

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
knorman@tasman-geo.com

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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 98 ft bgs	
Within an area of high karst potential?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 300 ft. of any continuously flowing of significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 200 ft. of any lakebed, sinkhole, or playa lake?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 500 ft. of a spring or private, domestic fresh water well?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 1,000 ft. of any fresh water well?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within the incorporated municipal boundaries or within a municipal well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 300 ft. of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within an unstable area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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 through 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, an 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 a 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.

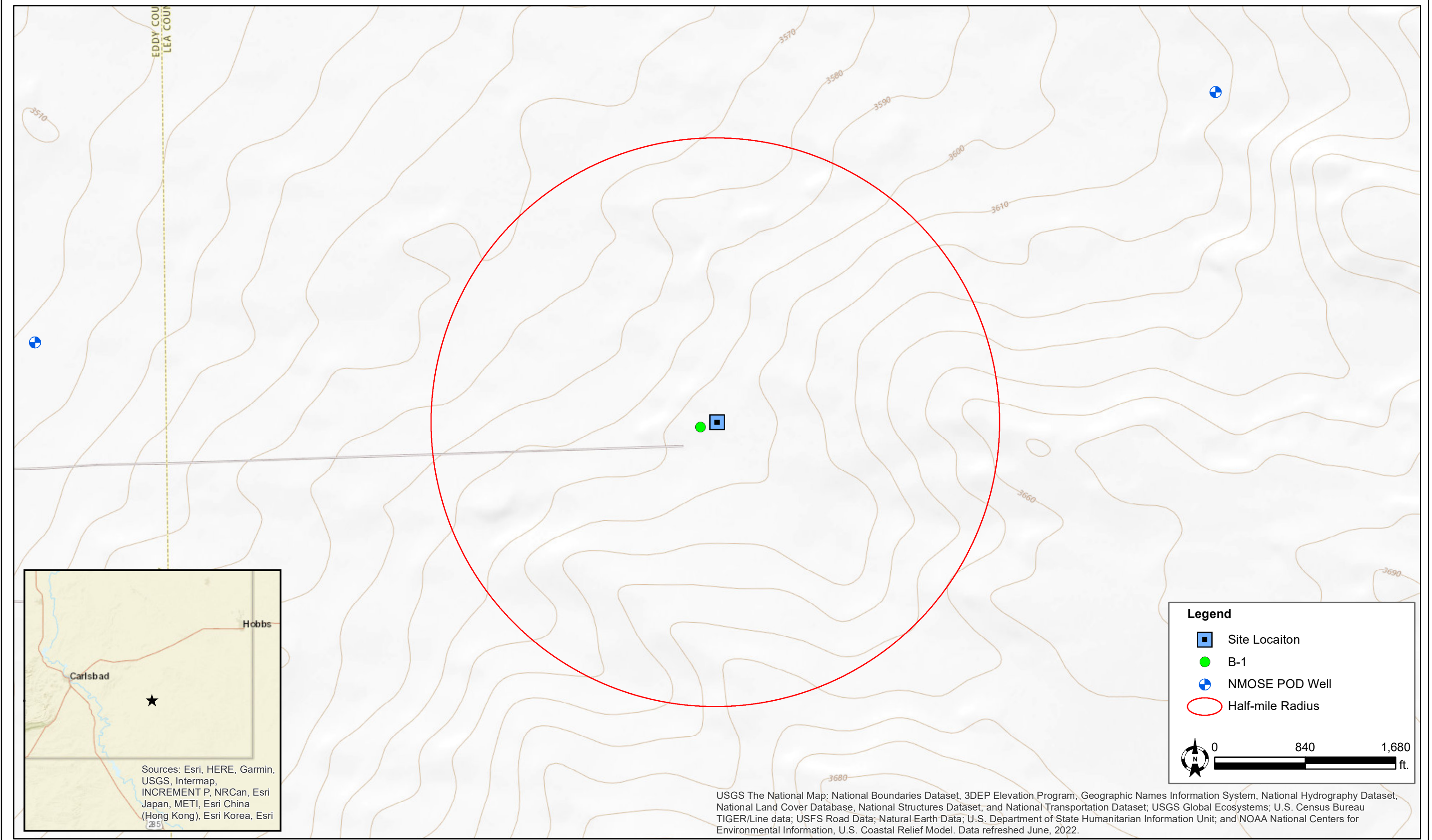
6.0 PROPOSED REMEDIAL ACTION

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



DATE:	June 2023
DESIGNED BY:	B. Dennis
DRAWN BY:	B. Dennis



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

Site Location & Characteristics
Map

Figure
1



DATE:	June 2023
DESIGNED BY:	B. Dennis
DRAWN BY:	B. Dennis

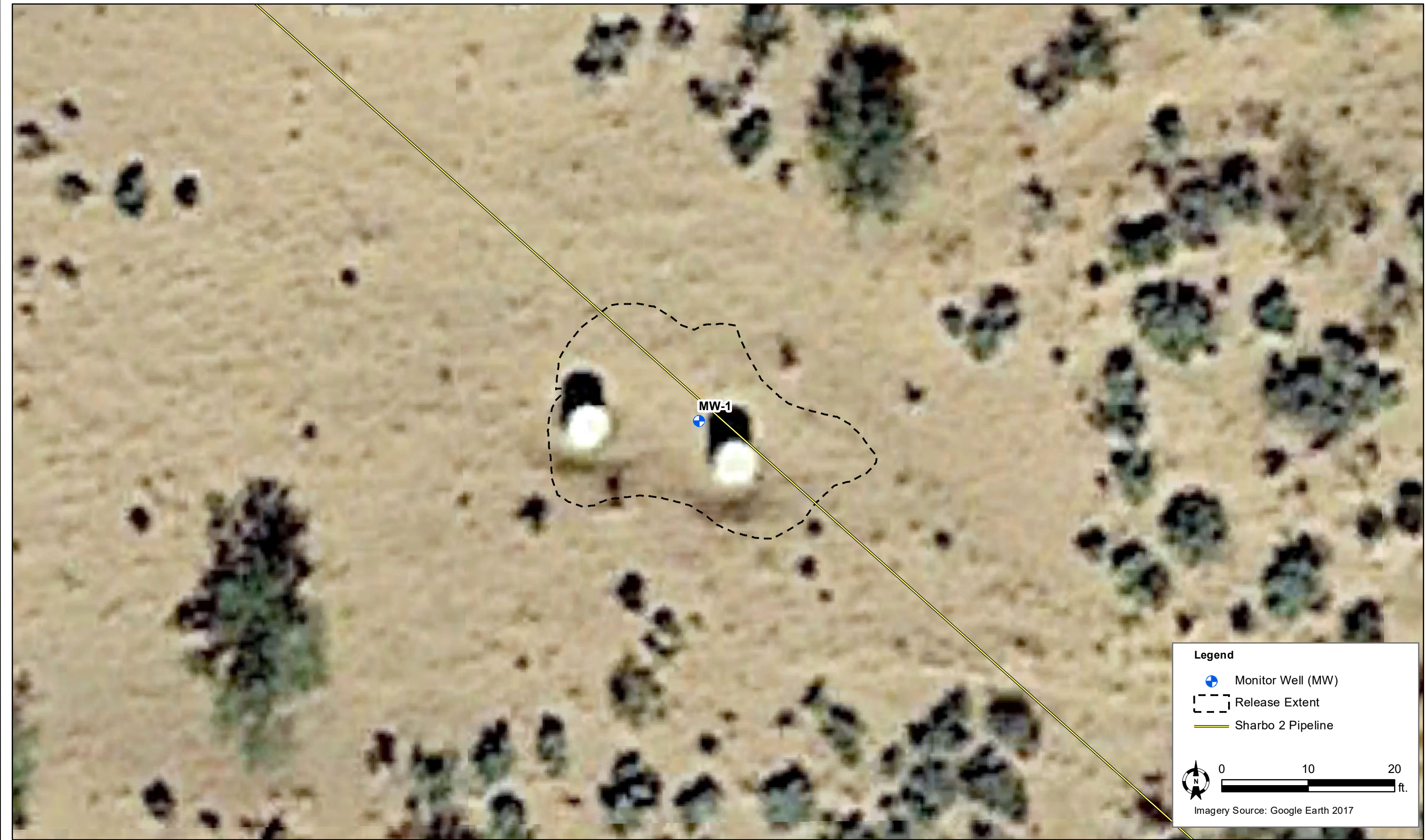


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Delineation Overview Map

Figure
2



DATE:	November 2023
DESIGNED BY:	B. Dennis
DRAWN BY:	B. Dennis



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Foundation Energy Management
Sharbo 2 Flowline - nAPP2316539496
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Monitoring Well Overview
Map

Figure
3

Tables

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

Sample ID	Sample Depth (ft)	Sample Date	Soil Status	PID (ppm)	Field Chloride (mg/kg)	Benzene (mg/kg)	Total BTEX ¹ (mg/kg)	TPH ² (mg/kg)				Chloride ³ (mg/kg)
								GRO	DRO	MRO	TOTAL	
HA-1*	4	12/12/2022	In-Situ	37.1	11358	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	13,100
	5		In-Situ	27.6	9,703	---	---	---	---	---	---	
	6		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
HA-2*	6	12/12/2022	In-Situ	85.8	7,231	<0.50	<0.300	<10.0	<10.0	<10.0	<10.0	7,200
	7		In-Situ	54.4	9,878	---	---	---	---	---	---	---
	8		In-Situ	27.3	14,267	---	---	---	---	---	---	---
	9		In-Situ	46.0	14,721	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	12,100
HA-3*	5	12/12/2022	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	---	---	---	---	---	---	---
	7		In-Situ	22.2	13,919	---	---	---	---	---	---	---
	8		In-Situ	28.3	12,812	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	11,600
HA-4*	0-0.5	12/13/2022	In-Situ	2.4	237	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
	1		In-Situ	3.2	148	---	---	---	---	---	---	---
	2		In-Situ	2.5	59.6	---	---	---	---	---	---	---
	3		In-Situ	2.9	59.4	---	---	---	---	---	---	---
HA-5*	4	12/13/2022	In-Situ	2.3	61.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	16.0
	0-0.5		In-Situ	18.2	120	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	48.0
	1		In-Situ	7.1	61.4	---	---	---	---	---	---	---
	2		In-Situ	25.8	58.6	---	---	---	---	---	---	---
HA-6*	3	12/13/2022	In-Situ	59.2	60.2	---	---	---	---	---	---	---
	4		In-Situ	5.3	30.8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	32.0
	0-0.5		In-Situ	6.7	60.2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	112
	1		In-Situ	2.1	61.2	---	---	---	---	---	---	---
HA-7*	2	12/13/2022	In-Situ	4.4	60.6	---	---	---	---	---	---	---
	3		In-Situ	5.3	59.0	---	---	---	---	---	---	---
	4		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	---	---	---	---	---	---	---
V-1	1	2/10/2023	In-Situ	3.8	152	---	---	---	---	---	---	---
	2		In-Situ	17.3	213	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	240
	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
V-1	8	2/10/2023	In-Situ	6.6	10,275	---	---	---	---	---	---	---
	10		In-Situ	4.7	5,552	---	---	---	---	---	---	---
	12		In-Situ	5.7	4,989	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	5,280
	14		In-Situ	7.2	10,473	---	---	---	---	---	---	---
	16		In-Situ	29.4	13,495	---	---	---	---	---	---	---
	18		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	---	---	---	---	---	---	---
	22		In-Situ	60.1	9,306	---	---	---	---	---	---	---
	24		In-Situ	392.4	9,603	<0.050	<0.300	<10.0	136	24.0	160	16,400
	26		In-Situ	36.6	16,626	---	---	---	---	---	---	---
SB-2	28	5/23/2023	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	---	---	---	---	---	---	---
	20'		In-Situ	116.6	5,475	---	---	---	---	---	---	---
	25'		In-Situ	739.3	5,453	<0.050	4.33	78.1	872	157	1,107	11,600
	30'		In-Situ	330.8	8,878	<0.050	0.478	20.2	700	135	855	21,200
	35'		In-Situ	181.1	7,766	---	---	---	---	---	---	---
	40'		In-Situ	189.9	3,623	---	---	---	---	---	---	---
	45'		In-Situ	282.5	2,272	---	---	---	---	---	---	2,880
	50'		In-Situ	120.0	1,470	---	---	---	---	---	---	1,500
	55'		In-Situ	132.2	1,098	---	---	---	---	---	---	1,090
	60'		In-Situ	71.3	891	<0.050	<0.300	<10.0	119	17.2	136	960
	65'		In-Situ	49.9	897	---	---	---	---	---	---	---
	70'		In-Situ	87.0	871	---	---	---	---	---	---	---
	75'		In-Situ	65.9	837	<0.050	<0.300	<10.0	236	44.7	281	960
NMOCD Reclamation Standards ⁴ (Applicable for soils less than 4 ft. below grade surface)				N/A	N/A	10	50	N/A			100	600
NMOCD Remediation and Delineation Standards ⁵ (Applicable for soils greater than 4 ft. below grade surface)				N/A	N/A	10	50	1,000		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 longer in use) for soils extending to 4 ft. below grade surface (lbs).

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

* = Denotes discrete/grab sample

Bold values denote concentrations above laboratory SDL

Ft = Feet

GRO = Gasoline range organics

DRO = Diesel range organics

MRO = Motor/lube oil 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	Chloride ¹ (mg/L)	TDS ² (mg/L)
MW-1	10/9/2023	15,400	29,200
NMOCD Groundwater Standards		250	<10,000

Notes:

1. Chloride - Analyzed by EPA method SM4500

2. TDS = total dissolved 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
Hour 1	10:13	-	102.22	-	-	-	-	-
	10:23	10	101.68	0.54	0.0880	0.0088	0.333	0.0333
	10:33	10	101.16	0.52	0.0848	0.0085	0.321	0.0321
	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
Hour 2	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
	11:33	10	99.77	0.09	0.0147	0.00147	0.0555	0.00555
	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
Hour 3	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
	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 Volume 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

District IV

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

QUESTIONS

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

Incident Details	
<i>Please answer all the questions in this group.</i>	
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	
<i>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.</i>	
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.

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

District IV
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: FOUNDATION ENERGY MANAGEMENT, LLC 5057 KELLER SPRINGS RD ADDISON, TX 75001	OGRID: 370740
	Action Number: 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	<ul style="list-style-type: none">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.	

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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
District IV
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

Action 227729

ACKNOWLEDGMENTS

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

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that I am authorized to submit notification of a releases on behalf of my operator.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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
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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
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
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: FOUNDATION ENERGY MANAGEMENT, LLC 5057 KELLER SPRINGS RD ADDISON, TX 75001	OGRID: 370740
	Action Number: 227729
	Action Type: [NOTIFY] Notification Of Release (NOR)

CONDITIONS

Created By	Condition	Condition 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

Foundation Energy Management

Sharbo 2 Flowline Release



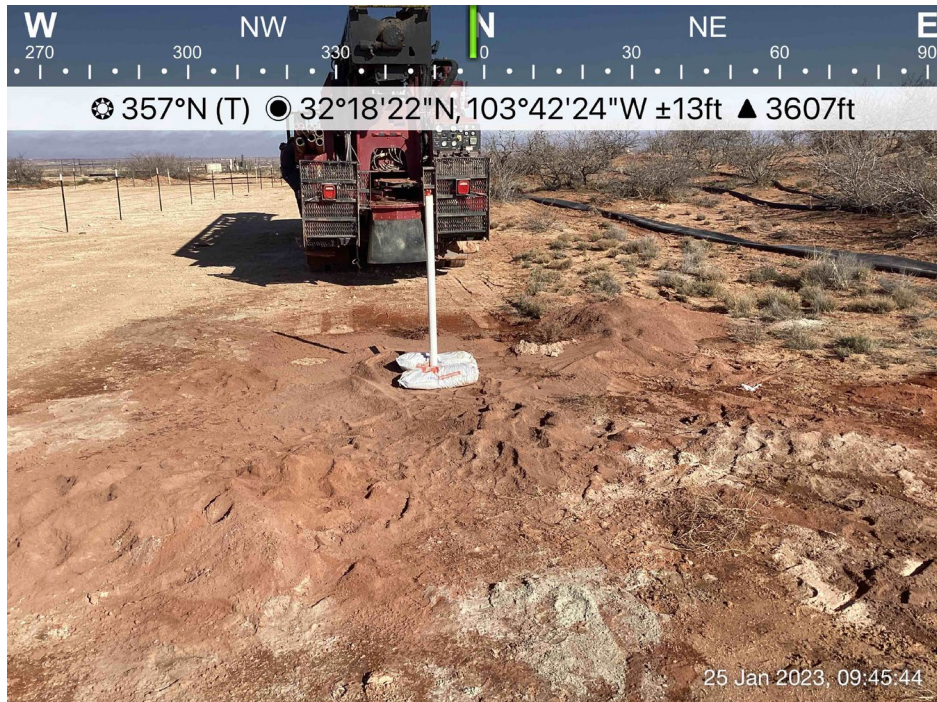
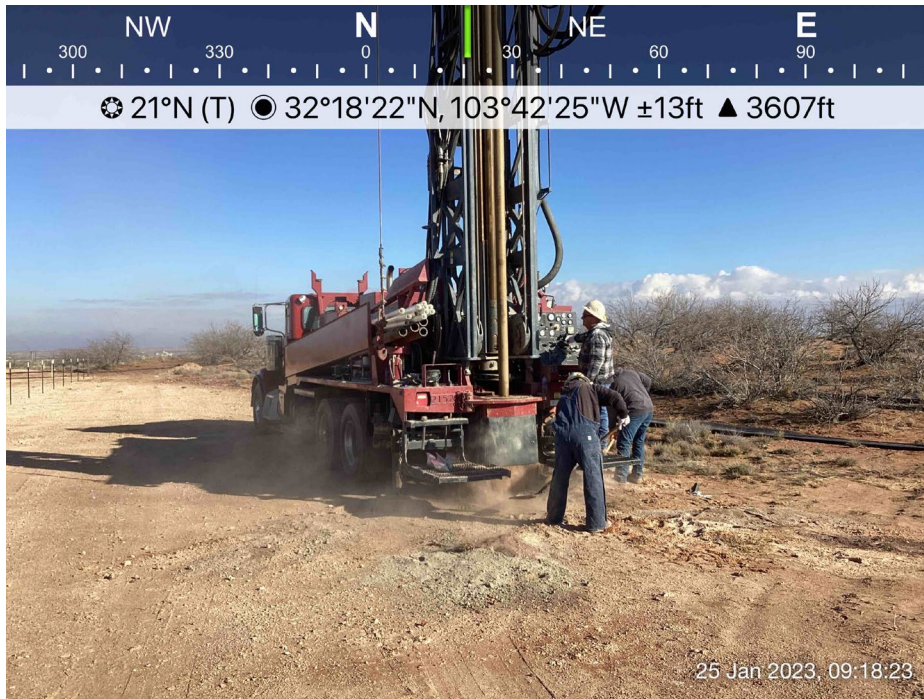
Foundation Energy Management

Sharbo 2 Flowline Release



Foundation Energy Management

Sharbo 2 Flowline Release



Foundation Energy Management

Sharbo 2 Flowline Release



Appendix C – Certified Laboratory Analytical Reports



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

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited 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.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 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)

BTX 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 BTX	<0.300	0.300	12/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-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		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 97.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.4 % 46.3-178

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 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 % 69.9-140

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 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.5 % 46.3-178

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 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		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) 113 % 69.9-140

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 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.0 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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: 12/12/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

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

BTEx 8021B		mg/kg		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) 112 % 69.9-140

Chloride, SM4500CI-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		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 99.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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: 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 % 69.9-140

Chloride, SM4500CI-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 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.2 % 46.3-178

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 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)

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 % 69.9-140

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 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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: 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)

BTX 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 BTX	<0.300	0.300	12/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.9-140

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 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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 - 4 @ 4' (H226002-17)

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 % 69.9-140

Chloride, SM4500Cl-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 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.8 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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		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) 112 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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 91.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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 @ 4' (H226002-22)

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) 111 % 69.9-140

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	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 89.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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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		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) 109 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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 94.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.0 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 4' (H226002-27)

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) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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 95.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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: 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		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) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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 90.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 4' (H226002-32)

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	2.07	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 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed 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		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 92.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager

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

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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited 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.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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: 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)

BTX 8021B		mg/kg		Analyzed 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 BTX	<0.300	0.300	02/18/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 167 % 71.5-134

Chloride, SM4500Cl-B			mg/kg					Analyzed 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					Analyzed 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 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 18' (H230688-02)

BTX 8021B		mg/kg	Analyzed 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 BTX	<0.300	0.300	02/18/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 166 % 71.5-134

Chloride, SM4500CI-B		mg/kg	Analyzed 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	Analyzed 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 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 24' (H230688-03)

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	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 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed 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		Analyzed 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 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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: 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 @ 28' (H230688-04)

BTEx 8021B		mg/kg		Analyzed 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 % 71.5-134

Chloride, SM4500CI-B			mg/kg					Analyzed 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					Analyzed 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 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.3 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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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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*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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

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

www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited 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)

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



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

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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Celey D. Keene, Lab Director/Quality Manager



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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
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Cardinal Laboratories**Inorganic Compounds**

Chloride	11600		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
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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 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

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

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
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Cardinal Laboratories**Inorganic Compounds**

Chloride	21200		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
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Volatile Organic Compounds 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*	0.478		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	
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Petroleum Hydrocarbons by GC 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	
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Surrogate: 1-Chlorooctadecane			92.7 %		49.1-148	3052220	MS	23-May-23	8015B	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: 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	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	2880		16.0	mg/kg	4	3061518	AC	15-Jun-23	4500-Cl-B	
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Cardinal Laboratories

*=Accredited Analyte

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: 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
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1500		16.0	mg/kg	4	3061518	AC	15-Jun-23	4500-CI-B	
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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: 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	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	1090		16.0	mg/kg	4	3061518	AC	15-Jun-23	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager



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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
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Cardinal Laboratories**Inorganic Compounds**

Chloride	960		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
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Volatile Organic Compounds 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	
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Petroleum Hydrocarbons by 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	
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Surrogate: 1-Chlorooctadecane			109 %	49.1-148		3052220	MS	22-May-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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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 @ 75'
H232579-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	960		16.0	mg/kg	4	3052312	AC	23-May-23	4500-Cl-B	
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Volatile Organic Compounds 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)			108 %	71.5-134		3052223	JH/	22-May-23	8021B	
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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	
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Surrogate: 1-Chlorooctadecane			118 %	49.1-148		3052220	MS	22-May-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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

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						
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, Lab Director/Quality Manager



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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

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3052223 - Volatiles**Blank (3052223-BLK1)**

Prepared & Analyzed: 22-May-23

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 & Analyzed: 22-May-23

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-BS1)

Prepared & Analyzed: 22-May-23

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	
o-Xylene	2.19	0.050	mg/kg	2.00		109	84.9-118	0.712	16.7	
Total Xylenes	6.60	0.150	mg/kg	6.00		110	87.3-122	0.794	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0495		mg/kg	0.0500		99.1	71.5-134			

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Celey D. Keene, Lab Director/Quality Manager



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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

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3052220 - General Prep - Organics**Blank (3052220-BLK1)**

Prepared & Analyzed: 22-May-23

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 & Analyzed: 22-May-23

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 & Analyzed: 22-May-23

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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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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A handwritten signature in black ink, appearing to read "C. D. Keene", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Tasman Geosciences				BILL TO				ANALYSIS REQUEST			
Project Manager: Kyle Norman Address: 2620 W. Marland Blvd. City: Hobbs Phone #: 575-318-5017 Project #: 5005				P.O. #: Company: Tasman Geo Attn: Kyle Norman Address: 2620 W. Marland City: Hobbs							
Project Name: 5005.NM Trunkline Project Location: Sample Name: Brett Dennis				State: NM Zip: 88240 State: NM Zip: 88240 Phone #: 575-318-5017 Fax #:							

FOR LAB USE ONLY		MATRIX										PRESERV.		SAMPLING				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME				
1033579	SB-2 @ 15'	G			X						X		5/22/23	1020				
	SB-2 @ 20'	G			X					X			5/22/23	1032				
	SB-2 @ 25'	G			X					X			5/22/23	1034	X	X	X	
	SB-2 @ 30'	G			X					X			5/22/23	1036	X	X	X	
	SB-2 @ 35'	G			X					X			5/22/23	1038				
	SB-2 @ 40'	G			X					X			5/22/23	1040				
	SB-2 @ 45'	G			X					X			5/22/23	1042				
	SB-2 @ 50'	G			X					X			5/22/23	1044				
SB-2 @ 55'	G			X					X			5/22/23	1046					
SB-2 @ 60'	G			X					X			5/22/23	1048	X	X	X		

TPH 8015 Ext		BTEX		Chlorides		Hold		24-hr Rush		CL-Rush added 6/14/23 SR	

Relinquished By: <i>[Signature]</i> Date: 5/23/23		Received By: <i>[Signature]</i> Date: 5/23/23	
Relinquished By: <i>[Signature]</i> Date: 5/23/23		Received By: <i>[Signature]</i> Date: 5/23/23	

Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: <i>[Signature]</i> (Initials)	
---	--	---	--	---	--

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #: Add'l Fax #:	
REMARKS: email results: knorman@tasman-geo.com; bdennis@tasman-geo.com; flores@tasman-geo.com;			

Page 15 of 15



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

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited 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.

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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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: 10/09/2023
 Reported: 10/12/2023
 Project Name: 5005_NM TRUNKLINE
 Project Number: 5005
 Project Location: DCP

Sampling Date: 10/09/2023
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Dionica Hinojos

Sample ID: MW - 1 (H235488-01)

Chloride, SM4500Cl-B		mg/L		Analyzed 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		Analyzed 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 whatsoever 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.

Celey D. Keene, Lab Director/Quality Manager



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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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*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager




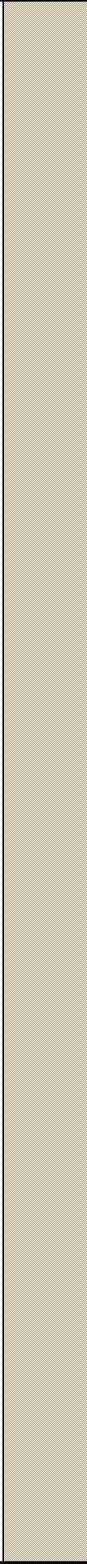


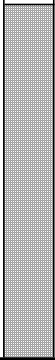
ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Appendix D – Soil Boring Log

Logger:	Brett Dennis				
Driller:	HCI Drilling			Company: Foundation Energy	
Drilling Method:	6" Air Rotary			Project Name: Sharbo 2 Flowline	
Start Date:	10/3/2023			Well ID: MW-1	
End Date:	10/3/2023			Project Consultant: Tasman	
Comments: Soil samples were collected from drill cuttings at specified intervals.				Location: Unit H, Section 18, T23S, R32E	
DRAFTED BY: Laura Flores				Lat: Not yet surveyed	
TD = 102 ft				County: Lea	
GW = 98 ft				Long: Not yet surveyed	
				State: NM	

Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Construction
0 ft				Sand		
5 ft						
10 ft						
15 ft						
20 ft						
25 ft				Sand with gravel		
30 ft						
35 ft				Sand		
40 ft				Sand with gravel		
45 ft						
50 ft				Sand		
55 ft						
60 ft						
65 ft				Sand with gravel		
70 ft						
75 ft						
80 ft						
85 ft						
90 ft						
95 ft						
100 ft						
105 ft				Total Depth @ 102 ft		

BENTONITE SEAL

PVC RISER (2 in)

FILTER PACK (20/40 SAND)

WELL SCREEN

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
District IV
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: FOUNDATION ENERGY MANAGEMENT, LLC 5057 KELLER SPRINGS RD ADDISON, TX 75001	OGRID: 370740
	Action Number: 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