

Incident ID	nAPP2304838742
District RP	
Facility ID	
Application ID	

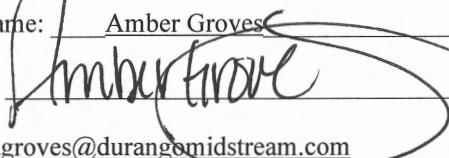
Closure

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Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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Printed Name: Amber Groves Title: Senior Environmental Specialist
Signature:  Date: 3/15/2023
email: agroves@durangomidstream.com Telephone: 575-703-7992

OCD Only

Received by: Jocelyn Harimon Date: 03/16/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Robert Hamlet Date: 7/26/2023
Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

Incident ID	nAPP2231250350
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	40 ____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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Printed Name: Amber Groves Title: Senior Environmental Specialist

Signature:  Date: 3/15/2023

email: agroves@durangomidstream.com Telephone: (575)703-7992

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Remediation Plan

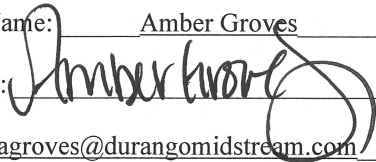
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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.
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OCD Only

Received by: Jocelyn Harimon Date: 03/16/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

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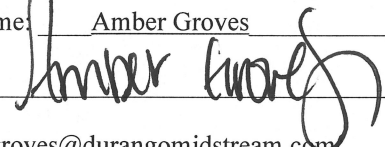
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Oil Conservation Division

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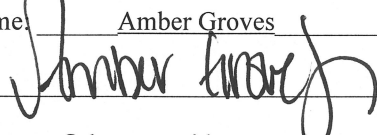
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Signature:  Date: 3/15/2023
email: agroves@durangomidstream.com Telephone: (575)703-7992

OCD Only

Received by: Jocelyn Harimon Date: 03/16/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

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Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Frontier Field Services, LLC

Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

Terracon Project # KH237009



Attn: New Mexico Oil Conservation Division

1220 South St. Francis Drive

Santa Fe, NM 87505

RE: Release Investigation and Closure Report

Sherrell 4" Mucho Luck Pipeline

Unit P, Section 27, Township 16 South, Range 27 East

32.88949°, -104.2584°

Eddy County, New Mexico

Terracon Project No. KH237009

To Whom it May Concern:

Terracon Consultants, Inc. (Terracon) is pleased to submit our Release Investigation, Request, and Closure Report for the site referenced above. The scope of services was developed in accordance with the New Mexico Oil Conservation Division (NMOCD) regulations concerning clean-up actions required for releases of crude oil and produced water. The investigative response actions resulted from a natural gas release from a corroded 4-inch lateral line. The below sections detail Terracon's assessment and remediation actions in response to the noted release.

Action Items**Completed Actions**

- 1) This Closure Report covers two releases at the singular coordinate location of 32.88949, -104.2584 (nAPP2231250350 & nAPP2304838742). This report is intended to document work performed for each respective incident number.
- 2) All conditions needed for approval of closure have been met.
- 3) All Maps and associated data for approval are attached to this report.
- 4) Conducted an initial site assessment and a series of sampling events.
- 5) Soil samples collected from the excavation were submitted to an accredited laboratory to determine levels of impact vertically and horizontally.
- 6) Excavation of the release area was completed with the intent to remove the impacted soil as determined by the Closure Criteria set by NMOCD.
- 7) To prevent any unintentional loss, soil stockpiles onsite were staged on plastic with a berm constructed around the edges.
- 8) Confirmation samples were collected every 200 square feet.
- 9) Remedial activities were terminated when confirmation samples were collected below the NMOCD RALs for Oil and Gas impacted soils.

Explore with us

Frontier Field Services, LLC

Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

Terracon Project # KH237009




Anticipated Actions

-
- 1) Following the completion of remedial activities, excavated areas are to be backfilled, brought to the surrounding grade, and reseeded.
 - 2) Approval by the NMOCD.
-


Terracon appreciates this opportunity to provide environmental services to Frontier Field Services, LLC. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

Terracon Consultants, Inc.



Travis Casey
Senior Staff Scientist
Carlsbad



Erin Loyd, P.G. (TX)
Senior Principal
Office Manager – Lubbock

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Attachments:

Appendix A – Exhibits

- Exhibit 1 – Topographic Map
- Exhibit 2 – Site Map
- Exhibit 3 – Site Sample Map
- Exhibit 4 – NMOSE POD Location Map
- Exhibit 5 – Designated Wetland Map
- Exhibit 6 – Cave Karst Public UCP Map

Appendix B – Tables, Procedures, and Figures

- Table 1 – Closure Criteria for Soils Impacted by a Release
- Table 2 – Sample Analytical Results

Appendix C – Photographic Log

Appendix D – Analytical Report and Chain of Custody

Appendix E – Initial Form C-141

Appendix F – Terracon Standard of Care, Limitation, and Reliance

Frontier Field Services, LLC

Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

Terracon Project # KH237009

**Section 1 – Incident Information**

The following table provides detailed information regarding the November 8, 2022, natural gas, and petroleum liquid release at the Sherrell 4" Mucho Luck pipeline (Mucho Luck) site in Eddy County, New Mexico:

Required Information	Site and Release information	
Responsible party	The pipeline is operated by Frontier Field Services LLC.	
Local contact	Contact: Ms. Amber Groves	P: (575)-703-7992 E: agroves@durangomidstream.com
NMOCD Notification	Notice of the release was provided to the NMOCD District 2 Artesia Office by Mr. Chad Frost/Amber Groves. NMOCD Reference ID: nAPP2231250350 NMOCD Reference ID: nAPP2304838742	
Facility Description	The Mucho Luck site is located in Eddy County, New Mexico within Unit P, Section 27, Township 16 South, Range 27 East. The site is approximately 8.9 miles northeast of Artesia, New Mexico, and is located in predominantly developed oil and gas Right of Way (ROW) within the Bureau of Land Management (BLM) owned native pastureland.	
Discovery of incident	nAPP2231250350	November 8, 2022, discovered during daily inspection.
	nAPP2304838742	February 15, 2023, occurred during active remediation of (nAPP2231250350)
Discharge event	The natural gas/liquids pipeline leak was caused by corrosion of the steel line and liquid was discovered leaking to the surface during normal field inspections. The Site is illustrated in Exhibits 1 and 2 of Appendix A	
Type of discharge	The documented natural gas/liquids release occurred in an open ROW, BLM-owned, native pastureland area. Soils at the site are affected at the surface beyond the depth of the pipeline.	
Quantity of released material	nAPP2231250350	Total Fluids: 0.27 bbls Natural Gas: 67 Mcf

Frontier Field Services, LLC

Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

Terracon Project # KH237009



Required Information	Site and Release information	
Quantity of released material	nAPP2304838742	Natural Gas: 68.95 Mcf
Immediate corrective actions	The leaking pipeline was closed in at the nearest isolation valve, blown down, and clamped. A backhoe was utilized to excavate soils to discover the source of the release.	

Section 2 – General Site Characteristics

Physical Characteristic	Site Ranking Characteristics
Groundwater NMOSE POD Location Map – (Exhibit 6 in Appendix A)	<u>POD Number:</u> (RA-12455 POD1) <u>Depth to Groundwater:</u> 55 ft. bgs <u>Distance to Well:</u> 1.7 miles to the southeast <u>Date Drilled:</u> September 12, 2016 <u>Groundwater Quality:</u> Groundwater quality at the site is predominately used for livestock production.
Surface Water NM Wetland Map – (Exhibit 7 in Appendix A)	Pecos River, approximately 4.9 miles to the west.
100-Year Flood Plain	This site is located outside the 100-year flood plain of the Pecos River.
Soil Characteristics	Soils at the site are mapped as Reeves-Gypsum series soils, 0 to 3 percent slopes, well-drained moderately permeable soils that formed in calcareous and gypsiferous fine textured alluvium derived from gypsum beds. 3 to 7 inches weak fine subangular blocky structure; many very fine roots; common worm casts; strongly effervescent; moderately alkaline, 7 to 60 inches moist; massive; slightly hard, very friable, sticky and plastic; violently effervescent.
Karst Characterization	Terracon evaluated data from the NMOCD Public FTP Site, Karst map designations in reference to the site location. The site appears to be within a high-level Karst risk area. Based on the full extent of release quantities and excavation activities did not extend greater than 108 inches bgs.

Frontier Field Services, LLC

Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

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Section 3 – Regulatory Framework and Response Action Levels

Oil and gas exploration and production facilities in New Mexico are generally regulated by the New Mexico Oil Conservation Division (NMOCD). The NMOCD has issued the *Closure Criteria for Soils Impacted by a Release, on June 21, 2018*, and *Restoration, Reclamation, and Re-vegetation (19.15.29.13) NMAC – D (Reclamation of areas no longer in use)* as guidance documents for the remediation and reclamation of sites impacted by releases from oil and gas exploration and production activities. Sections detailed below the applicability of these guidance documents to the site-specific characteristics associated with the Mucho Luck site.

Section 3.1 – Reclamation Levels (Surface to 4 ft. bgs)

The below Reclamation Limits for chlorides, TPH (GRO+DRO+MRO), BTEX (includes benzene, toluene, ethylbenzene, and xylenes), and benzene are defined within the New Mexico Administration Code (NMAC) *Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use)* for soils extending to 4 ft. bgs.:

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

Section 3.2 – Remediation Levels (> 4 ft. bgs)

Based on the site-specific characteristics, the applicable NMOCD remediation levels for Total BTEX, chloride, and TPH within soils, exclusive of the Reclamation Zone (surface to 4 ft. bgs), are as follows:

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

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Sherrell 4" Mucho Luck pipeline

32.88949°, -104.2584°

NMOCD Reference # nAPP2231250350 & nAPP2304838742

Terracon Project # KH237009

**Section 4 – Remediation Activities**

On February 22, 2022, Terracon mobilized to the site to meet Gandy Corporation (Gandy) personnel, who were to perform soil remediation activities. Areas exhibiting visual impact were excavated to a depth of approximately 8 to 9 feet bgs.

Approximately 2,700 cubic yards of soil were excavated and stockpiled atop a polyethylene liner pending waste characterization and disposal under an approved Form C-138. Excavation efforts ceased based on the results of removing visual impacts. Excavated materials were disposed of at Lea Land Landfill.

Section 5 - Remediation Confirmation Assessment

Terracon mobilized to the site to collect composite samples from the excavation on February 14, 2023. During the active remediation on February 14, 2023, a second release occurred. Terracon mobilized to the site to collect composite samples from the excavation on February 22, 2023. A total of 9 composite soil samples (N-SW01, N-SW02, S-SW01, S-SW02, W-SW01, E-SW01, and FS-01 through FS-03) were collected from the excavation, placed in the laboratory-provided sample containers, preserved with ice, and transported under chain of custody to Cardinal Laboratories in Hobbs, New Mexico for analysis of BTEX, TPH, and chlorides. The samples collected were after remediation occurred for both incidents, therefore confirmation sampling is representative of both incident ID's.

Sidewall Sample denoted as (SW#) & Floor Sample denoted as (FS-#)

Section 6 – Analytical Results

Composite Soil samples collected from February 22, 2023, did not exhibit concentrations of BTEX or TPH (EPA Method 8015M) above laboratory sample detection limits (SDLs).

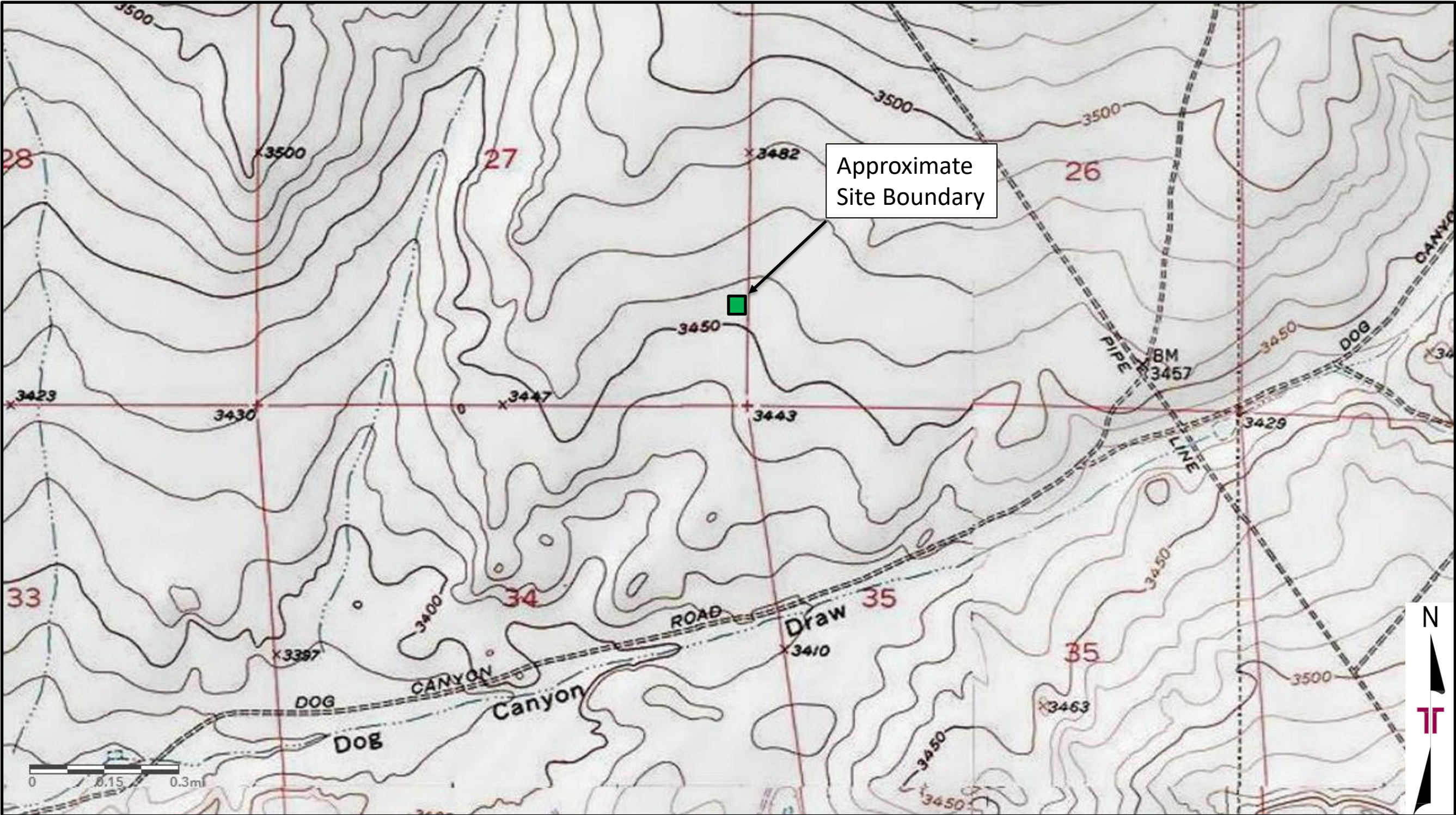
Eight of the soil samples collected from the excavation area exhibited concentrations of chloride above laboratory SDLs and ranging from 16 mg/kg in FS-01 (8-9 feet) to 144 mg/kg in S-SW01 (0-9 feet). Chloride concentrations generally decrease with sample depth and are below the NMOCD RALs.

A summary of BTEX, chloride and TPH concentrations of all collected soil samples is attached as Table 1.

Section 7 – Conclusion and Closure Request


In accordance with NMAC 19.15.29.12, remediation of the impacted material is complete, and Terracon along with Frontier Field Services respectfully requests closure of incidents nAPP2231250350 and nAPP2304838742.

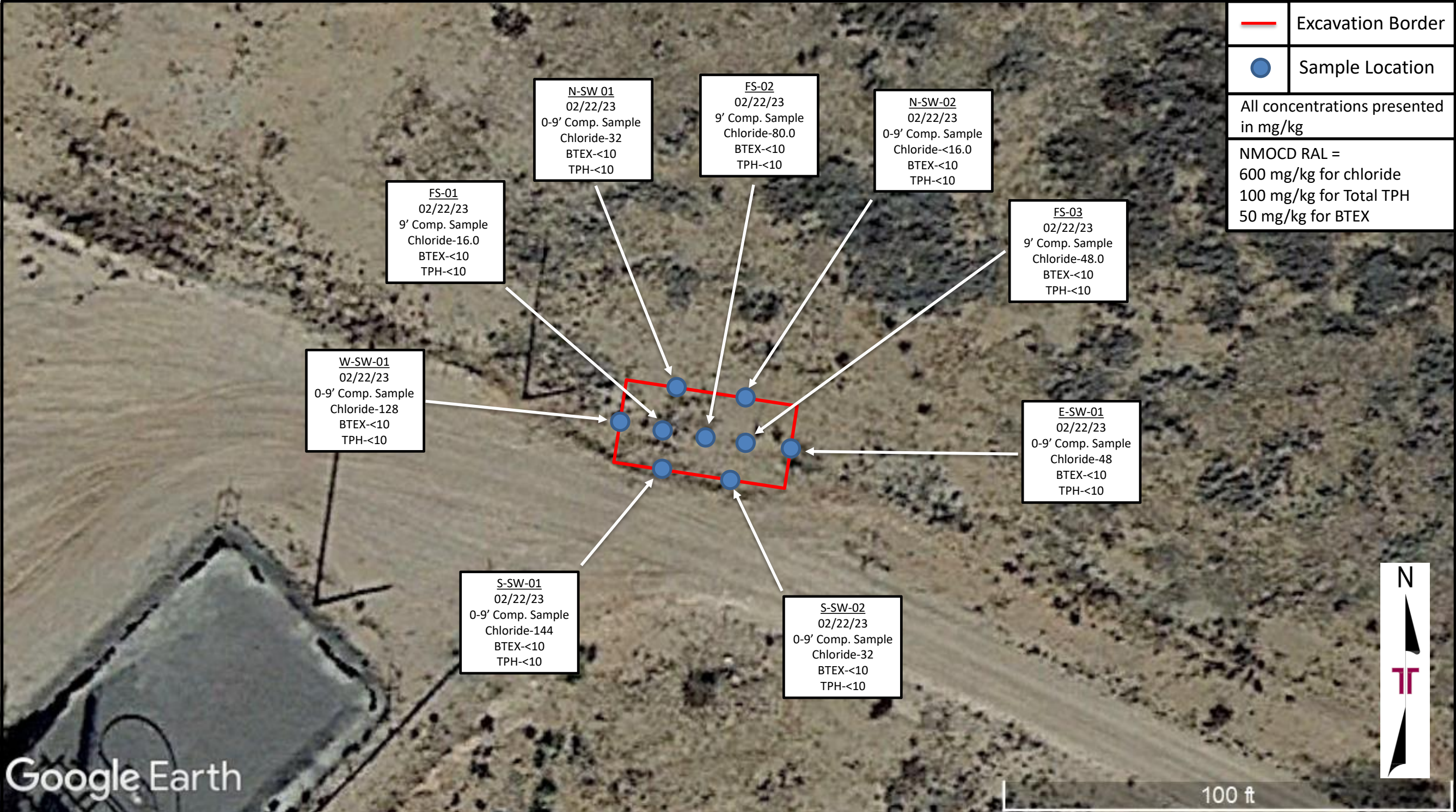
APPENDIX A – EXHIBITS




TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY DIAGRAM IS FOR GENERAL LOCATION ONLY AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES	Project Manager: Travis Casey	Project No. KH237009	 Explore with us 4518 W. Pierce St. Carlsbad, NM 88220 PH. (575)689-4020 FAX. (806) 797 0947	Exhibit 1 – Topographic Map	
	Drawn by: Justin Friend	Scale: On map		4" Mucho Luck	
	Checked by: Travis Casey	File Name: Topo		32.88949°, -104.2584°	
	Approved by: Travis Casey	Date: 03-10-23		Eddy County, New Mexico	




Project No.	KH237009	Exhibit 2 - Site Map	
Scale:	As Shown	4" Mucho Luck	
Source:	Google Earth	32.88949°, -104.2584°	
Date:	03/10/2023	Eddy County, New Mexico	
 Explore with us			
4518 W. Pierce St. PH. (575)689-4020		Carlsbad, NM 88220 FAX. (806) 797 0947	



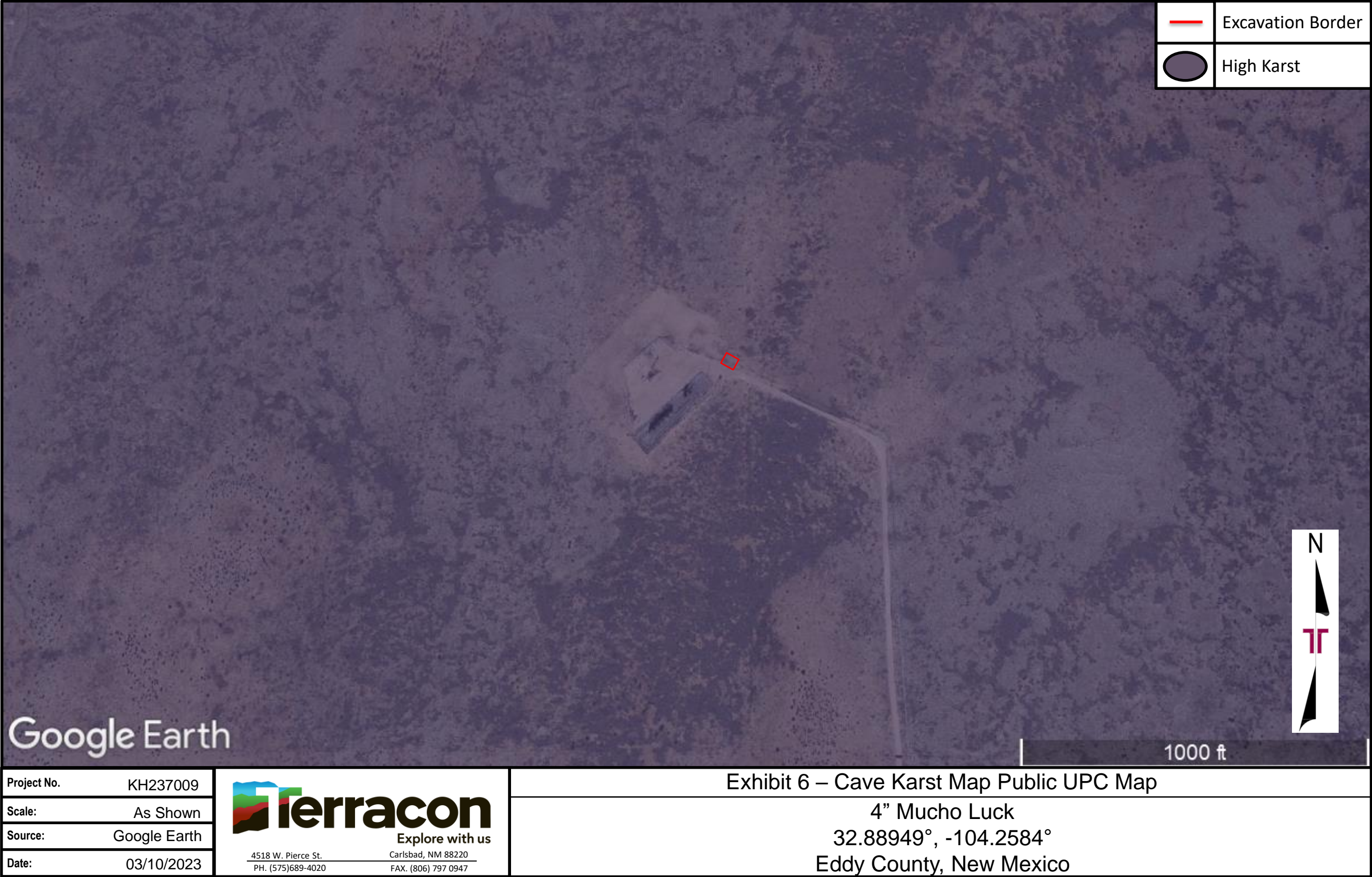
Project No.	KH237009	Exhibit 3 – Site Sample Map 4" Mucho Luck 32.88949°, -104.2584° Eddy County, New Mexico	
Scale:	As Shown		
Source:	Google Earth		
Date:	03/10/2023		
 4518 W. Pierce St. PH. (575)689-4020		Explore with us Carlsbad, NM 88220 FAX. (806) 797 0947	



Project No.	KH237009	Exhibit 4 – NMOSE POD Location Map	
Scale:	As Shown	4" Mucho Luck	
Source:	Google Earth	32.740876°, -103.735114°	
Date:	03/10/2023	Eddy County, New Mexico	
 Explore with us			
4518 W. Pierce St. PH. (575)689-4020		Carlsbad, NM 88220 FAX. (806) 797 0947	



Project No.	KH237009	 Terracon Explore with us <div><div>4518 W. Pierce St.</div><div>Carlsbad, NM 88220</div><div>PH. (575)689-4020</div><div>FAX. (806) 797 0947</div></div>	Exhibit 5 – Designated Wetland Map	
Scale:	1:30,308		4" Mucho Luck	
Source:	National Wetland Inventory		32.88949°, -104.2584°	
Date:	03/10/2023		Eddy County, New Mexico	



APPENDIX B – TABLES, PROCEDURES, AND FIGURES

Table 1			
Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS	Constituent	Method*	Limit**
≤50 feet	Chloride***	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
51 feet – 100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015 M	2,500 mg/kg
	TPH (GRO+DRO)	EPA SW-846 Method 8015 M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

*Or other methods approved by the division

**Numerical limits or natural background level, whichever is greater

***This applies to releases of produced water or other fluids, which may contain chloride

TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS - BTEX ¹ , Chloride ² , and TPH ³ Sherrell 4" Mucho Luck pipeline Terracon Project No. KH237009								
Sample I.D.	Sample Depth (ft. bgs)	Sample Type	Sample Date	BTEX (mg/kg)	Chloride (mg/kg)	TPH (8015M) (mg/kg)		
						GRO	DRO	EXT DRO
Initial Release Margin Samples (Off Pad)								
N-SW01	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	32.0	<10.0	<10.0	<10.0
N-SW02	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	<16.0	<10.0	<10.0	<10.0
S-SW01	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	144	<10.0	<10.0	<10.0
S-SW02	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	32.0	<10.0	<10.0	<10.0
E-SW01	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	48	<10.0	<10.0	<10.0
W-SW01	0-9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	128	<10.0	<10.0	<10.0
FS-01	9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	16.0	<10.0	<10.0	<10.0
FS-03	9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	48	<10.0	<10.0	<10.0
FS-02	9'	Comp	02/22/23	Benzene - <0.050 Total BTEX - <0.300	80.0	<10.0	<10.0	<10.0
NMOCD Reclamation Standards ⁴ (Applicable for Soils from the Surface to 4 ft. Below Grade Surface)				Benzene - 10 Total BTEX - 50	600	100		
NMOCD Remediation and Delineation Standards ⁵ (Applicable for Soils at Depths Greater than 4 ft. Below Grade Surface)				Benzene - 10 Total BTEX - 50	600	100		

1. BTEX = Benzene, toluene, ethylbenzene, total xylenes analyzed by EPA Method 8021B

2. Chloride = Chloride analyzed by EPA Method 300.

3. TPH = Total petroleum hydrocarbons analyzed by EPA Method 8015M (GRO/DRO/MRO)

4. New Mexico Administration Code (NMAC) Restoration, Reclamation, and Re-vegetation (19.15.29.13) New Mexico Administration Code (NMAC) – D (Reclamation of areas no longer in use) for soils extending to 4 ft. bgs

5. New Mexico Oil Conservation Division (NMOCD) Remediation and Delineation Standards are proposed in 19.15.29.12 NMAC - N, 8/14/2018

< = Constituent not detected above the indicated laboratory SDL

APPENDIX C – PHOTOGRAPHIC LOG

Mucho Luck Pipeline ■ Eddy County, New Mexico
March 14, 2023 ■ Terracon Project No. KH227009



Terracon
Much Luck
North to South
02.14.2023 01:07 PM
32.8895, -104.25841
Artesia, NM 88210 USA

PHOTO 1: View of area prior to excavation

Responsive ■ Resourceful ■ Reliable

Mucho Luck Pipeline ■ Eddy County, New Mexico
March 14, 2023 ■ Terracon Project No. KH227009



Terracon
Much Luck
Pipe close up
02.14.2023 01:04 PM
32.88949, -104.25837
Artesia, NM 88210, USA

PHOTO 2: View of area prior to excavation

Responsive ■ Resourceful ■ Reliable

Mucho Luck Pipeline ■ Eddy County, New Mexico
March 14, 2023 ■ Terracon Project No. KH227009



PHOTO 3: View of area during excavation

Responsive ■ Resourceful ■ Reliable

Mucho Luck Pipeline ■ Eddy County, New Mexico
March 14, 2023 ■ Terracon Project No. KH227009



PHOTO 4: View of area during post excavation

Responsive ■ Resourceful ■ Reliable

APPENDIX D – ANALYTICAL REPORT AND CHAIN OF CUSTODY



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

February 27, 2023

JOSEPH GUESNIER

TERRACON CONSULTANTS

5827 50TH ST. SUITE 1

LUBBOCK, TX 79424

RE: MUCHO LUCK

Enclosed are the results of analyses for samples received by the laboratory on 02/23/23 13:22.

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:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: W - SW01 (H230850-01)

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	02/24/2023	ND	2.08	104	2.00	1.39	
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79	
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73	
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52	
Total BTX	<0.300	0.300	02/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	128	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 91.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.0 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: N - SW01 (H230850-02)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTX	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	32.0	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 91.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: S - SW01 (H230850-03)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTEx	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	144	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: E - SW01 (H230850-04)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTX	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	48.0	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.1 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: FS 01 (H230850-05)

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	02/24/2023	ND	2.08	104	2.00	1.39	
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79	
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73	
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52	
Total BTX	<0.300	0.300	02/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	16.0	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 92.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.6 % 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:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: N - SW02 (H230850-06)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTEX	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	<16.0	16.0	02/23/2023	ND	416	104	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 97.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: S - SW02 (H230850-07)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTEx	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-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	02/23/2023	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 92.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.1 % 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:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: FS 03 (H230850-08)

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	02/24/2023	ND	2.08	104	2.00	1.39		
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79		
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73		
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52		
Total BTEX	<0.300	0.300	02/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-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	02/23/2023	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 92.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.9 % 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:

TERRACON CONSULTANTS
 JOSEPH GUESNIER
 5827 50TH ST. SUITE 1
 LUBBOCK TX, 79424
 Fax To:

Received: 02/23/2023
 Reported: 02/27/2023
 Project Name: MUCHO LUCK
 Project Number: KH237009
 Project Location: DURANGO - EDDY

Sampling Date: 02/23/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: FS 02 (H230850-09)

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	02/24/2023	ND	2.08	104	2.00	1.39	
Toluene*	<0.050	0.050	02/24/2023	ND	2.01	100	2.00	1.79	
Ethylbenzene*	<0.050	0.050	02/24/2023	ND	1.94	97.2	2.00	1.73	
Total Xylenes*	<0.150	0.150	02/24/2023	ND	5.95	99.1	6.00	1.52	
Total BTEX	<0.300	0.300	02/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/23/2023	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	02/24/2023	ND	237	118	200	19.7	
DRO >C10-C28*	<10.0	10.0	02/24/2023	ND	218	109	200	17.1	
EXT DRO >C28-C36	<10.0	10.0	02/24/2023	ND					

Surrogate: 1-Chlorooctane 95.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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

Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
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



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Terracon

Project Manager: Joseph Guesnier

Address: 4518 W. Perice Street

City: Carlsbad

State: NM Zip: 88220

Phone #: 8065077057

Fax #:

Project #: KH237069

Project Owner: Durango

Project Name: Mucka Truck

City: State: Zip:

Project Location: Eddy

Phone #:

Sampler Name: Travis Casey

Fax #:

P.O. #:

Company: Durango

Attn: Amber Graves

Address:

City: State: Zip:

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

1230850

W-SW01

C

1

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

Chloride (EPA Method 4500)

TPH Extended 8015

BTEX (EPA Method 8021B)

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Relinquished By:

Date: 2/23/23 Received By:

Relinquished By: Becky Miller

Date: 2/23/23 Received By: [Signature]

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Delivered By: (Circle One)

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

Yes

No

Checked By: (Initials)

Turnaround Time:

Thermometer ID #113

Correction Factor -0.5°C

Standard

Bacteria (only)

Cool Intact

Yes

No

Sample Condition

Observed Temp. °C

Corrected Temp. °C

Time:

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

Yes

No

Checked By: (Initials)

Turnaround Time:

Thermometer ID #113

Correction Factor -0.5°C

Standard

Bacteria (only)

Cool Intact

Yes

No

Sample Condition

Observed Temp. °C

Corrected Temp. °C

Time:

FORM-000 R-3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

APPENDIX E – Initial C-141

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	nAPP2304838742
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Frontier Field Services, LLC	OGRID 221115
Contact Name Amber Groves	Contact Telephone 575-703-7992
Contact email agroves@durangomidstream.com	Incident # (assigned by OCD)
Contact mailing address 47 Conoco Rd, Maljamar NM 88264	

Location of Release Source

Latitude 32.88949 Longitude -104.2584
(NAD 83 in decimal degrees to 5 decimal places)

Site Name 4" Mucho Luck #2	Site Type Pipeline
Date Release Discovered 2/15/2023	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	27	16S	27E	Eddy

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 type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Natural Gas	Volume Released (Mcf) 68.95	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

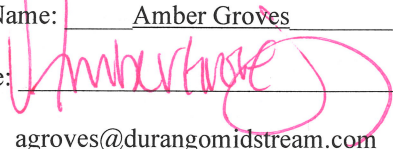
External & internal corrosion. Release occurred during active remediation of nAPP2231250350

Incident ID	nAPP2304838742
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
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 attach a narrative of actions to date. 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 attach all information needed for closure evaluation.	
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: <u>Amber Groves</u>	Title: <u>Sr. Environmental Specialist</u>
Signature: 	Date: <u>2/17/2023</u>
email: <u>agroves@durangomidstream.com</u>	Telephone: <u>(575)703-7992</u>
<u>OCD Only</u>	
Received by: _____	Date: _____



Gas Volume Release Report

Gas Release Volume Calculator		
Date:	2/15/2023	
Site or Line Name:	Dagger Draw Mucho Luck 4" Steel Line	
Area of Hole in Pipe:	0.25	square inches
Absolute Pressure:	54.7	psia - absolute pressure (psia = psig gauge pressure + 14.7)
Duration of Release:	60.00	minutes
Actual Temperature:	55	Degrees F
Representative Gas Analysis	Please attach or email a representative gas analysis	
Constants		
Temperature at standard conditions:	60	Deg. F
Pressure at standard conditions:	14.7	PSIA
Volume of Gas - ACF	18.35	MACF
Volume of Gas - SCF	68.95	MSCF
Notes		
Entered by user		
Calculated Value		
Constant		

APPENDIX F – TERRACON STANDARD OF CARE, LIMITATION, AND RELIANCE

Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, Durango Midstream LLC, as reflected in our proposal (PKH237009).

Additional Scope Limitations

The development of this Amended RAP is based upon information provided by the Client and Terracon's remediation and construction services line. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client. The data, interpretations, findings, and recommendations are based solely upon reformation executed within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Durango Midstream LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Durango Midstream LLC and Terracon. Any unauthorized distribution or reuse is at Durango Midstream LLC sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal and Durango Midstream LLC and Terracon's Master Services Agreement. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Durango Midstream LLC and all relying parties unless otherwise agreed in writing.

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 197703

CONDITIONS

Operator: FRONTIER FIELD SERVICES, LLC 10077 Grogans Mill Rd. The Woodlands, TX 77380	OGRID: 221115
	Action Number: 197703
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2304838742 4" MUCHO LUCK #2, thank you. This closure is approved.	7/26/2023