# SHARBO 2 FLOWLINE RELEASE Remediation Action Plan Addendum

NMOCD Incident No. nAPP2316539496 UL "H", Sec. 18, T23S, R32E 32.3064450°, -103.7064010° Lea County, New Mexico

November 7, 2023



# PREPARED ON BEHALF OF

Foundation Energy Management 5057 Keller Springs Rd, Suite 650 Addison, Texas 75001



#### **PREPARED BY**

Tasman, Inc. 2620 W. Marland Blvd. Hobbs, NM 88240





November 7, 2023

Foundation Energy Management 5057 Keller Springs Road, Suite 650 Addison, Texas 75001

Attn: Mr. James Smith

Email: jsmith@foundationenergy.com

Re: Remediation Action Plan Sharbo 2 Flowline Release

UL "H", Section 18, Township 23 South, Range 32 East

Lea County, New Mexico

NMOCD Incident No. nAPP2316539496

Tasman Project No. 5005

Dear Mr. Smith,

Tasman, Inc. (Tasman) is pleased to submit this Remediation Action Plan for the above referenced site. Site assessment activities were executed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations concerning the delineation of releases of produced water to the environment.

Tasman conducted initial assessment activities, identifying an approximately 641-square foot area that had been impacted by the release. Project details and proposed remediation activities are provided in the attached Remediation Action Plan.

Tasman appreciates the opportunity to provide environmental services to Foundation Energy Management. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

Tasman, Inc.

Brett Dennis
Senior Environmental Scientist
bdennis@tasman-geo.com

Kyle Norman
Regional Project Manager
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# 1.0 INTRODUCTION

Tasman, Inc. (Tasman) is pleased to submit this Remediation Action Plan for the Sharbo 2 Flowline Release (site) on behalf of Foundation Energy Management (FEM), documenting the results of field activities conducted in response to a release of produced water to environmental media.

# 1.1 Site Description

The site is located in Unit Letter "H", Section 18, Township 23 South, Range 32 East in Lea County, New Mexico. The release occurred from the Sharbo 2 Flowline, a poly produced water pipeline. The release occurred on BLM property. A site location map can be found attached as Figure 1.

# 1.2 Release Detail and Initial Response

On November 22, 2022, the Sharbo 2 flowline was discovered by FEM personnel due to pipeline failure. FEM provided immediate notice of the release to the District Manager for New Mexico Oil Conservation District (NMOCD) by phone. The pipeline failure resulted in the release of approximately 40 barrels (bbls) of produced water to the surrounding environmental media. FEM personnel shut in the pipeline to isolate the release. The line was later repaired and returned to service. No produced water was recovered. Copies of the NMOCD notifications are provided in Appendix A.

# 2.0 SITE CHARACTERISTICS

# 2.1 Depth to Groundwater

Tasman reviewed available depth to groundwater information available through the New Mexico New Mexico Office of the State Engineer (NMOSE) and the US Geological Survey (USGS) for registered water wells within a half-mile radius of the site. Based on the available water well data, no wells were identified within a half-mile radius of the site.

On January 25, 2023, Tasman, on behalf of FEM, installed a soil boring approximately 150 feet west of the release point to a depth of 105 feet below ground surface (bgs). The soil boring (B-1) was left open for 24 hours and then depth to groundwater was measured at 82 ft bgs the following day. The soil boring was then plugged and abandoned.

On October 3, 2023, Tasman installed one groundwater monitoring well (MW-1) near the source of the release. Depth to groundwater was measured at 98.66 feet bgs on October 9, 2023.



The attached Figure 1 shows the location of surrounding wells and the location of soil boring B-2. The attached Figure 3 shows the location of monitoring well MW-1.

### 2.2 Karst Potential

Tasman utilized the publicly available karst potential map published by the Bureau of Land Management (BLM) Carlsbad Field Office (CFO) to determine the potential for encountering karst formations beneath the site. Review of the BLM CFO karst potential map indicates that the site is not located in an area of high potential to encounter karstic features.

# 2.3 Proximity to Sensitive Receptors and Site Characteristics Summary

The table below denotes if the site is located within the minimum allowable distance from a sensitive receptor, as defined in New Mexico Administrative Code (NMAC) 19.15.29.

Site Characteristics Summary		
Approximate depth to groundwater:	94 to 9	8 ft bgs
Within an area of high karst potential?	☐ Yes	☑ No
Within 300 ft. of any continuously flowing of significant watercourse?	☐ Yes	☑ No
Within 200 ft. of any lakebed, sinkhole, or playa lake?	☐ Yes	☑ No
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	☐ Yes	☑ No
Within 500 ft. of a spring or private, domestic fresh water well?	☐ Yes	☑ No
Within 1,000 ft. of any fresh water well?	☐ Yes	☑ No
Within the incorporated municipal boundaries or within a municipal well field?	☐ Yes	☑ No
Within 300 ft. of a wetland?	☐ Yes	☑ No
Within the area overlying a subsurface mine?	☐ Yes	☑ No
Within an unstable area?	☐ Yes	☑ No
Within a 100-year floodplain?	☐ Yes	☑ No

# 3.0 REMEDIATION AND ASSESSMENT LEVELS

NMOCD assessment and cleanup levels for hydrocarbon and produced water releases are based on depth to groundwater and proximity to sensitive receptors as established in NMAC 19.15.29. Based on site characteristics described in Section 2.0, the NMOCD Action Levels for a site with a depth to groundwater below 50 feet bgs were utilized; these Action Levels are as follows:



Constituent	Action Level
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

TPH – total petroleum hydrocarbons

DRO - diesel range organics

BTEX - benzene, toluene, ethylbenzene, total xylenes

GRO – gasoline range organics MRO – motor/lube oil range organics

mg/kg – milligrams per kilogram

# 3.1 Reclamation Levels

NMAC 19.15.29.13(D) codifies, and the *Procedures for Implementation of the Spill Rule,* dated September 6, 2019, clarifies that the top four feet of the remediated area should be non-waste containing. Therefore, the NMOCD Reclamation Standards are applied to the top four feet of any area impacted by a release that is not located within an active production facility. NMOCD Reclamation Standards are as follows:

Constituent	Reclamation Standard
Chloride	600 mg/kg
TPH (GRO+DRO+MRO)	100 mg/kg
BTEX	50 mg/kg
Benzene	10 mg/kg

# 4.0 RELEASE ASSESSMENT

On November 29, 2022, Tasman was retained by FEM to respond to a release of produced water at the site. Initial observations indicated a disturbed area of approximately 641 square feet (ft²). Tasman personnel collected one soil sample (SP-1) from within the release area. The soil sample was field screened using a photoionization detector (PID) for the presence of volatile organic vapors and filed titration kit for chlorides. The sample was not submitted for laboratory analysis. A photographic log is included as Appendix B.

On December 12, 2022, Tasman advanced seven hand auger soil borings at the site in effort to delineate impacts to soil. Soil borings HA-1 through HA-3 were advanced within the apparent release area, and soil borings HA-4 though HA-7 were advanced outside of the apparent release area. Horizontal delineation was achieved, but the deepest sample from soil boring HA-1, HA-2 and HA-3 exhibited concentrations of chlorides of 10,900 milligrams per kilogram (mg/kg) at 9 feet bgs, 12,100 mg/kg at 9 feet bgs, and 11,600 mg/kg at 8 feet bgs, respectively. Each exceeding the NMOCD Action Level. Total petroleum hydrocarbons and benzene, toluene, ethylbenzene, and total xylenes (collectively known as BTEX) were not detected above NMOCD Action Levels.



On February 10, 2023, a vertical delineation trench was advanced in the vicinity of soil boring HA-2 to assess vertical migration of chemicals of concern. Vertical V-1 was advanced to a depth of 28 feet bgs. The deepest sample collected from vertical V-1 at 28 feet bgs exhibited a concentration of chloride of 32,000 mg/kg.

On May 22, 2023, and additional soil boring, B-2, was advanced to a depth of 75 feet bgs. Concentrations of chlorides from soil samples collected from soil boring B-2 exceeded NMOCD Action Levels from 25 feet bgs (11,600 mg/kg) and 30 feet bgs (21,200 mg/kg). Delineation to 600 mg/kg per NMOCD requirements was not achieved.

Field screening and laboratory analytical results are summarized on Table 1 and laboratory analytical reports are included as Appendix C. The attached Figure 2 illustrates the observed release area and location of soil borings and the vertical delineation trench.

# 5.0 GROUNDWATER ASSESSMENT

# 5.1 Monitor Well Installation

On October 3, 2023, Tasman installed on monitoring well (MW-1) within the release area, approximate to the location of soil boring B-2. The monitoring well was installed to a depth of 102 feet using an air rotary truck-mounted drilling rig. The well did not contain groundwater during installation activities.

A soil boring log is included in Appendix D.

# 5.2 Groundwater Sampling

On October 9, 2023, Tasman mobilized to the site to collect a groundwater sample from monitor well MW-1. Depth to water was measured at 98.66 feet bgs. A groundwater sample was collected prior to purging groundwater using a disposable bailer, due to a suspected slow recharge rate of the aquifer. The monitor well was then purged until dry. Approximately one half-gallon was evacuated using a disposable bailer. On-site personnel waited approximately 30 minutes for groundwater to recharge, after which there was insufficient volume to collect a sample.

The sample collected prior to purging groundwater was submitted for analysis of chlorides by EPA method SM4500 and total dissolved solids (TDS) by EPA method 160.1 at Cardinal Laboratories in Hobbs, New Mexico.



Chlorides were detected at a concentration of 15,400 milligrams per liter (mg/L) and TDS at a concentrations of 29,200 mg/L.

A summary of groundwater analytical results is provided as Table 2 and a copy of the laboratory analytical report can be found in Appendix C.

# **5.3** Monitor Well Recharge

On October 18, 2023, Tasman mobilized to the site to assess the recharge rate of the aquifer. Initial groundwater elevation was measured at 94.67 feet bgs. Groundwater was evacuated using a disposable bailer until monitor well MW-1 was dry. Then depth to groundwater was measured in 10-minute intervals for a period of approximately three hours.

An average recharge of 0.174 feet per minute or 0.00284 gallons per minute was observed during the observation period. A summary of the results of this test are provided as Table 3.

# 6.0 PROPOSED REMEDIAL ACTION

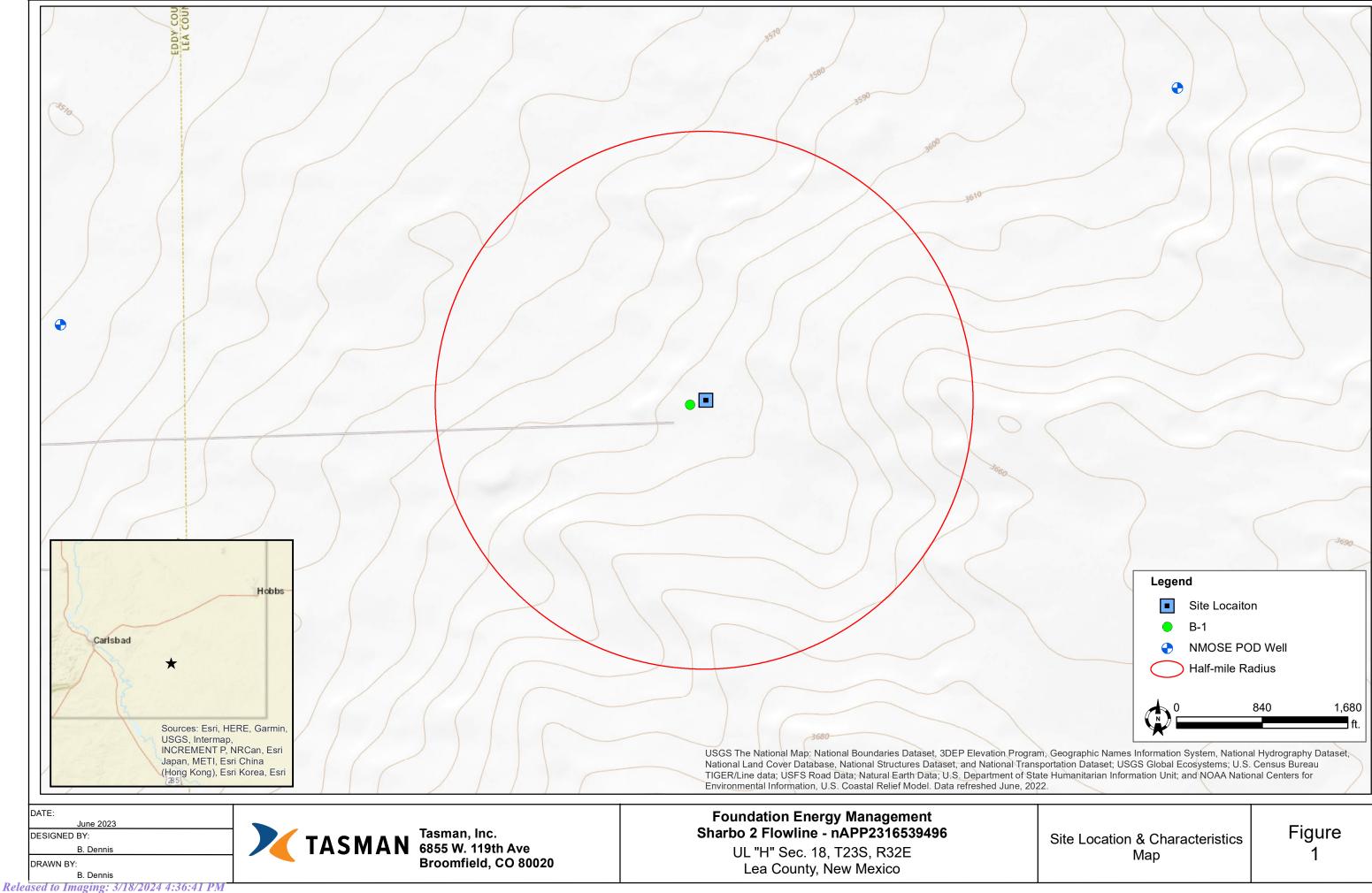
The elevated concentration of TDS, in accordance with NMAC 19.15.30, categorizes the groundwater beneath the site as non-abatable. Additionally, the evidence of slow recharge rate further demonstrates that the water bearing unit would not qualify for reasonable foreseeable future use.

Tasman proposes that the top four feet of the delineated release area be removed using mechanical equipment and disposed at a NMOCD approved facility. Confirmation soil samples will be collected as five-point composites from the sidewalls of the excavation, representing no more than 200 square feet. Upon receipt of laboratory analytical results showing concentrations of chemicals of concern are below NMOCD Remediation Action levels, a 20-millimeter thick LLPDE sealed liner will be installed at the base of the excavation.

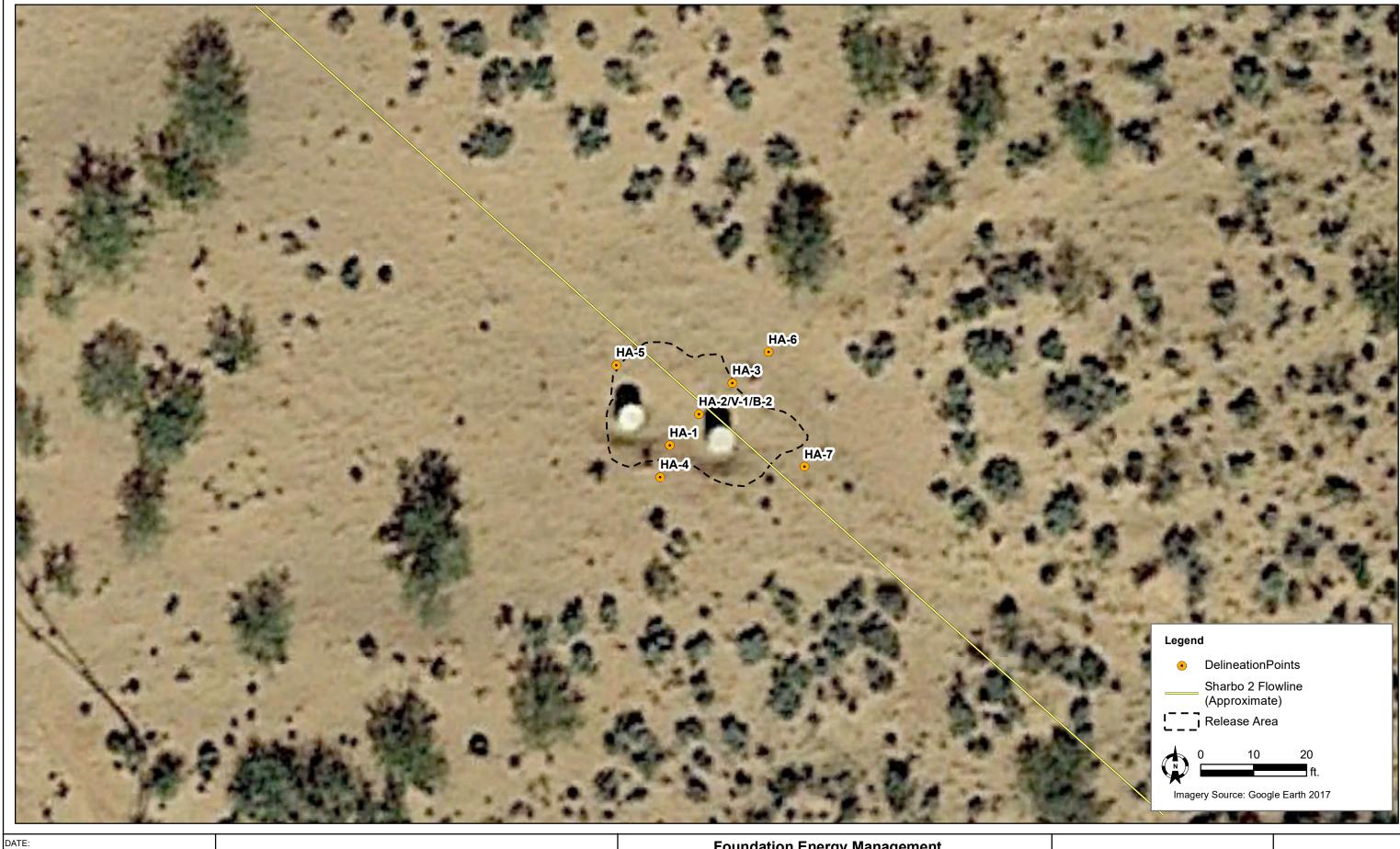
Upon completion of the proposed remedial action, a final summary report will be prepared and submitted to the NMOCD requesting closure of site.

**Figures** 

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DATE:

June 2023

DESIGNED BY:

B. Dennis

DRAWN BY:

B. Dennis

Released to Imaging: 3/18/2024 4:36:41 PM

TASMAN Tasman, Inc. 6855 W. 119th Ave Broomfield, CO 80020

Foundation Energy Management Sharbo 2 Flowline - nAPP2316539496

UL "H" Sec. 18, T23S, R32E Lea County, New Mexico Delineation Overview Map

Figure

Received by OCD: 11/13/2023 12:03:20 PM



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Nov
DESIGNED BY:

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Released to Imaging: 3/18/2024 4:36:41 PM

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Foundation Energy Management Sharbo 2 Flowline - nAPP2316539496

UL "H" Sec. 18, T23S, R32E Lea County, New Mexico Monitoring Well Overview Map

Figure 3 **Tables** 

TABLE 1 SOIL ANALYTICAL SUMMARY - Delineation Soil Samples Foundation Energy Management Sharbo Flowline - nAPP2316539496

Sample ID	Sample	Sample Date	Soil	PID	Field Chloride	Benzene	Total BTEX <sup>1</sup>		TPH <sup>2</sup> (	mg/kg)		Chrloride <sup>3</sup>
Sample ID	Depth (ft)	Sample Date	Status	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	GRO	DRO	MRO	TOTAL	(mg/kg)
	4		In-Situ	37.1	11358	<0.050	< 0.300	<10.0	<10.0	<10.0	<10.0	13,100
HA-1*	5	12/12/2022	In-Situ	27.6	9,703	-						
""."	6	12,12,2022	In-Situ	19.9	11,975							
	7		In-Situ	12.8	12,631	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	10,900
l	7	4	In-Situ	85.8	7,231	<0.50	<0.300	<10.0	<10.0	<10.0	<10.0	7,200
HA-2*	8	12/12/2022	In-Situ	54.4 27.3	9,878							
l	9	+	In-Situ In-Situ	46.0	14,267 14,721	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	12,100
	5		In-Situ	26.8	4,322	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	4,130
	6		In-Situ	10.4	8,562							
HA-3*	7	12/12/2022	In-Situ	22.2	13,919							
l	8		In-Situ	28.3	12,812	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	11,600
	0-0.5		In-Situ	2.4	237	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
l	1	]	In-Situ	3.2	148							
HA-4*	2	12/13/2022	In-Situ	2.5	59.6							
l	3		In-Situ	2.9	59.4							
	4		In-Situ	2.3	61.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
1	0-0.5		In-Situ	18.2	120	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
HA-5*	2	12/13/2022	In-Situ	7.1 25.8	61.4							
HA-5*	3	12/13/2022	In-Situ In-Situ	25.8 59.2	58.6 60.2							
l	4	+	In-Situ In-Situ	5.3	30.8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
<b>—</b>	0-0.5		In-Situ	6.7	60.2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	112
1	1	1	In-Situ	2.1	61.2							
HA-6*	2	12/13/2022	In-Situ	4.4	60.6							
	3	1	In-Situ	5.3	59.0							
l	4	1	In-Situ	4.8	59.6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	64.0
	0-0.5		In-Situ	2.9	87.6							
	1		In-Situ	3.8	152							
HA-7*	2	12/13/2022	In-Situ	17.3	213	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	240
l	3		In-Situ	5.2	149							
	4		In-Situ	3.7	120	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	144
l	8		In-Situ	6.6	10,275							
1	10	-	In-Situ	4.7 5.7	5,552					<10.0	<10.0	
	12 14	+	In-Situ In-Situ	7.2	4,989 10,473	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	5,280
l	16	1	In-Situ	29.4	13,495							
V-1	18	2/10/2023	In-Situ	11.3	18,231	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	34,000
'-	20	_, _, _,	In-Situ	76.3	12,102							
l	22	i	In-Situ	60.1	9,306							
l	24	1	In-Situ	392.4	9,603	<0.050	<0.300	<10.0	136	24.0	160	16,400
1	26		In-Situ	36.6	16,626							
	28		In-Situ	14.7	21,086	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32,000
	15'		In-Situ	537.1	5,193							
l	20'		In-Situ	116.6	5,475							
1	25'	-	In-Situ	739.3	5,453	<0.050	4.33	78.1	872	157	1,107	11,600
1	30'	-	In-Situ	330.8	8,878	<0.050	0.478	20.2	700	135	855	21,200
I	35' 40'	+	In-Situ In-Situ	181.1 189.9	7,766 3,623							
SB-2	45'	5/23/2023	In-Situ In-Situ	282.5	2,272							2,880
"-	50'	2,25,2525	In-Situ	120.0	1,470							1,500
1	55'	1	In-Situ	132.2	1,098							1,090
l	60'		In-Situ	71.3	891	<0.050	<0.300	<10.0	119	17.2	136	960
I	65'		In-Situ	49.9	897							
1	70'		In-Situ	87.0	871							
	75'		In-Situ	65.9	837	<0.050	<0.300	<10.0	236	44.7	281	960
N	IMOCD Reclan	ation Standard	ls <sup>4</sup>	N/A	N/A	10	50		N/A		100	600
(Applicabl	le for soils less th	an 4 ft. below grad	le surface)	N/A	IV/A	10	30		.,,,,		100	000
		d Delineation S than 4 ft. below gr		N/A	N/A	10	50	1,0	100	N/A	2,500	10,000
Notes:												

- 1. BTEX = Benzene, toluene, ethylbenzene, and total xylenes by EPA method 8021B
- 2. TPH = Total petroleum hydrocarbons analyzed by method EPA 8015M (GRO/DRO/MRO)
- 3. Chloride Analyzed by EPA method SM4500

4. New Mexico Administrative Code (NMAC) 19.15.29.13(D) - Restoration, Reclamation, and Re-vegetation (Reclamation for areas no MRO = Motor/lube oil range organics longer in use) for soils extending to 4 ft. below grade surface (bgs).

5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards (NMAC 19.15.29.12(N))

**Bold** values denote concentrations above laboratory SDL

Ft = Feet

GRO = Gasoline range organics

DRO = Diesel range organics

PID = Photoionization detector

--- = Sample was not analyzed for this analyte

<SDL = The analyte was not detected above the laboratory sample detection limit (SDL)

N/A = Not applicable

TABLE 2
GROUNDWATER ANALYTICAL SUMMARY
Foundation Energy Management
Sharbo Flowline - nAPP2316539496

Sample ID	Sample Date	Chrloride <sup>1</sup> (mg/L)	TDS <sup>2</sup> (mg/L)
MW-1	10/9/2023	15,400	29,200
NMOCD Groundwater Stand	250	<10,000	

#### Notes:

- 1. Chloride Analyzed by EPA method SM4500
- 2. TDS = total disolved solids analyzed by method EPA 160.1

mg/L = milligrams per liter

- --- = Sample was not analyzed for this analyte
- <SDL = The analyte was not detected above the laboratory sample detection limit (SDL)

N/A = Not applicable

**Bold** values denote concentrations above laboratory SDL

**Red** values denote concentrations above NMOCD Action Levels

Table 3
Sharbo 2 Flowline
Monitor Well MW-1 Bail-Down Test - Summary
October 18, 2023

	Time	Interval (min)	Depth to GW (ft)	Increase (ft)	Gallon	Gal/min	Liter	Liter/min
	10:13	-	102.22	-	-	-	-	-
	10:23	10	101.68	0.54	0.0880	0.0088	0.333	0.0333
Hour 1	10:33	10	101.16	0.52	0.0848	0.0085	0.321	0.0321
Hour 1	10:43	10	100.54	0.62	0.101	0.0101	0.383	0.0383
	10:53	10	100.23	0.31	0.0505	0.0051	0.191	0.0191
	11:03	10	100.04	0.19	0.0310	0.00310	0.117	0.0117
	11:13	10	99.98	0.06	0.00978	0.000978	0.0370	0.00370
	11:23	10	99.86	0.12	0.0196	0.00196	0.0740	0.00740
Hour 2	11:33	10	99.77	0.09	0.0147	0.00147	0.0555	0.00555
Hour 2	11:43	10	99.72	0.05	0.00815	0.000815	0.0309	0.00309
	11:53	10	99.66	0.06	0.00978	0.000978	0.0370	0.00370
	12:03	10	99.60	0.06	0.00978	0.000978	0.0370	0.00370
	12:13	10	99.56	0.04	0.00652	0.000652	0.0247	0.00247
	12:23	10	99.52	0.04	0.00652	0.000652	0.0247	0.00247
Hour 3	12:33	10	99.49	0.03	0.00489	0.000489	0.0185	0.00185
	12:43	10	99.46	0.03	0.00489	0.000489	0.0185	0.00185
	12:53	10	99.43	0.03	0.00489	0.000489	0.0185	0.00185
Totals		160		2.79	0.455		1.72	

**Initial Measurements** 

Depth to GW 94.67 ft
Total Depth 102.52 ft
Purge Vollume to Dry ~4 gal

Avg Increase (ft)/min	0.0174
Avg gal/minute	0.00284
Avg Liter/minute	0.0108

**Appendix A – Initial Form C-141 and NMOCD Notifications** 

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505**

QUESTIONS

Action 227729

### **QUESTIONS**

Operator:	OGRID:
FOUNDATION ENERGY MANAGEMENT, LLC	370740
5057 KELLER SPRINGS RD	Action Number:
ADDISON, TX 75001	227729
	Action Type:
	[NOTIFY] Notification Of Release (NOR)

#### QUESTIONS

Location of Release Source			
Please answer all the questions in this group.			
Site Name Sharbo 2 flowline valve box			
Date Release Discovered	11/22/2022		
Surface Owner	Federal		

Incident Details					
Please answer all the questions in this group.					
Incident Type	Produced Water Release				
Did this release result in a fire or is the result of a fire	No				
Has this release reached or does it have a reasonable probability of reaching a watercourse	No				
Has this release endangered or does it have a reasonable probability of endangering public health	No				
Has this release substantially damaged or will it substantially damage property or the environment	No				
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No				

Nature and Volume of Release						
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.						
Crude Oil Released (bbls) Details	Not answered.					
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Production   Produced Water   Released: 40 BBL   Recovered: 0 BBL   Lost: 40 BBL.					
Is the concentration of dissolved chloride in the produced water >10,000 mg/l	Yes					
Condensate Released (bbls) Details	Not answered.					
Natural Gas Vented (Mcf) Details	Not answered.					
Natural Gas Flared (Mcf) Details	Not answered.					
Other Released Details	Not answered.					
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.					

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District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

QUESTIONS, Page 2

Action 227729

QUESTIONS	(continued)

Operator:	OGRID:
FOUNDATION ENERGY MANAGEMENT, LLC	370740
5057 KELLER SPRINGS RD	Action Number:
ADDISON, TX 75001	227729
	Action Type:
	[NOTIFY] Notification Of Release (NOR)

#### QUESTIONS

Nature and Volume of Release (continued)								
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.							
Was this a major release as defined by 19.15.29.7(A) NMAC	Yes, major release.							
Reasons why this would be considered a submission for a notification of a major release	Unauthorized release of a volume, excluding gases, of 25 barrels or more							
If YES, was immediate notice given to the OCD, by whom	James Smith							
If YES, was immediate notice given to the OCD, to whom	Mike Bratcher							
If YES, was immediate notice given to the OCD, when	Not answered.							
If YES, was immediate notice given to the OCD, by what means (phone, email, etc.)	phone							
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e.	gas only) are to be submitted on the C-129 form.							

Initial Response							
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.							
The source of the release has been stopped	True						
The impacted area has been secured to protect human health and the environment	True						
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	False						
All free liquids and recoverable materials have been removed and managed appropriately	True						
If all the actions described above have not been undertaken, explain why	Not answered.						

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

Action 227729

ACKNOWLEDGMENTS

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

#### **ACKNOWLEDGMENTS**

Operator:	OGRID:
FOUNDATION ENERGY MANAGEMENT, LLC	370740
5057 KELLER SPRINGS RD	Action Number:
ADDISON, TX 75001	227729
	Action Type:
	[NOTIFY] Notification Of Release (NOR)

#### **ACKNOWLEDGMENTS**

✓	I acknowledge that I am authorized to submit notification of a releases on behalf of my operator.
V	I acknowledge that upon submitting this application, I will be creating a new incident file (assigned to my operator) to track the notification(s) and corrective action(s) for a release, pursuant to NMAC 19.15.29.
V	I acknowledge that creating a new incident file will require my operator to file subsequent submission(s) of form "C-141, Application for administrative approval of a release notification and corrective action", pursuant to NMAC 19.15.29.
V	I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment.
V	I acknowledge the fact that the acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment.
V	I acknowledge the fact that, in addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720 District III 1000 Rio Brazos Rd., Aztec, NM 87410

Phone:(505) 334-6178 Fax:(505) 334-6170 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 227729

### **CONDITIONS**

Operator:	OGRID:
FOUNDATION ENERGY MANAGEMENT, LLC	370740
5057 KELLER SPRINGS RD	Action Number:
ADDISON, TX 75001	227729
	Action Type:
	[NOTIFY] Notification Of Release (NOR)

#### CONDITIONS

Created	Condition	Condition
Ву		Date
jsmith	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.	6/14/2023

Appendix B – Photographic Logs

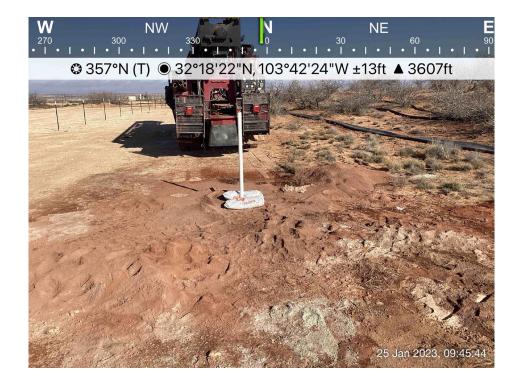
















**Appendix C – Certified Laboratory Analytical Reports** 



December 22, 2022

KYLE NORMAN
TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER, CO 80221

RE: 5005\_NM TRUNKLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 12/19/22 15:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



#### Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

### Sample ID: HA - 1 @ 4' (H226002-01)

BTEX 8021B	mg/	kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.09	104	2.00	1.57	
Toluene*	<0.050	0.050	12/21/2022	ND	2.17	108	2.00	0.717	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.09	105	2.00	2.16	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.50	108	6.00	0.518	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13100	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	97.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	96.4	% 46.3-17	8						

Cardinal Laboratories \*=Accredited Analyte

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Celeg D. Frene



# Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 12/19/2022 Reported: 12/22/2022

5005\_NM TRUNKLINE LEAK

Project Name: Project Number: 5005

Project Location: FOUNDATION ENERGY Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

#### Sample ID: HA - 1 @ 7' (H226002-04)

BTEX 8021B	mg/	kg	Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.09	104	2.00	1.57	
Toluene*	<0.050	0.050	12/21/2022	ND	2.17	108	2.00	0.717	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.09	105	2.00	2.16	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.50	108	6.00	0.518	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10900	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	94.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	93.5	% 46.3-17	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



#### Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

#### Sample ID: HA - 2 @ 6' (H226002-05)

BTEX 8021B	mg/	kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	92.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	95.0	% 46.3-17	8						

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Celey D. Keene



#### Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: HA - 2 @ 9' (H226002-08)

BTEX 8021B	mg,	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	112 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12100	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	99.5	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	102	% 46.3-17	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



#### Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: HA - 3 @ 5' (H226002-09)

BTEX 8021B	mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.9-14	0						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4130	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	96.8	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	94.2	% 46.3-17	8						

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Celey D. Keene



#### Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/12/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: HA - 3 @ 8' (H226002-12)

RTFY 8021R

BIEX 8021B	тд/кд		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	110	% 69.9-14	0						
Chloride, SM4500CI-B	mg	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11600	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	93.3	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	90.4	% 46.3-17	8						

Analyzed By: 1H /

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Celey D. Kune



#### Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: HA - 4 @ 0.5' (H226002-13)

BTEX 8021B	mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	110	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/21/2022	ND	432	108	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	89.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.9	% 46.3-17	8						

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#### Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 12/19/2022 Reported: 12/22/2022

5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Name:

Project Location: FOUNDATION ENERGY Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

### Sample ID: HA - 4 @ 4' (H226002-17)

BTEX 8021B	mg/	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	90.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	88.8	% 46.3-17	8						

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## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

## Sample ID: HA - 5 @ 0.5' (H226002-18)

BTEX 8021B	mg	/kg	Analyze	ed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	112	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	91.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	91.6	% 46.3-17	8						

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## Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 12/19/2022 Reported: 12/22/2022

5005\_NM TRUNKLINE LEAK

Project Name: Project Number: 5005

Project Location: FOUNDATION ENERGY Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

# Sample ID: HA - 5 @ 4' (H226002-22)

BTEX 8021B	mg/	'kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.9-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	89.9	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	89.1	% 46.3-17	8						

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## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

#### Sample ID: HA - 6 @ 0.5' (H226002-23)

BTEX 8021B	mg	/kg	Analyze	ed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	109	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	94.1	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	96.0	% 46.3-17	78						

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## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Name:

RTFY 8021R

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

# Sample ID: HA - 6 @ 4' (H226002-27)

BIEX 8021B	mg	/ <b>kg</b>	Anaiyze	ea By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	113	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	95.0	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	94.6	% 46.3-17	<i>'8</i>						

Analyzed By: 1H /

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## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

## Sample ID: HA - 7 @ 2' (H226002-30)

BTEX 8021B	mg	/kg	Analyze	ed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.05	102	2.00	2.29	
Toluene*	<0.050	0.050	12/21/2022	ND	2.19	110	2.00	0.524	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.23	112	2.00	0.580	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.76	113	6.00	0.00723	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	111	% 69.9-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	90.7	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	91.1	% 46.3-17	8						

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## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 12/19/2022 Reported: 12/22/2022

5005\_NM TRUNKLINE LEAK

Project Number: 5005

Project Name:

RTFY 8021R

Project Location: FOUNDATION ENERGY

Sampling Date: 12/13/2022

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

# Sample ID: HA - 7 @ 4' (H226002-32)

BIEX 8021B	mg	/кд	Anaiyze	ea By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/21/2022	ND	2.07	103	2.00	1.68	
Toluene*	<0.050	0.050	12/21/2022	ND	2.13	106	2.00	1.69	
Ethylbenzene*	<0.050	0.050	12/21/2022	ND	2.10	105	2.00	1.03	
Total Xylenes*	<0.150	0.150	12/21/2022	ND	6.45	108	6.00	1.56	
Total BTEX	<0.300	0.300	12/21/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 69.9-14	0						
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	12/21/2022	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/21/2022	ND	222	111	200	1.68	
DRO >C10-C28*	<10.0	10.0	12/21/2022	ND	195	97.3	200	5.06	
EXT DRO >C28-C36	<10.0	10.0	12/21/2022	ND					
Surrogate: 1-Chlorooctane	92.4	% 45.3-16	1						
Surrogate: 1-Chlorooctadecane	91.9	% 46.3-17	8						

Analyzed By: 1H /

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## **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company	INII GOOGAGAAAAA										B	BILL TO					Þ	NAL	YSIS	RE	ANALYSIS REQUEST	51
Project Manager: Kyle Norman	Norman							P.C	P.O. #:													
Address: 2620 W. Marland Blvd.	Marland Blvd.							Co	Company:		Tas	Tasman Geo						าร				_
City: Hobbs	State: NM	Zip: 88240	0					Att	n: K	yle l	Attn: Kyle Norman	nan						ior				
Phone #: 575-318-5017	17 Fax #:							Ad	dres	s: 26	520 1	Address: 2620 W. Marland						٩n			Н	_
Project #: 5005	Project Owner: Foundation Energy	ndatio	n En	ergy				Cit	City: Hobbs	sddo				3	M		05	s/A			ISI	_
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JJ (	HA-1 @6'	G		-	×	_				×		12/12/22		×	×	×				×		
F (	HA-1 @7"	G	_	$\dashv$	×	1				×		12/12/22		×	×	×						
<u></u>	HA-2 @6'	G	_	-	×	1	$\dashv$			×		12/12/22		×	×	×						
5	HA-2 @7'	G		$\dashv$	×	7	$\dashv$	$\forall$		×		12/12/22		×	×	×	Г	Г		×	Г	
74	HA-2 @8'	G	_	$\dashv$	×	A	$\dashv$	$\dashv$	$\neg$	×		12/12/22		×	×	×	Г			×		
X-	HA-2 @9'	G	_	$\dashv$	×	A	$\dashv$	$\dashv$	$\neg$	×		12/12/22		×	×	×						
90	HA-3 @5'	റ	_	$\dashv$	×	7	$\dashv$			×		12/12/22		×	×	×	Г				Г	
	HA-3 @6'	G helher ba		ontract	or lort.	shall be	Imited	to the	amount	paid by	y the ci	X 12/12/22 nt paid by the client for the analyses	All claims including	those	for negligence	X and any other	ther cause		whatsoever shall be deem	X deemed w	aived unless	ss made in writing and received by Cardinal
within 30 days after completion of the applicable service.	In no event shall Cardinal to formance of services hereu	nsequenta ss of whet	al dama her suc	ges, inc	is base	vithout I	imitation any of t	n, busin	ess into	erruptio d reaso	ns, los	business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries above stated reasons or otherwise.	ofits incurred by clic	ent, its sub	sidaries							
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Company Name: Tasm	Tasman Geosciences				- 1						ВІІ	BILL TO					-	NA	YSI	S RE	ANALYSIS REQUEST	ST
Project Manager: Kyle Norman	Norman							P.O. #:	*													
Address: 2620 W. Marland Blvd	larland Blvd.						_	Company:	pan		asm	Tasman Geo						ns			_	
city: Hobbs	State: NM	Zip: 88240						Attn:	Ky	e N	Attn: Kyle Norman	an						io			_	
Phone #: 575-318-5017	17 Fax #:							Addr	ess:	262	W 03	Address: 2620 W. Marland					;	An			H	
Project #: 5005	Project Owner: Foundation Energy	ndation	n Ene	(gy				City: Hobbs	Hob	sdc				S	M		05	ıs/			JS	
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4 CHECOL	HA-3 @7'	O	_	+	×		$\perp$	_	4	×		12/12/22		×	×	×	$\exists$	$\forall$	$\forall$	×		
7	HA-3 @8'	O		+	×					×		12/12/22		×	×	×						
7 K	HA-4 @0.5'	O	_	$\dashv$	×					×		12/13/22		×	×	×						
10	HA-4 @1'	C		$\dashv$	×					×		12/13/22		×	×	×				×		
2	HA-4 @2'	C		$\dashv$	×					×		12/13/22		×	×	×			$\vdash$	×	-	
16	HA-4 @3'	C		$\dashv$	×					×		12/13/22		×	×	×				×	-	
17	HA-4 @4'	C			×					×		12/13/22		×	×	×		$\vdash$	$\vdash$	+	+	
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3-7020	, TX 79603	

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city: Hobbs	State: NM	Zip: 88240	0						Attn	: Ку	le N	Attn: Kyle Norman	nan						or				
Phone #: 575-318-5017	)17 Fax#:							Ų	Add	ress	: 26	20 V	Address: 2620 W. Marland						۱n			4	_
Project #: 5005	Project Owner: Foundation Energy	ndatio	on Er	nergy					City:	City: Hobbs	sdd					M		)5	s/A			Sŀ	
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Company Name: Tas	Tasman Geosciences									B	BILL TO					D	NAL	YSIS	REC	ANALYSIS REQUEST	1
Project Manager: Kyle Norman	le Norman						P.C	P.O. #:													
Address: 2620 W.	2620 W. Marland Blvd.						Co	mpa	ny:	Tası	Company: Tasman Geo						าร				
	State: NM	Zip: 88240					Att	Attn: Kyle Norman	yle N	lorn	nan		_				io				
Phone #: 575-318-5017	017 Fax #:						Ad	dres	s: 26	20 V	Address: 2620 W. Marland					5	An			Н	
Project #: 5005	Project Owner: Foundation Energy	indation	Energy				City	City: Hobbs	sddo				S	_		05	s/			JS	
Project Name: 5005_NM Trunkline Leak	NM Trunkline Leak						Sta	te: N	Z	Zip:	State: NM Zip: 88240		des	15	X	10	on	3	D	RL	
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February 20, 2023

KYLE NORMAN
TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER, CO 80221

RE: 5005\_NM TRUNKLINE LEAK

Enclosed are the results of analyses for samples received by the laboratory on 02/14/23 12:18.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 02/14/2023 Reported: 02/20/2023

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005
Project Location: DCP

Sampling Date: 02/10/2023

Sampling Type: Soil

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

# Sample ID: V 1 @ 12' (H230688-01)

DTEV 0021D

BTEX 8021B	mg	/kg	Analyze	d By: ZZZ					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2023	ND	2.05	103	2.00	0.582	
Toluene*	<0.050	0.050	02/18/2023	ND	2.15	108	2.00	0.313	
Ethylbenzene*	<0.050	0.050	02/18/2023	ND	2.47	123	2.00	0.184	
Total Xylenes*	<0.150	0.150	02/18/2023	ND	7.54	126	6.00	0.0586	
Total BTEX	<0.300	0.300	02/18/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	167	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	02/16/2023	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/16/2023	ND	206	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	207	103	200	0.737	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					
Surrogate: 1-Chlorooctane	86.1	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	87.1	% 49.1-14	8						

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Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 02/14/2023 Reported: 02/20/2023

5005\_NM TRUNKLINE LEAK

Project Name: Project Number: 5005 Project Location: DCP

Sampling Date: 02/10/2023

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

# Sample ID: V 1 @ 18' (H230688-02)

BTEX 8021B	mg/	kg	Analyze	d By: ZZZ					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2023	ND	2.05	103	2.00	0.582	
Toluene*	<0.050	0.050	02/18/2023	ND	2.15	108	2.00	0.313	
Ethylbenzene*	<0.050	0.050	02/18/2023	ND	2.47	123	2.00	0.184	
Total Xylenes*	<0.150	0.150	02/18/2023	ND	7.54	126	6.00	0.0586	
Total BTEX	<0.300	0.300	02/18/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	166 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	34000	16.0	02/16/2023	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/16/2023	ND	206	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	207	103	200	0.737	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					
Surrogate: 1-Chlorooctane	83.2	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	84.5	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



## Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 02/14/2023 Reported:

Project Name: 5005\_NM TRUNKLINE LEAK

Project Number: 5005 Project Location: DCP

Sampling Date: 02/10/2023 02/20/2023 Sampling Type: Soil

> Sampling Condition: Sample Received By: Tamara Oldaker

Cool & Intact

# Sample ID: V 1 @ 24' (H230688-03)

RTFY 8021R

B1EX 8021B	mg	/ <b>kg</b>	Anaiyze	a By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2023	ND	2.05	103	2.00	0.582	
Toluene*	<0.050	0.050	02/19/2023	ND	2.15	108	2.00	0.313	
Ethylbenzene*	<0.050	0.050	02/19/2023	ND	2.47	123	2.00	0.184	
Total Xylenes*	0.241	0.150	02/19/2023	ND	7.54	126	6.00	0.0586	
Total BTEX	<0.300	0.300	02/19/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	112	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16400	16.0	02/16/2023	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/16/2023	ND	206	103	200	2.95	
DRO >C10-C28*	136	10.0	02/16/2023	ND	207	103	200	0.737	
EXT DRO >C28-C36	24.0	10.0	02/16/2023	ND					
Surrogate: 1-Chlorooctane	91.2	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	95.5	% 49.1-14	8						

Applyzod By: 14

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Celey D. Keine



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

## Analytical Results For:

TASMAN GEOSCIENCES **KYLE NORMAN** 6899 PECOS ST. UNIT C **DENVER CO, 80221** Fax To:

Received: 02/14/2023 Reported: 02/20/2023

Project Name: Project Number: 5005

5005\_NM TRUNKLINE LEAK

Project Location: DCP Sampling Date: 02/10/2023

Sampling Type: Soil

Sampling Condition: Cool & Intact Sample Received By: Tamara Oldaker

# Sample ID: V 1 @ 28' (H230688-04)

BTEX 8021B	mg/	kg	Analyze	d By: ZZZ					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/18/2023	ND	2.05	103	2.00	0.582	
Toluene*	<0.050	0.050	02/18/2023	ND	2.15	108	2.00	0.313	
Ethylbenzene*	<0.050	0.050	02/18/2023	ND	2.47	123	2.00	0.184	
Total Xylenes*	<0.150	0.150	02/18/2023	ND	7.54	126	6.00	0.0586	
Total BTEX	<0.300	0.300	02/18/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	156 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32000	16.0	02/16/2023	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/16/2023	ND	206	103	200	2.95	
DRO >C10-C28*	<10.0	10.0	02/16/2023	ND	207	103	200	0.737	
EXT DRO >C28-C36	<10.0	10.0	02/16/2023	ND					
Surrogate: 1-Chlorooctane	87.8	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	88.3	% 49.1-14	8						

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Celey D. Keine



# **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Keene

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101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

company Name: Tas	Tasman Geosciences										B	BILL TO					D	NA	YSIS	RE	ANALYSIS REQUEST	7
Project Manager: Kyle Norman	le Norman							P.C	P.O. #:					T			٦	٦				
Address: 2620 W. Marland Blvd	Marland Blvd.							Co	mpa	ny:	Tas	Company: Tasman Geo						S				
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Phone #: 575-318-5017	Fax #:							Ado	dres	s: 26	201	Address: 2620 W. Marland						nic				_
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4	V1 @28'	G		Н	×					×		2/10/23	1215	×	×	×						
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June 15, 2023

KYLE NORMAN
TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER, CO 80221

RE: 5005\_NM TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 05/22/23 13:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accredited certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Total Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)

Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Celey D. Keene

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB - 2 @ 25'	H232579-03	Soil	22-May-23 10:34	22-May-23 13:11
SB - 2 @ 30'	H232579-04	Soil	22-May-23 10:36	22-May-23 13:11
SB - 2 @ 45'	H232579-07	Soil	22-May-23 10:42	22-May-23 13:11
SB - 2 @ 50'	H232579-08	Soil	22-May-23 10:44	22-May-23 13:11
SB - 2 @ 55'	H232579-09	Soil	22-May-23 10:46	22-May-23 13:11
SB - 2 @ 60'	H232579-10	Soil	22-May-23 10:48	22-May-23 13:11
SB - 2 @ 75'	H232579-13	Soil	22-May-23 10:54	22-May-23 13:11

06/15/23 - Client added Chlorides (see COC). This is the revised report and will replace the one sent on 05/25/23.

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 25' H232579-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	al Laborat	ories					
Inorganic Compounds										
Chloride	11600		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
Volatile Organic Compounds	by EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Toluene*	0.304		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Ethylbenzene*	0.414		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total Xylenes*	3.61		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Total BTEX	4.33		0.300	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Surrogate: 4-Bromofluorobenzene (PID)	))		113 %	71.5	-134	3052223	JH/	22-May-23	8021B	
Petroleum Hydrocarbons by C	GC FID									
GRO C6-C10*	78.1	•	10.0	mg/kg	1	3052220	MS	23-May-23	8015B	QM-07
DRO >C10-C28*	872		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	QM-07
EXT DRO >C28-C36	157		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
Surrogate: 1-Chlorooctane			105 %	48.2	-134	3052220	MS	23-May-23	8015B	
Surrogate: 1-Chlorooctadecane			97.1 %	49.1	-148	3052220	MS	23-May-23	8015B	

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 30' H232579-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	21200		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	_
Volatile Organic Compounds b	y EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total Xylenes*	0.478		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Total BTEX	0.478		0.300	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Surrogate: 4-Bromofluorobenzene (PID)			127 %	71.5	-134	3052223	JH/	22-May-23	8021B	
Petroleum Hydrocarbons by G	C FID									
GRO C6-C10*	20.2		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
DRO >C10-C28*	700		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
EXT DRO >C28-C36	135		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
Surrogate: 1-Chlorooctane			95.0 %	48.2	-134	3052220	MS	23-May-23	8015B	
Surrogate: 1-Chlorooctadecane			92.7 %	49.1	-148	3052220	MS	23-May-23	8015B	

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C **DENVER CO, 80221** 

Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 45'

H232579-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Note
			Cardin	al Labora	tories					

**Inorganic Compounds** 16.0 3061518 15-Jun-23 4500-Cl-B Chloride 2880 mg/kg

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C **DENVER CO, 80221** 

Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 50' H232579-08 (Soil)

	Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
				Cardina	l Laborat	ories					
]	Inorganic Compounds										
•	Chloride	1500		16.0	mg/kg	4	3061518	AC	15-Jun-23	4500-Cl-B	

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C **DENVER CO, 80221** 

Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 55' H232579-09 (Soil)

Analyte	Result	porting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardin	al Laborato	ories					
Inorganic Compounds									
Chloride	1090	16.0	mg/kg	4	3061518	AC	15-Jun-23	4500-Cl-B	

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# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 60' H232579-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Labora	tories					
Inorganic Compounds										
Chloride	960		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
Volatile Organic Compounds l	by EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	3052223	JH/	22-May-23	8021B	
Surrogate: 4-Bromofluorobenzene (PID)	)		110 %	71.5	-134	3052223	JH/	22-May-23	8021B	
Petroleum Hydrocarbons by C	GC FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
DRO >C10-C28*	119		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
EXT DRO >C28-C36	17.2		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
Surrogate: 1-Chlorooctane			90.3 %	48.2	-134	3052220	MS	22-May-23	8015B	
Surrogate: 1-Chlorooctadecane			109 %	49.1	-148	3052220	MS	22-May-23	8015B	

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Celey D. Keene



# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

SB - 2 @ 75' H232579-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	al Laborat	ories					
Inorganic Compounds										
Chloride	960		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
Volatile Organic Compounds	s by EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	3052223	JH/	22-May-23	8021B	
Surrogate: 4-Bromofluorobenzene (Pl	D)		108 %	71.5	-134	3052223	JH/	22-May-23	8021B	
Petroleum Hydrocarbons by	GC FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
DRO >C10-C28*	236		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
EXT DRO >C28-C36	44.7		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
Surrogate: 1-Chlorooctane			94.0 %	48.2	-134	3052220	MS	22-May-23	8015B	
Surrogate: 1-Chlorooctadecane			118 %	49.1	-148	3052220	MS	22-May-23	8015B	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221 Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

# **Inorganic Compounds - Quality Control**

# **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3052312 - 1:4 DI Water										
Blank (3052312-BLK1)				Prepared &	Analyzed:	23-May-23	,			
Chloride	ND	16.0	mg/kg							
LCS (3052312-BS1)				Prepared &	Analyzed:	23-May-23	;			
Chloride	432	16.0	mg/kg	400		108	80-120		·	
LCS Dup (3052312-BSD1)				Prepared &	Analyzed:	23-May-23	<u>;                                    </u>			
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	
Batch 3061518 - 1:4 DI Water										
Blank (3061518-BLK1)				Prepared &	Analyzed:	15-Jun-23				
Chloride	ND	16.0	mg/kg							
LCS (3061518-BS1)				Prepared &	Analyzed:	15-Jun-23				
Chloride	416	16.0	mg/kg	400		104	80-120			
LCS Dup (3061518-BSD1)				Prepared &	Analyzed:	15-Jun-23				
Chloride	432	16.0	mg/kg	400	·	108	80-120	3.77	20	

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Celey D. Keene



%REC

Limits

RPD

# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C DENVER CO, 80221

Analyte

o-Xylene

Total Xylenes

Surrogate: 4-Bromofluorobenzene (PID)

Project: 5005\_NM TRUNKLINE

Project Number: 5005

Project Manager: KYLE NORMAN

Spike

Level

Source

Result

%REC

109

110

99 1

84.9-118

87.3-122

71.5-134

0.712

0.794

16.7

16.3

allayer. Kill

Reported: 15-Jun-23 13:39

RPD

Limit

Notes

Fax To:

# Volatile Organic Compounds by EPA Method 8021 - Quality Control

# **Cardinal Laboratories**

Units

Reporting

Limit

Result

2.19

6.60

0.0495

0.050

0.150

mg/kg

mg/kg

mg/kg

2.00

6.00

0.0500

Blank (3052223-BLK1)				Prepared & Analy	yzed: 22-May-2	3			
Benzene	ND	0.050	mg/kg						
Toluene	ND	0.050	mg/kg						
Ethylbenzene	ND	0.050	mg/kg						
Total Xylenes	ND	0.150	mg/kg						
Total BTEX	ND	0.300	mg/kg						
Surrogate: 4-Bromofluorobenzene (PID)	0.0535		mg/kg	0.0500	107	71.5-134			
LCS (3052223-BS1)				Prepared & Analy	yzed: 22-May-2	3			
Benzene	2.15	0.050	mg/kg	2.00	108	81.4-118			
Toluene	2.13	0.050	mg/kg	2.00	106	88.7-121			
Ethylbenzene	2.20	0.050	mg/kg	2.00	110	86.1-120			
m,p-Xylene	4.37	0.100	mg/kg	4.00	109	88.2-124			
o-Xylene	2.17	0.050	mg/kg	2.00	108	84.9-118			
Total Xylenes	6.54	0.150	mg/kg	6.00	109	87.3-122			
Surrogate: 4-Bromofluorobenzene (PID)	0.0489		mg/kg	0.0500	97.9	71.5-134			
LCS Dup (3052223-BSD1)				Prepared & Analy	yzed: 22-May-2	3			
Benzene	2.18	0.050	mg/kg	2.00	109	81.4-118	1.02	15.8	
Toluene	2.13	0.050	mg/kg	2.00	107	88.7-121	0.0945	15.9	
Ethylbenzene	2.22	0.050	mg/kg	2.00	111	86.1-120	0.971	16	
m,p-Xylene	4.41	0.100	mg/kg	4.00	110	88.2-124	0.834	16.2	

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Celeg D. Keene



%REC

# Analytical Results For:

TASMAN GEOSCIENCES 6899 PECOS ST. UNIT C **DENVER CO, 80221** 

Project: 5005 NM TRUNKLINE

Spike

Source

Project Number: 5005

Project Manager: KYLE NORMAN

Fax To:

Reported: 15-Jun-23 13:39

RPD

# Petroleum Hydrocarbons by GC FID - Quality Control

# **Cardinal Laboratories**

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3052220 - General Prep - Organics										
Blank (3052220-BLK1)				Prepared &	k Analyzed:	22-May-2	3			
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	40.6		mg/kg	49.6		81.9	48.2-134			
Surrogate: 1-Chlorooctadecane	48.2		mg/kg	50.0		96.3	49.1-148			
LCS (3052220-BS1)				Prepared &	k Analyzed:	22-May-2	3			
GRO C6-C10	166	10.0	mg/kg	200		82.9	78.5-124			
DRO >C10-C28	172	10.0	mg/kg	200		86.2	72.5-126			
Total TPH C6-C28	338	10.0	mg/kg	400		84.6	77.6-123			
Surrogate: 1-Chlorooctane	45.6		mg/kg	49.6		92.0	48.2-134			
Surrogate: 1-Chlorooctadecane	50.1		mg/kg	50.0		100	49.1-148			
LCS Dup (3052220-BSD1)				Prepared &	k Analyzed:	22-May-2	3			
GRO C6-C10	170	10.0	mg/kg	200		85.0	78.5-124	2.54	17.7	
DRO >C10-C28	178	10.0	mg/kg	200		89.1	72.5-126	3.29	21	
Total TPH C6-C28	348	10.0	mg/kg	400		87.1	77.6-123	2.92	18.5	
Surrogate: 1-Chlorooctane	46.5		mg/kg	49.6		93.8	48.2-134			
Surrogate: 1-Chlorooctadecane	50.5		mg/kg	50.0		101	49.1-148			

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Celey D. Keene



## **Notes and Definitions**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with

interfering compounds.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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101 East Mariand, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603 (505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name:	Tasman Geosciences	l	ı	l	l	1	l	l																
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rioject Manager: Nyle Norman	Nyle Norman						P.O. #:	*				_	_					3		7	7	1	1	
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Project #: 5005	Project Owner: Foundation Energy	ation E	nergy				City: Hobbs	Hobb	SC			_	xt					) k	٠,					
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36	SB-2 @ 20' G			×		-	$\dashv$	×		5/22/23	1022	+	+	+		~ /	+	1	1					
U	SB-2 @ 25' G			×		_		×		5/22/23	$\rightarrow$	~		×	×	- 17	+	1	$\perp$				I	
1-6	SB-2 @ 30' G			×		-		×		5/22/23	$\neg$	× :	-		X ?	+	4	1	$\perp$				I	
v	SB-2 @ 35' G			×		$\dashv$	+	×		5/22/23	1028	_	+	+	7	1	+	1	1				$\prod$	
6	SB-2 @ 40' G			×		$\dashv$	-	×		5/22/23	1040		+	+	4>	7	+	4	1					
>	SB-2 @ 45' G			×		$\dashv$		×		5/22/23	1042	2	+	+	× 2	7	-	1	1					
0 2	SB-2 @ 50' G			×				×		5/22/23	N POIL	+	+	+	2 .	1	1.	V	1					
2	@ 55'			×				×		5/22/23	1046	+	+	+	4 -	7		X/	4					
PLEASE NOTE: Liability and Damanos	SB-2 @			×				×		5/22/23	SHO!	×	7		1	-	+	-	+	1				
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Company Name: Tasman Geosciences	isman Geosciences			В	BILL TO					Ą	LYSI	SRE	ANALYSIS REQUEST	1	
r roject manager: Nyle Norman	le Norman		Ŧ	P.O. #:				4	-	+	+	-		-	
Address: 2620 W. Marland Blvd	. Marland Blvd.		0	Company: Tas	Tasman Geo		_			_	_	_	_	_	_
City: Hobbs	State: NM	Zip: 88240	A	Attn: Kyle Norman	nan										
Phone #: 575-318-5017	5017 Fax #:		Α	Address: 2620 W. Marland	V. Marland		_								_
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FOR LAB USE ONLY			L	A #.			_	_	_	_		_		_	_
		S	MATRIX	PRESERV	SAMPLING		PH	Ch		24-					
Lab I.D.	Sample I.D.	B OR (C)OM ONTAINERS INDWATER TEWATER	SOIL OIL LUDGE	D/BASE: / COOL THER:			TP			2				S.	
1585A		GRO		AC IC	DATE	TIME									
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T-LEASE TWO IE: Lubrilly and Clamages, Cordinal's liability and client's excided days after compelion on the applicable service. In no event shall Cardinal by affisiates or successors arising out of or related to the performance of service.	inal's liability and client's exclusive in no event shall Cardinal be liable to the performance of services her	based in contract or tort, sh ges, including without limital ether such claim is based u	or tort, shall be limited to the amount hout limitation, business interruptions is based upon any of the above stated	nt paid by the client for the analyses. All claims its, loss of use, or loss of profits incurred by client reasons or otherwise.	e analyses. All claims profits incurred by clien		gligence an	negligence and any other cause	ause whats	oever shall I	shall be deemed v	vaived unies	s made in writing	g and received by	made in writing and received by Cardinal within 30
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October 12, 2023

KYLE NORMAN
TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER, CO 80221

RE: 5005\_NM TRUNKLINE

Enclosed are the results of analyses for samples received by the laboratory on 10/09/23 12:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



10/09/2023

## Analytical Results For:

TASMAN GEOSCIENCES KYLE NORMAN 6899 PECOS ST. UNIT C DENVER CO, 80221 Fax To:

Received: 10/09/2023 Reported: 10/12/2023

Project Name: 5005\_NM TRUNKLINE

Project Number: 5005

Project Location: DCP

12/2023 Sampling Type: Water
5\_NM TRUNKLINE Sampling Condition: Cool & Intact
5 Sample Received By: Dionica Hinojos

Sampling Date:

Project Location: DCP

# Sample ID: MW - 1 (H235488-01)

Chloride, SM4500CI-B	mg	<sup>/</sup> L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	15400	4.00	10/10/2023	ND	108	108	100	0.00	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	29200	5.00	10/12/2023	ND	498	99.6	500	0.771	

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Company Name: Tasman Geosciences	sciences								8	BILL TO						ANALYSIS REQUEST	SIS	낊	<u>اچ</u>	ES	7				
Project Manager: Kyle Norman	an					P.C	P.O. #:						$\neg$			$\neg$	$\neg$	$\dashv$	$\dashv$			$\neg$	$\dashv$		
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city: Hobbs	State: NM	Zip: 88240				Att	n: K	Attn: Kyle Norman	Jorn	nan									-			-	—		
Phone #: 575-318-5017	Fax #:					Ad	dres	s: 26	20 V	Address: 2620 W. Marland		t													
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FOR LAB USE ONLY		P.	-	MATRIX	\ <u>*</u>	1	PR	PRESERV	,×	SAM	SAMPLING	ЭΗ													
H257488 Lab I.D.	Sample I.D.	(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	TF													
	MW-1	G 3 X		$\vdash$	$\vdash$		$\Box$	×		10/09/23	0945	П	Н	×	×	Н	×	Н	Н			H	H	Ш	
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PLEASE NOTE: Liability and Damages Cardina days after completion of the applicable service. In affiliates or successors arising out of or related to	PLEASE NOTE: Lubelly and Dismaps: customs's labelity and client's exclusive smoothy for any client among based in contract or lost, shall be inneed to the amount paid by the client for the ambiges. All clients including those for negligence and any other cause whatsoevershall be deemed waved unless made in writing and received by Cardinal which 30 days after complete service. In no perior based cardinal be inside the for incident's including which purple inside the perior between the contract of the perior market of the perior market of vertices hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise.	ther based in contra amages, including of whether such cla	act or tort, s without limi m is based	hall be li lation, bu upon an	nited to siness in of the a	the amo terruption	unt paid ons, los ated rea	by the os of use sons or	client for or loss otherwin	r the analyses. All c of profits incurred t se.	laims including those by client, its subsidian	e for negl ries	gence and	any other	ause what	oever sha	be deeme	d waived	uniess n	nade in w	writing ar	nd receiv	ved by Ca	ardinal w	vithin 30
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† Cardinal cannot acco	Cardinal cannot accept verbal changes. Please fax written changes to 505-393-24/6	n changes	to 505	393-	476																				

Appendix D – Soil Boring Log

Logger:			Brett Denni	s			TASM	1AN
Driller:			HCI Drilling	1			GEOSCIE	NCES
Drilling M			6" Air Rotar			Company: Fo	undation Energ	у
Start Date			10/3/2023 10/3/2023			Project Name:		Well ID:
Liiu Date	•		10/3/2023			Sharbo 2 Project Consulta		MW-1
Co	mments:	Soil	samples we		cted from drill cuttings at specified	Location:		0 0000
			DRAF	interva TED BY: L	als. Laura Flores	Lat: Not yet sur	Section 18, T23 veyed	County: Lea
	T	D = 1	02 ft		GW = 98 ft	Long: Not yet si		State: NM
Depth (feet)	Chlori field te		LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Cor	nstruction
0 ft					Sand			
5 ft								
10 ft								
15 ft								
20 ft								
25 ft					Sand with gravel			
30 ft								
35 ft					Sand		E SEAL	2 in)
40 ft					Sand with gravel		BENTONITE SEAL	PVC RISER (2 in)
45 ft							8	PVO
50 ft					Sand			
55 ft								
60 ft								
65 ft					Sand with grabel			
70 ft								
75 ft								
80 ft								
85 ft							(QN)	
90 ft							FILTER PACK (20/40 SAND)	Z
95 ft							PACK (	WELL SCREEN
100 ft							FILTER	<b> </b>
105 ft					Total Depth @ 102 ft			

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Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

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1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 284899

# **CONDITIONS**

Operator:	OGRID:
FOUNDATION ENERGY MANAGEMENT, LLC	370740
5057 KELLER SPRINGS RD	Action Number:
ADDISON, TX 75001	284899
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	The remediation closure is approved. A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	3/18/2024