:35					Preservative				Matrix				Analysis Requested							Special Instructions			
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____		VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD			SAR, EC, pH by saturated paste	
1	ASTO @ O.S	1/26/22	12:35	2			X			X				X	X	X	X	X					
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: *Halina North* Date/Time: 1/26/22 16:20

Received by: Tasman's Lock Box Date/Time: 1/26/22 16:20

Turn Around Time (Check)  
 \_\_\_ Same Day \_\_\_ 72 hours  
 \_\_\_ 24 hours ☒ Standard  
 \_\_\_ 48 hours \_\_\_

Notes:

Relinquished by: Tasman's Lock Box Date/Time:

Received by: *Kate* Date/Time: 1/26/22 16:20

Sample Integrity: 6.6

Relinquished by: Date/Time:

Received by: Date/Time:

Temperature Upon Receipt: 6.6

Samples Intact: ☒ Yes ☐ No



S<sub>2</sub>

2/2

## Sample Receipt Checklist

S2 Work Order# 2201334

Client: Noble/Tasman Client Project ID: Frank 1.12-2.7-4, FACShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: \_\_\_\_\_Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: \_\_\_\_\_  
(Describe)Temp (°C) 6.6

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

  
 Custodian Printed Name or Initials

1.20.22  
 Date/Time





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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS01@2.5'**  
**2201334-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		144 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		34.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS01@2.5'**  
**2201334-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		69.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.8 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>84.2</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:02**

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

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS01@2.5'**  
**2201334-01 (Soil)**

**Summit Scientific**

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

pH	8.35	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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



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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS02@2.5'**  
**2201334-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		141 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		41.4 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS02@2.5'**  
**2201334-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.7 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>84.7</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:04**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS02@2.5'**  
**2201334-02 (Soil)**

**Summit Scientific**

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

pH	8.40	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS03@2.5'**  
**2201334-03 (Soil)**

### Summit Scientific

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

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		150 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		109 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.3 %	30-150		"	"	"	"	

#### PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS03@2.5'**  
**2201334-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		56.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		49.7 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>83.1</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:06**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS03@2.5'**  
**2201334-03 (Soil)**

**Summit Scientific**

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

pH	8.18	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS04@2.5'**  
**2201334-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		145 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		49.2 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS04@2.5'**  
**2201334-04 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.2 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>85.6</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:08**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SS04@2.5'**  
**2201334-04 (Soil)**

**Summit Scientific**

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

pH	8.48	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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





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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS01@6'**  
**2201334-05 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>0.63</b>	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		151 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		112 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>380</b>	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:10**

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

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS01@6'**  
**2201334-05 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.0381</b>	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.0394</b>	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>0.0324</b>	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.0564</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		51.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		74.3 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>% Solids</b>	<b>86.6</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:10**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS01@6'**  
**2201334-05 (Soil)**

**Summit Scientific**

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

pH	8.49	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS02@8'**  
**2201334-06 (Soil)**

**Summit Scientific**

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

**R-01**

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.020	mg/kg	10	BFA0458	01/28/22	02/02/22	EPA 8260B	
Toluene	ND	0.050	"	"	"	"	"	"	
Ethylbenzene	ND	0.050	"	"	"	"	"	"	
Xylenes (total)	ND	0.10	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.050	"	"	"	"	"	"	
Naphthalene	<b>0.46</b>	0.038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	<b>690</b>	50	"	100	"	"	"	"	

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		90.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		394 %	21-167		"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	<b>990</b>	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:20**

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

**PAH by EPA Method 8270D SIM**

**R-01**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS02@8'**  
**2201334-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

**R-01**

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.0500	mg/kg	10	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.0500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Chrysene</b>	<b>0.120</b>	0.0500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500	"	"	"	"	"	"	
Fluoranthene	ND	0.0500	"	"	"	"	"	"	
<b>Fluorene</b>	<b>0.535</b>	0.0500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500	"	"	"	"	"	"	
Pyrene	ND	0.0500	"	"	"	"	"	"	
<b>1-Methylnaphthalene</b>	<b>2.28</b>	0.500	"	100	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>2.69</b>	0.500	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		63.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.0 %	40-150		"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFB0165	02/15/22	02/15/22	EPA 7196A	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 13:20**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**FS02@8'**  
**2201334-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	84.1	%	1	BFA0446	01/27/22	01/28/22	Calculation
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**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **01/26/22 13:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.84		pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D	

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL01@3'**  
**2201334-07 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		152 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL01@3'**  
**2201334-07 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		64.4 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>81.8</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 13:35**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL01@3'**  
**2201334-07 (Soil)**

**Summit Scientific**

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

pH	8.32	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL02@3'**  
**2201334-08 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		137 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		89.3 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL02@3'**  
**2201334-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		64.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.7 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>80.8</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 13:45**

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

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-DL02@3'**  
**2201334-08 (Soil)**

**Summit Scientific**

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

pH	8.35	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-FL01@3'**  
**2201334-09 (Soil)**

### Summit Scientific

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

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		143 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

#### Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		48.8 %	30-150		"	"	"	"	

#### PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-FL01@3'**  
**2201334-09 (Soil)**

### Summit Scientific

#### PAH by EPA Method 8270D SIM

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		41.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.9 %	40-150		"	"	"	"	

#### Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/26/22 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>80.6</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 13:47**

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

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**SEP01-FL01@3'**  
**2201334-09 (Soil)**

**Summit Scientific**

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

pH	8.39	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**BG01@6'**  
**2201334-10 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Date Sampled: **01/26/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	<b>1.89</b>	0.200	mg/kg dry	1	BFC0718	03/30/22	04/02/22	EPA 6020B	
Barium	<b>117</b>	0.400	"	"	"	"	"	"	
Selenium	<b>1.25</b>	0.260	"	"	"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>79.4</b>		%	1	BFC0749	03/31/22	04/01/22	Calculation	

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

Date Sampled: **01/26/22 14:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	<b>8.47</b>		pH Units	1	BFC0644	03/28/22	03/29/22	EPA 9045D	

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**AST01@0.5'**  
**2201334-11 (Soil)**

**Summit Scientific**

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

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFA0458	01/28/22	01/30/22	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		137 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFA0459	01/28/22	01/29/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		95.9 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**AST01@0.5'**  
**2201334-11 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFA0484	01/28/22	01/29/22	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		47.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.3 %	40-150		"	"	"	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **01/26/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>87.0</b>		%	1	BFA0446	01/27/22	01/28/22	Calculation	

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

Date Sampled: **01/26/22 12:35**

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**AST01@0.5'**  
**2201334-11 (Soil)**

**Summit Scientific**

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

pH	7.66	pH Units	1	BFC0546	03/24/22	03/24/22	EPA 9045D
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

## 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 BFA0458 - EPA 5030 Soil MS

##### Blank (BFA0458-BLK1)

Prepared: 01/28/22 Analyzed: 01/29/22

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0531		"	0.0400		133	23-173			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

##### LCS (BFA0458-BS1)

Prepared: 01/28/22 Analyzed: 01/29/22

Benzene	0.0868	0.0020	mg/kg	0.0750		116	70-130			
Toluene	0.0839	0.0050	"	0.0750		112	70-130			
Ethylbenzene	0.0752	0.0050	"	0.0750		100	70-130			
m,p-Xylene	0.143	0.010	"	0.150		95.1	70-130			
o-Xylene	0.0734	0.0050	"	0.0750		97.8	70-130			
1,2,4-Trimethylbenzene	0.0794	0.0050	"	0.0750		106	70-130			
1,3,5-Trimethylbenzene	0.0774	0.0050	"	0.0750		103	70-130			
Naphthalene	0.0916	0.0038	"	0.0750		122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0636		"	0.0400		159	23-173			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0438		"	0.0400		110	21-167			

##### Matrix Spike (BFA0458-MS1)

Source: 2201334-01

Prepared: 01/28/22 Analyzed: 01/29/22

Benzene	0.0878	0.0020	mg/kg	0.0750	ND	117	70-130			
Toluene	0.0876	0.0050	"	0.0750	ND	117	70-130			
Ethylbenzene	0.0841	0.0050	"	0.0750	ND	112	70-130			
m,p-Xylene	0.160	0.010	"	0.150	ND	107	70-130			
o-Xylene	0.0816	0.0050	"	0.0750	ND	109	70-130			
1,2,4-Trimethylbenzene	0.0877	0.0050	"	0.0750	ND	117	70-130			
1,3,5-Trimethylbenzene	0.0879	0.0050	"	0.0750	ND	117	70-130			
Naphthalene	0.0929	0.0038	"	0.0750	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0526		"	0.0400		131	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0421		"	0.0400		105	21-167			

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]

Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

## 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 BFA0458 - EPA 5030 Soil MS

##### Matrix Spike Dup (BFA0458-MSD1)

Source: 2201334-01

Prepared: 01/28/22 Analyzed: 01/29/22

Benzene	0.0843	0.0020	mg/kg	0.0750	ND	112	70-130	4.08	30	
Toluene	0.0880	0.0050	"	0.0750	ND	117	70-130	0.478	30	
Ethylbenzene	0.0827	0.0050	"	0.0750	ND	110	70-130	1.65	30	
m,p-Xylene	0.159	0.010	"	0.150	ND	106	70-130	0.902	30	
o-Xylene	0.0802	0.0050	"	0.0750	ND	107	70-130	1.63	30	
1,2,4-Trimethylbenzene	0.0854	0.0050	"	0.0750	ND	114	70-130	2.67	30	
1,3,5-Trimethylbenzene	0.0872	0.0050	"	0.0750	ND	116	70-130	0.720	30	
Naphthalene	0.0960	0.0038	"	0.0750	ND	128	70-130	3.24	30	
Surrogate: 1,2-Dichloroethane-d4	0.0524		"	0.0400		131	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		103	21-167			

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BFA0459 - EPA 3550A**

**Blank (BFA0459-BLK1)**

Prepared & Analyzed: 01/28/22

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

**LCS (BFA0459-BS1)**

Prepared & Analyzed: 01/28/22

C10-C28 (DRO)	481	50	mg/kg	500	96.2	70-130
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**Matrix Spike (BFA0459-MS1)**

Source: 2201334-01

Prepared: 01/28/22 Analyzed: 01/29/22

C10-C28 (DRO)	467	50	mg/kg	500	31.9	87.0	70-130
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**Matrix Spike Dup (BFA0459-MSD1)**

Source: 2201334-01

Prepared: 01/28/22 Analyzed: 01/29/22

C10-C28 (DRO)	421	50	mg/kg	500	31.9	77.7	70-130	10.4	20
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFA0484 - EPA 5030 Soil MS

##### Blank (BFA0484-BLK1)

Prepared & Analyzed: 01/28/22

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0208		"	0.0333		62.3	40-150			
Surrogate: Fluoranthene-d10	0.0227		"	0.0333		68.0	40-150			

##### LCS (BFA0484-BS1)

Prepared & Analyzed: 01/28/22

Acenaphthene	0.0248	0.00500	mg/kg	0.0333		74.4	31-137			
Anthracene	0.0264	0.00500	"	0.0333		79.2	30-120			
Benzo (a) anthracene	0.0248	0.00500	"	0.0333		74.4	30-120			
Benzo (a) pyrene	0.0263	0.00500	"	0.0333		78.8	30-120			
Benzo (b) fluoranthene	0.0263	0.00500	"	0.0333		79.0	30-120			
Benzo (k) fluoranthene	0.0311	0.00500	"	0.0333		93.4	30-120			
Chrysene	0.0274	0.00500	"	0.0333		82.2	30-120			
Dibenz (a,h) anthracene	0.0257	0.00500	"	0.0333		77.1	30-120			
Fluoranthene	0.0265	0.00500	"	0.0333		79.6	30-120			
Fluorene	0.0257	0.00500	"	0.0333		77.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0266	0.00500	"	0.0333		79.8	30-120			
Pyrene	0.0292	0.00500	"	0.0333		87.7	35-142			
1-Methylnaphthalene	0.0254	0.00500	"	0.0333		76.3	35-142			
2-Methylnaphthalene	0.0236	0.00500	"	0.0333		70.9	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0259		"	0.0333		77.6	40-150			
Surrogate: Fluoranthene-d10	0.0256		"	0.0333		76.8	40-150			

Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

## PAH by EPA Method 8270D SIM - Quality Control

### Summit Scientific

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

#### Batch BFA0484 - EPA 5030 Soil MS

##### Matrix Spike (BFA0484-MS1)

Source: 2201326-01

Prepared: 01/28/22 Analyzed: 01/29/22

Acenaphthene	0.0228	0.00500	mg/kg	0.0333	ND	68.3	31-137		
Anthracene	0.0241	0.00500	"	0.0333	ND	72.4	30-120		
Benzo (a) anthracene	0.0230	0.00500	"	0.0333	ND	68.9	30-120		
Benzo (a) pyrene	0.0228	0.00500	"	0.0333	ND	68.4	30-120		
Benzo (b) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.1	30-120		
Benzo (k) fluoranthene	0.0290	0.00500	"	0.0333	ND	87.0	30-120		
Chrysene	0.0251	0.00500	"	0.0333	ND	75.4	30-120		
Dibenz (a,h) anthracene	0.0235	0.00500	"	0.0333	ND	70.5	30-120		
Fluoranthene	0.0236	0.00500	"	0.0333	ND	70.7	30-120		
Fluorene	0.0229	0.00500	"	0.0333	ND	68.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0259	0.00500	"	0.0333	ND	77.7	30-120		
Pyrene	0.0280	0.00500	"	0.0333	ND	84.1	35-142		
1-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.5	15-130		
2-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0241		"	0.0333		72.2	40-150		
Surrogate: Fluoranthene-d10	0.0236		"	0.0333		70.8	40-150		

##### Matrix Spike Dup (BFA0484-MSD1)

Source: 2201326-01

Prepared: 01/28/22 Analyzed: 01/29/22

Acenaphthene	0.0224	0.00500	mg/kg	0.0333	ND	67.1	31-137	1.73	30
Anthracene	0.0231	0.00500	"	0.0333	ND	69.4	30-120	4.26	30
Benzo (a) anthracene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	2.29	30
Benzo (a) pyrene	0.0238	0.00500	"	0.0333	ND	71.5	30-120	4.37	30
Benzo (b) fluoranthene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	3.64	30
Benzo (k) fluoranthene	0.0291	0.00500	"	0.0333	ND	87.2	30-120	0.225	30
Chrysene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	2.18	30
Dibenz (a,h) anthracene	0.0217	0.00500	"	0.0333	ND	65.1	30-120	8.01	30
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.6	30-120	1.54	30
Fluorene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	1.97	30
Indeno (1,2,3-cd) pyrene	0.0245	0.00500	"	0.0333	ND	73.4	30-120	5.80	30
Pyrene	0.0251	0.00500	"	0.0333	ND	75.4	35-142	10.9	30
1-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.6	15-130	1.47	50
2-Methylnaphthalene	0.0218	0.00500	"	0.0333	ND	65.4	15-130	2.52	50
Surrogate: 2-Methylnaphthalene-d10	0.0217		"	0.0333		65.0	40-150		
Surrogate: Fluoranthene-d10	0.0227		"	0.0333		68.0	40-150		

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

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

**Batch BFC0718 - EPA 3050B**

**Blank (BFC0718-BLK1)**

Prepared: 03/30/22 Analyzed: 04/02/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Selenium	ND	0.260	"

**LCS (BFC0718-BS1)**

Prepared: 03/30/22 Analyzed: 04/02/22

Arsenic	38.0	0.200	mg/kg wet	40.0	94.9	80-120
Barium	35.9	0.400	"	40.0	89.8	80-120
Selenium	3.60	0.260	"	4.00	90.1	80-120

**Duplicate (BFC0718-DUP1)**

Source: 2201334-10

Prepared: 03/30/22 Analyzed: 04/02/22

Arsenic	1.78	0.200	mg/kg dry	1.89	5.88	20
Barium	120	0.400	"	117	2.40	20
Selenium	1.29	0.260	"	1.25	3.04	20

**Matrix Spike (BFC0718-MS1)**

Source: 2201334-10

Prepared: 03/30/22 Analyzed: 04/02/22

Arsenic	42.8	0.200	mg/kg dry	50.4	1.89	81.2	75-125	QM-05
Barium	214	0.400	"	50.4	117	192	75-125	
Selenium	6.50	0.260	"	5.04	1.25	104	75-125	

**Matrix Spike Dup (BFC0718-MSD1)**

Source: 2201334-10

Prepared: 03/30/22 Analyzed: 04/02/22

Arsenic	44.6	0.200	mg/kg dry	50.4	1.89	84.9	75-125	4.26	25	QM-05
Barium	224	0.400	"	50.4	117	211	75-125	4.31	25	
Selenium	5.70	0.260	"	5.04	1.25	88.3	75-125	13.2	25	

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Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BFB0165 - 3060A Mod**

**Blank (BFB0165-BLK1)**

Prepared & Analyzed: 02/15/22

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BFB0165-BS1)**

Prepared & Analyzed: 02/15/22

Chromium, Hexavalent 26.7 0.30 mg/kg wet 25.0 107 80-120

**Duplicate (BFB0165-DUP1)**

Source: 2201305-01

Prepared & Analyzed: 02/15/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BFB0165-MS1)**

Source: 2201305-01

Prepared & Analyzed: 02/15/22

Chromium, Hexavalent 32.3 0.30 mg/kg dry 31.0 ND 104 75-125

**Matrix Spike Dup (BFB0165-MSD1)**

Source: 2201305-01

Prepared & Analyzed: 02/15/22

Chromium, Hexavalent 34.8 0.30 mg/kg dry 31.0 ND 112 75-125 7.57 20

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

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

**Summit Scientific**

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

**Batch BFA0446 - General Preparation**

**Duplicate (BFA0446-DUP1)**      **Source: 2201307-03**      Prepared: 01/27/22 Analyzed: 01/28/22

% Solids	84.5	%		84.3		0.253	20
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**Batch BFC0749 - General Preparation**

**Duplicate (BFC0749-DUP1)**      **Source: 2201334-10**      Prepared: 03/31/22 Analyzed: 04/01/22

% Solids	78.8	%		79.4		0.862	20
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Summit Scientific

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

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

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

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

**Batch BFC0546 - General Preparation**

**LCS (BFC0546-BS1)**

Prepared & Analyzed: 03/24/22

pH	9.13		pH Units	9.18		99.5	95-105
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**Duplicate (BFC0546-DUP1)**

**Source: 2201245-03**

Prepared & Analyzed: 03/24/22

pH	8.31		pH Units	8.28		0.362	20
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**Batch BFC0644 - General Preparation**

**LCS (BFC0644-BS1)**

Prepared: 03/28/22 Analyzed: 03/29/22

pH	9.17		pH Units	9.18		99.9	95-105
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**Duplicate (BFC0644-DUP1)**

**Source: 2201334-10**

Prepared: 03/28/22 Analyzed: 03/29/22

pH	8.40		pH Units	8.47		0.830	20
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Tasman Geosciences  
6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Frank 1,12-2,7-4 FAC

Project Number: [none]  
Project Manager: Jacob Whritenour

**Reported:**  
04/04/22 11:01

### 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.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference