

# SHARBO 2 FLOWLINE RELEASE

## Remediation Action Plan

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

June 21, 2023



### PREPARED ON BEHALF OF

Foundation Energy  
Management  
1801 Broadway  
Suite 1500  
Denver, CO 80202



### PREPARED BY

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



June 21, 2023

Foundation Energy Management  
1801 Broadway, Suite 1500  
Denver, Colorado 80202

Attn: Mr. James Smith  
Email: [jsmith@foundationenergy.com](mailto: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](mailto:bdennis@tasman-geo.com)

Kyle Norman  
Regional Project Manager  
[knorman@tasman-geo.com](mailto: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.

Site Characteristics Map included as Figure 2 illustrates the location of the site and soil boring B-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:	~82 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 (ft<sup>2</sup>). 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 field 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.



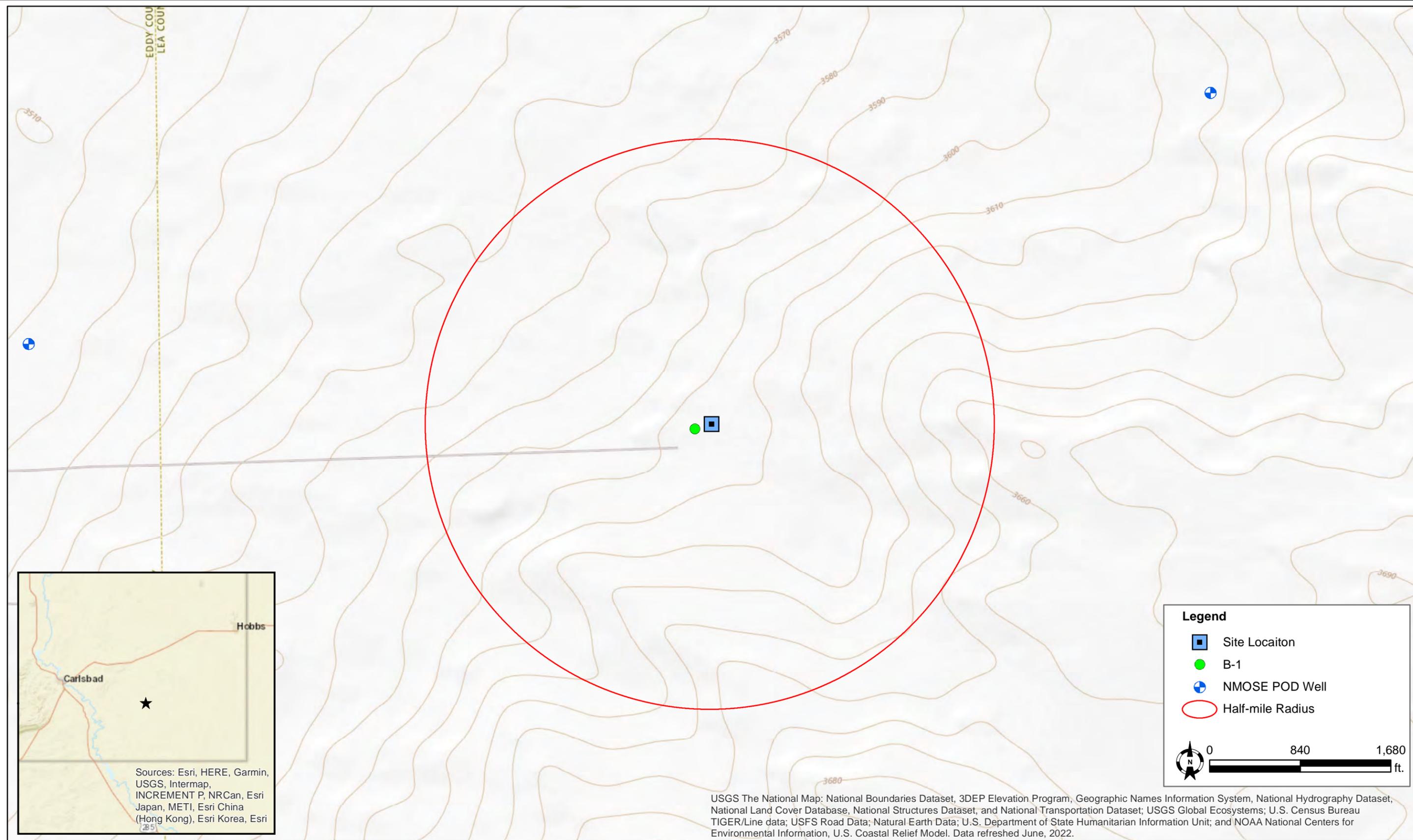
Field screening and laboratory analytical results are summarized on Table 1 and laboratory analytical reports are included as Appendix C. The attached Figure 2 illustrates the observed release area and location of soil borings and the vertical delineation trench.

## 5.0 PROPOSED ASSESSMENT

Tasman proposes to further delineate the site. Based on laboratory analysis, Tasman plans to install a monitor well in the vicinity of B-2 to assess whether groundwater has been impacted and/or is abatable according to the NMAC 19.15.30. The monitor well will be installed at approximately 95 feet. Tasman will collect one groundwater sample after purging 3 well volumes. The collected groundwater sample will be analyzed for chlorides and total dissolved solids (TDS).

Tasman and FEM will then present the findings of the groundwater analytical results and proposed next steps in a Remediation Action Plan Addendum and for NMOCD review.

## **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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 6855 W. 119th Ave  
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 Lea County, New Mexico

Delineation Overview Map

Figure 2

## **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 <sup>1</sup> (mg/kg)	TPH <sup>2</sup> (mg/kg)				Chloride <sup>3</sup> (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	<b>13,100</b>
	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	<b>10,900</b>
HA-2*	6	12/12/2022	In-Situ	85.8	7,231	<0.50	<0.300	<10.0	<10.0	<10.0	<10.0	<b>7,200</b>
	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	<b>12,100</b>
HA-3*	5	12/12/2022	In-Situ	26.8	4,322	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<b>4,130</b>
	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	<b>11,600</b>
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	<b>32.0</b>
	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	<b>16.0</b>
	0-0.5		In-Situ	18.2	120	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<b>48.0</b>
	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	<b>32.0</b>
	0-0.5		In-Situ	6.7	60.2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<b>112</b>
	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	<b>64.0</b>
	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	<b>240</b>
	3		In-Situ	5.2	149	---	---	---	---	---	---	---
	4		In-Situ	3.7	120	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<b>144</b>
SB-2	8	5/23/2023	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	<b>5,280</b>
	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	<b>34,000</b>
	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	<b>136</b>	<b>24.0</b>	<b>160</b>	<b>16,400</b>
	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	<b>32,000</b>
	15'		In-Situ	537.1	5,193	---	---	---	---	---	---	---
20'	In-Situ	116.6	5,475	---	---	---	---	---	---	---		
25'	In-Situ	739.3	5,453	<0.050	<b>4.33</b>	<b>78.1</b>	<b>872</b>	<b>157</b>	<b>1,107</b>	<b>11,600</b>		
30'	In-Situ	330.8	8,878	<0.050	<b>0.478</b>	<b>20.2</b>	<b>700</b>	<b>135</b>	<b>855</b>	<b>21,200</b>		
35'	In-Situ	181.1	7,766	---	---	---	---	---	---	---		
40'	In-Situ	189.9	3,623	---	---	---	---	---	---	---		
45'	In-Situ	282.5	2,272	---	---	---	---	---	---	<b>2,880</b>		
50'	In-Situ	120.0	1,470	---	---	---	---	---	---	<b>1,500</b>		
55'	In-Situ	132.2	1,098	---	---	---	---	---	---	<b>1,090</b>		
60'	In-Situ	71.3	891	<0.050	<0.300	<10.0	<b>119</b>	<b>17.2</b>	<b>136</b>	<b>960</b>		
65'	In-Situ	49.9	897	---	---	---	---	---	---	---		
70'	In-Situ	87.0	871	---	---	---	---	---	---	---		
75'	In-Situ	65.9	837	<0.050	<0.300	<10.0	<b>236</b>	<b>44.7</b>	<b>281</b>	<b>960</b>		
NMOCD Reclamation Standards <sup>4</sup> (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 <sup>5</sup> (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

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

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Foundation Energy Management, LLC	OGRID 370740
Contact Name James Smith	Contact Telephone 972-707-2595
Contact email jsmith@foundationenergy.com	Incident # (assigned by OCD) nAPP2316539496
Contact mailing address 5057 Keller Springs Rd., Suite 650 Addison, TX 75001	

### Location of Release Source

Latitude 32.30645 \_\_\_\_\_ Longitude -103.70640 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Sharbro 2 flowline	Site Type valve box
Date Release Discovered 11/22/20222	API# (if applicable)

Unit Letter	Section	Township	Range	County
H	18	T23S	R32E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 40	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release Metal transition between valve and poly flowline developed an internal corrosion pin hole.

Incident ID	
District RP	
Facility ID	
Application ID	

## Remediation Plan

**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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. 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. 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.

Printed Name: James Smith \_\_\_\_\_ Title: HSE-Regulatory Manager \_\_\_\_\_  
 Signature:  \_\_\_\_\_ Date: 8/15/2023 \_\_\_\_\_  
 email: jsmith@foundationenergy.com \_\_\_\_\_ Telephone: 972-707-2595 \_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved  
 (see text box below)

Signature:  \_\_\_\_\_ Date: 08/15/2023 \_\_\_\_\_

**Remediation Plan is approved under the following conditions;**

1. The placement of the groundwater monitor well (MW) is acceptable
2. Provide the borehole log for the groundwater MW
3. Must notify OCD 4 working days prior to the MW installation
4. Must complete the site characterization by supplying the supporting documents for karst, wetland, floodplain, and active mine maps within the final closure report.
5. Operator has 90-days (11/13/2023) to submit its findings and propose the next steps in a remediation plan addendum.

**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**

<b>Location of Release Source</b>	
<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

<b>Incident Details</b>	
<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

<b>Nature and Volume of Release</b>	
<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**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by 19.15.29.7(A) NMAC	<b>Yes, major release.</b>
Reasons why this would be considered a submission for a notification of a major release	<ul style="list-style-type: none"> <li>Unauthorized release of a volume, excluding gases, of 25 barrels or more</li> </ul>
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.*

<b>Initial Response</b>	
<i>The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.</i>	
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.*

**District I**  
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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**  
 1625 N. French Dr., Hobbs, NM 88240  
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**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



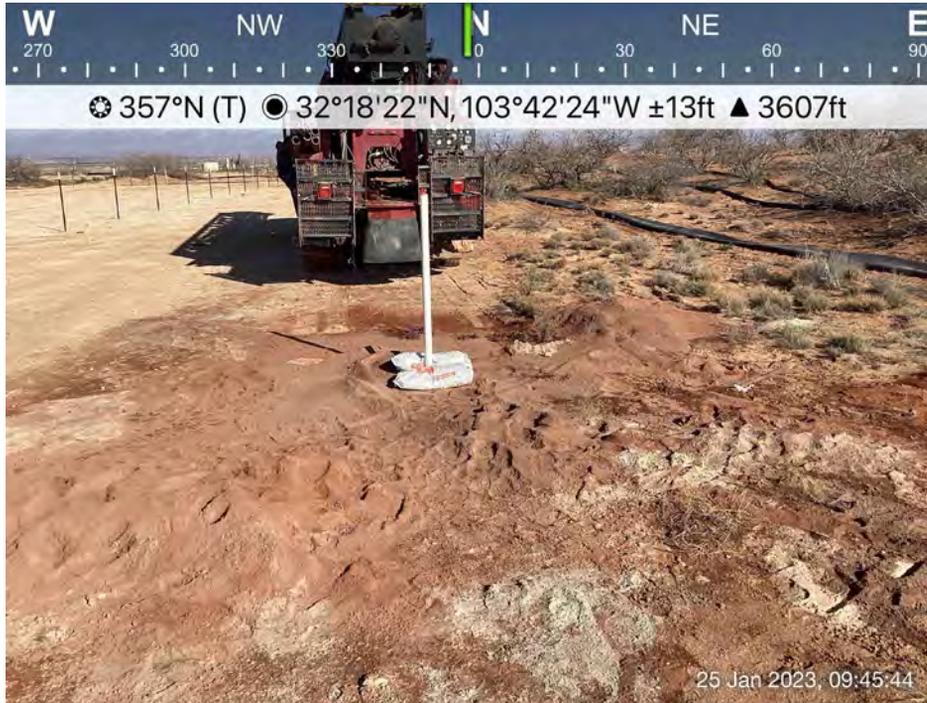
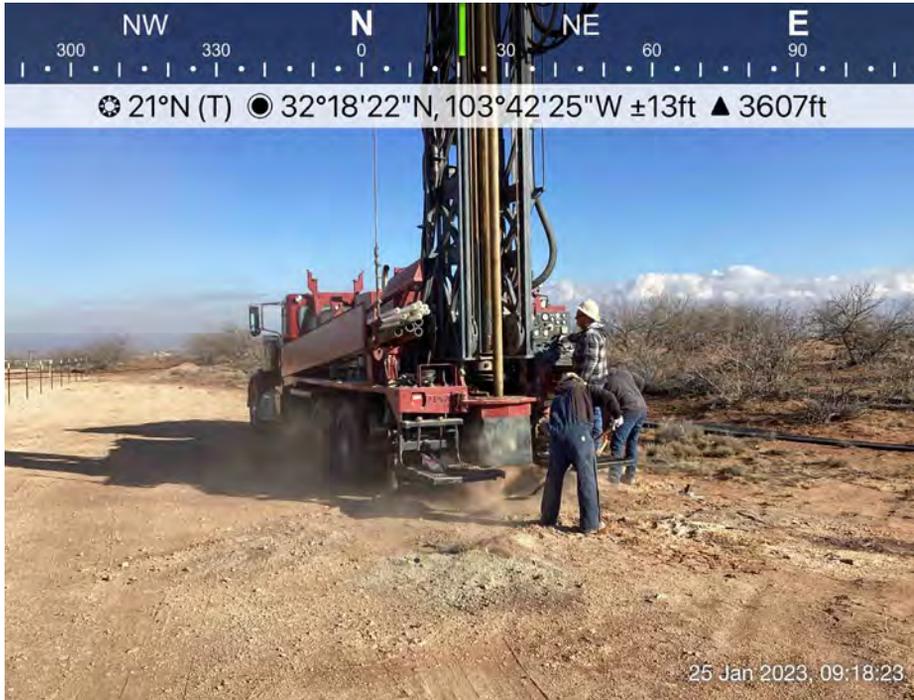
### Foundation Energy Management

### Sharbo 2 Flowline Release



### Foundation Energy Management

### Sharbo 2 Flowline Release



**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](http://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".

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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

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

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) 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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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, SM4500CI-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



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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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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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\*=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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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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\*=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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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	Sampling Date:	12/12/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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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\* = 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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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 % 69.9-140

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



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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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, 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 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.8 % 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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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



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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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



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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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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	Sampling Date:	12/13/2022
Reported:	12/22/2022	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	FOUNDATION ENERGY		

**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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\*=Accredited Analyte

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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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Celey D. Keene, Lab Director/Quality Manager









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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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Tasman Geosciences				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>								
Project Manager: Kyle Norman				P.O. #:				Chlorides TPH 8015 M BTEX TPH TX1005 Complete Cations/Anions TDS HOLD 24 Hour RUSH								
Address: 2620 W. Marland Blvd.				Company: Tasman Geo												
City: Hobbs		State: NM Zip: 88240		Attn: Kyle Norman												
Phone #: 575-318-5017		Fax #:		Address: 2620 W. Marland												
Project #: 5005		Project Owner: Foundation Energy		City: Hobbs												
Project Name: 5005_NM Trunkline Leak				State: NM Zip: 88240												
Project Location:				Phone #: 575-318-5017												
Sampler Name: Doug Pope				Fax #:												
FOR LAB USE ONLY																
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.		SAMPLING						
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME		
H226002																
31	HA-7 @3'	G	1			X				X			12/13/22		X	X
32	HA-7 @4'	G	1			X				X			12/13/22		X	X

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Relinquished By: <i>Douglas Pope</i>	Date: 12/19/22	Received By: <i>Tamara [Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	#113 -12.0e/-12.6e	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	REMARKS: email results: knorman@tasman-geo.com; bdennis@tasman-geo.com; cflores@tasman-geo.com	
		CHECKED BY: (Initials) <i>[Signature]</i>		

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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](http://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".

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	Sampling Date:	02/10/2023
Reported:	02/20/2023	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	DCP		

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

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) 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	Sampling Date:	02/10/2023
Reported:	02/20/2023	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	DCP		

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

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) 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	Sampling Date:	02/10/2023
Reported:	02/20/2023	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	DCP		

**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	
<b>Total Xylenes*</b>	<b>0.241</b>	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
<b>Chloride</b>	<b>16400</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>136</b>	10.0	02/16/2023	ND	207	103	200	0.737	
<b>EXT DRO &gt;C28-C36</b>	<b>24.0</b>	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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\*=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	Sampling Date:	02/10/2023
Reported:	02/20/2023	Sampling Type:	Soil
Project Name:	5005_NM TRUNKLINE LEAK	Sampling Condition:	Cool & Intact
Project Number:	5005	Sample Received By:	Tamara Oldaker
Project Location:	DCP		

**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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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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Tasman Geosciences		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																			
Project Manager: Kyle Norman		P.O. #:																					
Address: 2620 W. Marland Blvd.		Company: Tasman Geo																					
City: Hobbs		Attn: Kyle Norman																					
State: NM Zip: 88240		Address: 2620 W. Marland																					
Phone #: 575-318-5017		City: Hobbs																					
Fax #: 5005		State: NM Zip: 88240																					
Project Name: 5005, NM Trunkline		Phone #: 575-318-5017																					
Project Location:		Fax #:																					
Sampler Name: Douglas Pope																							
FOR LAB USE ONLY																							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX		PRESERV.		SAMPLING															
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	Chlorides	TPH 8015 M	BTEX	TPH TX1005	Complete Cations/Anions	TDS	HOLD	24 Hour RUSH	
H330688	V1 @12'	G 1	1			X					X		2/10/23	1015	X	X	X						
	V1 @18'	G 1	1			X					X		2/10/23	1030	X	X	X						
	V1 @24'	G 1	1			X					X		2/10/23	1155	X	X	X						
	V1 @28'	G 1	1			X					X		2/10/23	1215	X	X	X						

PLEASE NOTE: Laboratory and Damages. Customer's liability and client's exclusive remedy for any claim arising whether stated or not, shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other claims whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of data, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated theories or otherwise.

Relinquished By: <i>Douglas Pope</i>	Date: 2/14/23	Received By: <i>[Signature]</i>	Time: 1218
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <i>#113</i>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/>	Checked By: <i>[Signature]</i> (Initials)	

Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_  
 REMARKS: email results: knorman@tasman-geo.com; bdennis@tasman-geo.com; Lflores@tasman-geo.com; dpope@tasman-geo.com

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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](http://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.

Cardinal Laboratories

\*=Accredited Analyte

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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
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**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**

<b>Chloride</b>	<b>11600</b>		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*	<b>0.304</b>		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
Ethylbenzene*	<b>0.414</b>		0.050	mg/kg	50	3052223	JH/	22-May-23	8021B	
<b>Total Xylenes*</b>	<b>3.61</b>		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
<b>Total BTEX</b>	<b>4.33</b>		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	
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**Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10*</b>	<b>78.1</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	QM-07
<b>DRO &gt;C10-C28*</b>	<b>872</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	QM-07
<b>EXT DRO &gt;C28-C36</b>	<b>157</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	

Surrogate: 1-Chlorooctane			105 %	48.2-134		3052220	MS	23-May-23	8015B	
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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
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**Cardinal Laboratories****Inorganic Compounds**

<b>Chloride</b>	<b>21200</b>		16.0	mg/kg	4	3052312	AC	23-May-23	4500-CI-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	
<b>Total Xylenes*</b>	<b>0.478</b>		0.150	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
<b>Total BTEX</b>	<b>0.478</b>		0.300	mg/kg	50	3052223	JH/	22-May-23	8021B	GC-NC1
<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			<i>127 %</i>	<i>71.5-134</i>		<i>3052223</i>	<i>JH/</i>	<i>22-May-23</i>	<i>8021B</i>	

**Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10*</b>	<b>20.2</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
<b>DRO &gt;C10-C28*</b>	<b>700</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>135</b>		10.0	mg/kg	1	3052220	MS	23-May-23	8015B	
<i>Surrogate: 1-Chlorooctane</i>			<i>95.0 %</i>	<i>48.2-134</i>		<i>3052220</i>	<i>MS</i>	<i>23-May-23</i>	<i>8015B</i>	
<i>Surrogate: 1-Chlorooctadecane</i>			<i>92.7 %</i>	<i>49.1-148</i>		<i>3052220</i>	<i>MS</i>	<i>23-May-23</i>	<i>8015B</i>	

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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
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**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**

<b>Chloride</b>	<b>2880</b>		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
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**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**

<b>Chloride</b>	<b>1500</b>		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
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**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**

<b>Chloride</b>	<b>1090</b>		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
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**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**

<b>Chloride</b>	<b>960</b>		16.0	mg/kg	4	3052312	AC	23-May-23	4500-CI-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	
<b>DRO &gt;C10-C28*</b>	<b>119</b>		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>17.2</b>		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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**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
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**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**

<b>Chloride</b>	<b>960</b>		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	
<b>DRO &gt;C10-C28*</b>	<b>236</b>		10.0	mg/kg	1	3052220	MS	22-May-23	8015B	
<b>EXT DRO &gt;C28-C36</b>	<b>44.7</b>		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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**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
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**Inorganic Compounds - 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 3052312 - 1:4 DI Water**

<b>Blank (3052312-BLK1)</b>				Prepared & Analyzed: 23-May-23						
Chloride	ND	16.0	mg/kg							
<b>LCS (3052312-BS1)</b>				Prepared & Analyzed: 23-May-23						
Chloride	432	16.0	mg/kg	400		108	80-120			
<b>LCS Dup (3052312-BSD1)</b>				Prepared & Analyzed: 23-May-23						
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	

**Batch 3061518 - 1:4 DI Water**

<b>Blank (3061518-BLK1)</b>				Prepared & Analyzed: 15-Jun-23						
Chloride	ND	16.0	mg/kg							
<b>LCS (3061518-BS1)</b>				Prepared & Analyzed: 15-Jun-23						
Chloride	416	16.0	mg/kg	400		104	80-120			
<b>LCS Dup (3061518-BSD1)</b>				Prepared & Analyzed: 15-Jun-23						
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	

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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 &amp; 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 &amp; 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-BSD1)**

Prepared &amp; 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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**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
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**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							
<i>Surrogate: 1-Chlorooctane</i>	40.6		mg/kg	49.6		81.9	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	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			
<i>Surrogate: 1-Chlorooctane</i>	45.6		mg/kg	49.6		92.0	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	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	
<i>Surrogate: 1-Chlorooctane</i>	46.5		mg/kg	49.6		93.8	48.2-134			
<i>Surrogate: 1-Chlorooctadecane</i>	50.5		mg/kg	50.0		101	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

- 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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Celest D. Keene

Celey D. Keene, Lab Director/Quality Manager



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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Tasman Geosciences		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>															
Project Manager: Kyle Norman		P.O. #:				TPH 8015 Ext BTEX Chlorides Hold 24-hr Rush CL-Rush added 6/14/23 SR															
Address: 2620 W. Marland Blvd.		Company: Tasman Geo																			
City: Hobbs State: NM Zip: 88240		Attn: Kyle Norman																			
Phone #: 575-318-5017 Fax #:		Address: 2620 W. Marland																			
Project #: 5005 Project Owner: Foundation Energy		City: Hobbs																			
Project Name: 5005_NM Trunkline		State: NM Zip: 88240																			
Project Location:		Phone #: 575-318-5017																			
Sampler Name: Brett Dennis		Fax #:																			
FOR LAB USE ONLY																					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX									PRESERV.		SAMPLING		DATE	TIME				
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER										
H233579	SB-2 @ 15'	G			X				X			5/22/23	1030								
	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				X				
	SB-2 @ 40'	G			X				X			5/22/23	1040				X				
	SB-2 @ 45'	G			X				X			5/22/23	1042				X				
	SB-2 @ 50'	G			X				X			5/22/23	1044				X				
	SB-2 @ 55'	G			X				X			5/22/23	1046				X				XXX
	SB-2 @ 60'	G			X				X			5/22/23	1048	X	X	X					

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Relinquished By: <i>[Signature]</i>	Date: 5/22/23 Time: 1411	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date: 5/23/23 Time: 1311	Received By:	Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: -S.O. = CO. U. -S.U. = #13	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>[Signature]</i>	REMARKS: email results: knorman@tasman-geo.com; bdennis@tasman-geo.com; lflores@tasman-geo.com;	

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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

CONDITIONS

Action 243049

**CONDITIONS**

Operator: FOUNDATION ENERGY MANAGEMENT, LLC 5057 KELLER SPRINGS RD ADDISON, TX 75001	OGRID: 370740
	Action Number: 243049
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
nvez	Remediation Plan is approved under the following conditions; 1. The placement of the groundwater monitor well (MW) is acceptable 2. Provide the borehole log for the groundwater MW 3. Must notify OCD 4 working days prior to the MW installation 4. Must complete the site characterization by supplying the supporting documents for karst, wetland, floodplain, and active mine maps within the final closure report. 5. Operator has 90-days (11/13/2023) to submit its findings and propose the next steps in a remediation plan addendum.	8/15/2023