SITE INFORMATION

Report Type: Closure Report 1RP-4886

General Site Information:						
Site:	**Chili Parlor 17 Federal 03H**					
Company:	**Marathon Oil Permian, LLC**					
Section, Township and Range	**Unit O**	**Sec. 08**	**T 22S**	**R 33E**		
Lease Number:	**API No. 30-025-43138**					
County:	**Lea County**					
GPS:	**32.3997481**			**-103.593154**		
Surface Owner:	State					
Mineral Owner:	Federal					
Directions:	From the intersection of Hwy 176 and CR 27 A in rural Lea County, travel east on HWY 176 for 2.2 mi, turn southwest onto lease road and go 1.44 mi, turn south and go 0.66 mi, turn southeast and go 1.62 mi, turn southwest and go 6.77 mi, turn south and go 1.16 mi, turn west and go 0.27 mi, turn south and go 1.25 mi, turn east and go 0.91 mi, turn south and go 0.13 mi, turn southwest and go 200 ft to location.					

Release Data:	
Date Released:	11/3/2017
Type Release:	Water
Source of Contamination:	Transfer Line
Fluid Released:	< 4 bbls
Fluids Recovered:	0 bbls

Official Communication:			
Name:	Callie Karrigan		Clair Gonzales
Company:	Marathon Oil Permian, LLC		Tetra Tech
Address:	2423 Bonita Street		901 W. Wall St.
			Ste 100
City:	Carlsbad, NM 88220		Midland, Texas, 79701
Phone number:	(575) 297-0956		(432) 682-4559
Fax:			
Email:	cnkarrigan@marathonoil.com		clair.gonzales@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	***0***	*375' - 400'*
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	***0***	*0*
Total Ranking Score:	***0***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	2,500

TETRA TECH

APPROVED
By Olivia Yu at 10:08 am, Oct 22, 2018

October 10, 2018

NMOCD grants closure to 1RP-4886.

Ms. Olivia Yu
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the Marathon Oil, Chili Parlor 17 Federal #3H, Unit O, Section 08, Township 22 South, Range 33 East, Lea County, New Mexico. 1RP-4886.

Ms. Yu:

Tetra Tech, Inc. (Tetra Tech) was contacted by Marathon Oil (Marathon) to assess and remediate a spill from Chili Parlor 17 Federal #3H, Unit O, Section 08, Township 22 South, Range 33 East, Lea County, New Mexico (site). The spill site coordinates are 32.3997481, -103.593154. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on November 3, 2017, and released approximately four (4) barrels of water due to the disconnection of a transfer line by a contractor. No fluids were recovered. The release occurred to the southeast and adjacent to the location. The spill measured approximately 50' x 150'. The initial C-141 form is included in Appendix A. As part of the emergency response, Marathon personnel excavated the area to approximately 2' to address the surficial impact. The excavated material was hauled for proper disposal and the area was backfilled.

Groundwater

No water wells were listed within Section 08 on the New Mexico Office of the State Engineer's (NMOSE) database, the Geology and Ground-Water Conditions of Southern Lea County, New Mexico (Report 6), or the USGS National Water Information Database. The nearest well is listed on the NMOSE in Section 33, Township 21 South, Range 33 East, approximately 3.03 miles north-northeast of the site, and has a reported depth to groundwater of 600' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is between 375' and 400' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 2,500 mg/kg (GRO + DRO + ORO). Additionally, based on the reported depth to groundwater in the area, the proposed RRAL for chlorides is 20,000 mg/kg.

Soil Assessment and Analytical Results

On August 22, 2018, Tetra Tech personnel were onsite to evaluate and sample the release area. Three (3) auger holes (AH-1, AH-2, and AH-3) were installed in the release area, to total sample depths of 4.5'-5' below surface. Selected samples were analyzed for TPH by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, none of the samples collected exceeded the laboratory reporting limits for benzene, total BTEX, or TPH. Additionally, all the collected samples from auger holes (AH-1, AH-2 and AH-3) showed minimal chloride concentrations, with concentrations ranging from <4.98 mg/kg to 83.9 mg/kg.

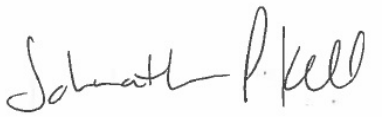
Conclusions and Recommendations

The backfilled areas, outside of the pipeline right of way, will be seeded in June 2019 to coincide with the rainy season in Southeastern New Mexico and aid in revegetation. Based on the soils at the site, the NMSLO Shallow (SH) Sites Seed Mixture will be used for seeding and will be planted in the amount specified in the pounds pure live seed (PLS) per acre. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix D.

Based on the soil assessment and sample analysis performed at the site, Marathon requests closure of this spill. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

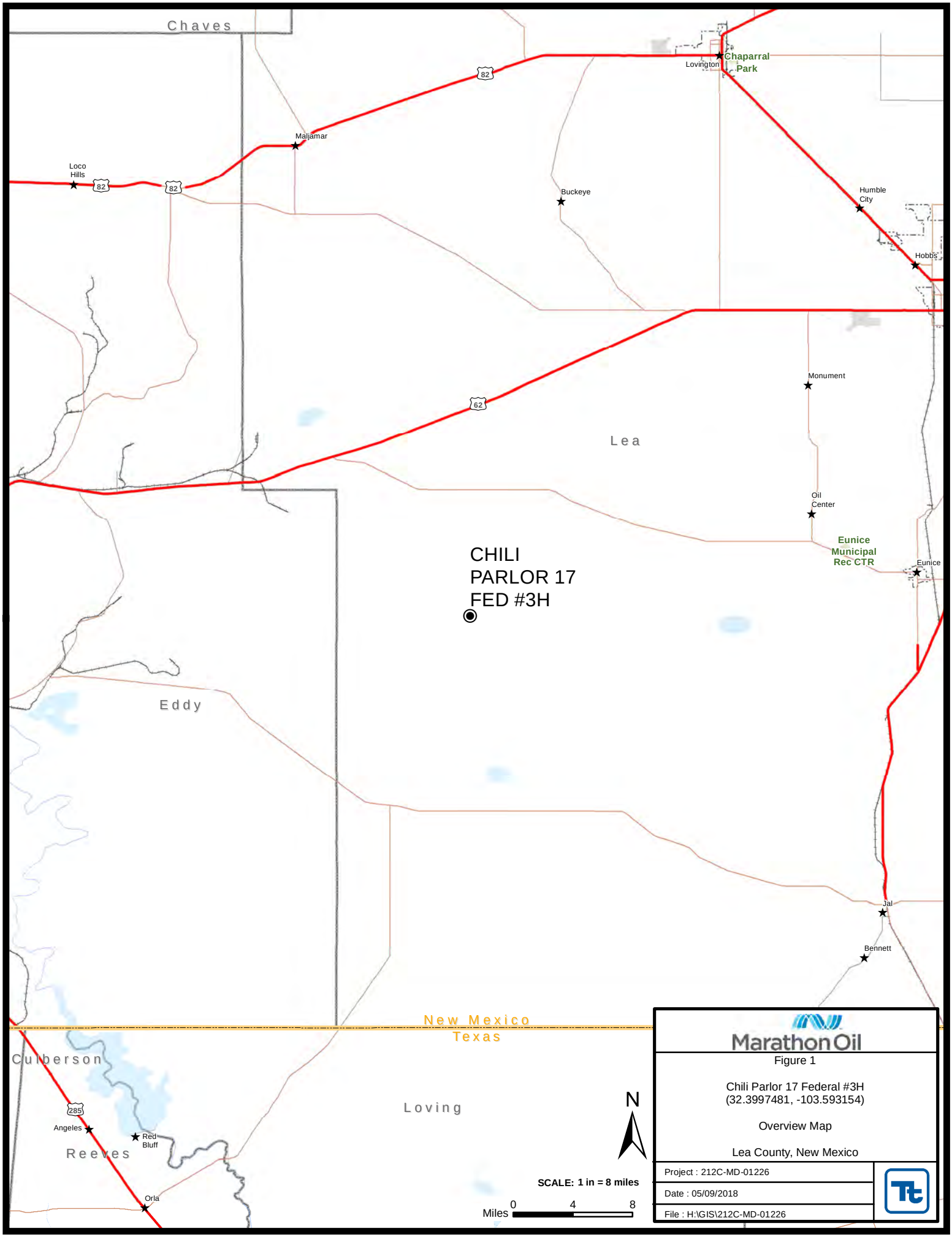


Clair Gonzales,
Project Manager

Johnathon Kell,
Geologist

cc: Callie Karrigan - Marathon
Ryan Mann - SLO

Figures



Marathon Oil

Figure 1

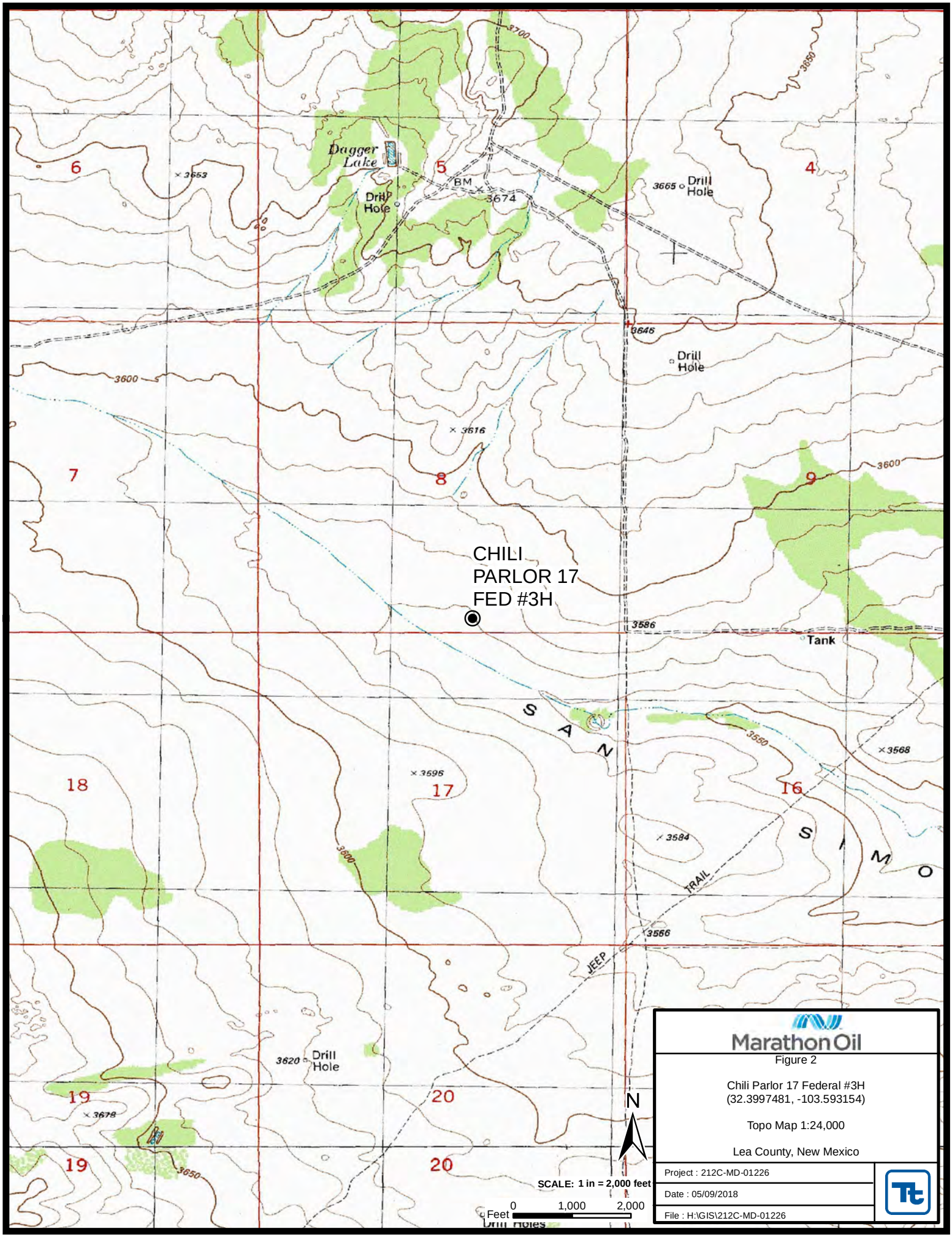
Chili Parlor 17 Federal #3H
(32.3997481, -103.593154)

Overview Map

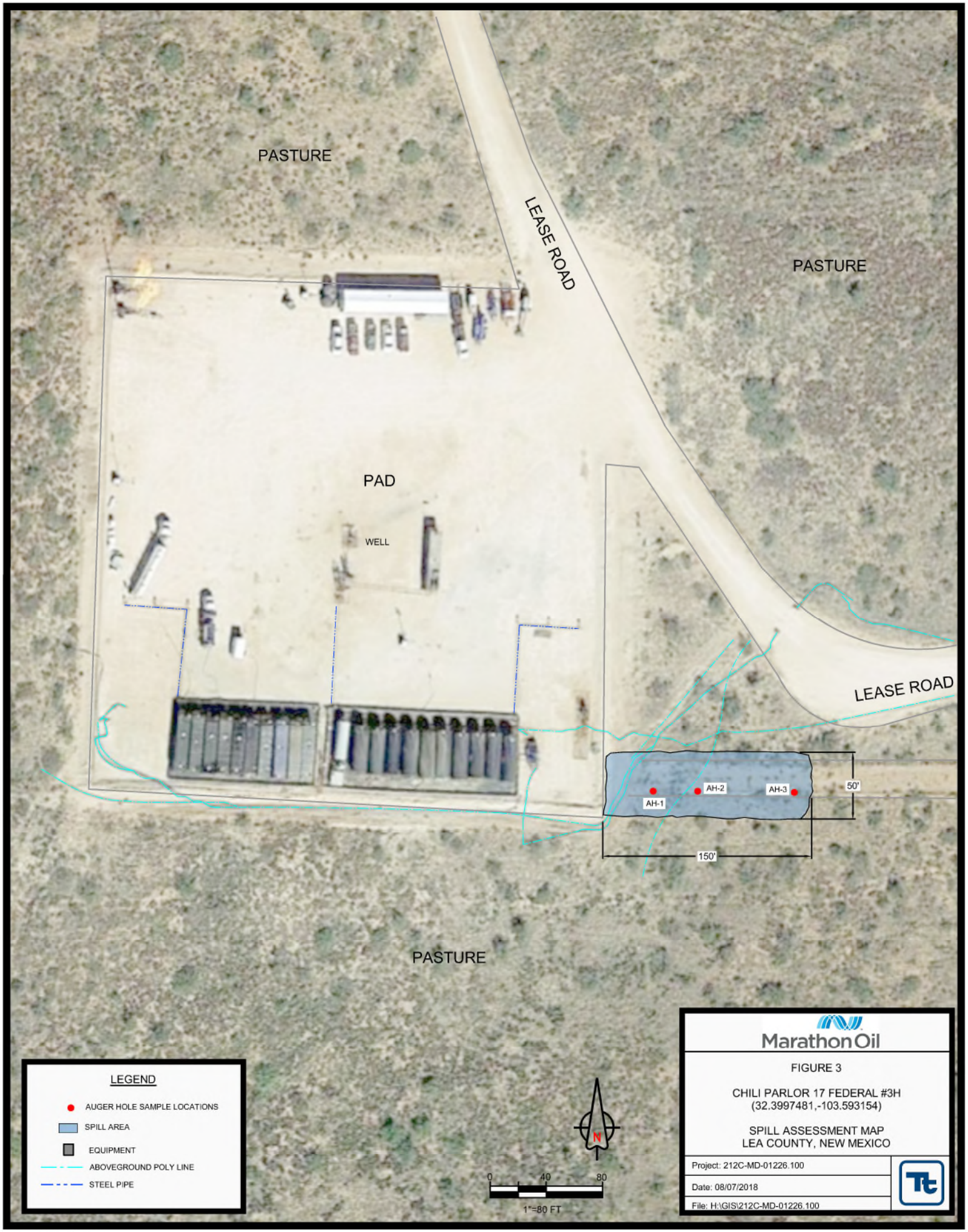
Lea County, New Mexico

Project : 212C-MD-01226	
Date : 05/09/2018	
File : H:\GIS\212C-MD-01226	

Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo



Marathon Oil

FIGURE 3

CHILI PARLOR 17 FEDERAL #3H
(32.3997481,-103.593154)

SPILL ASSESSMENT MAP
LEA COUNTY, NEW MEXICO

Project: 212C-MD-01226.100

Date: 08/07/2018

File: H:\GIS\212C-MD-01226.100

Drawn By: MISTI MORGAN

Tables

Table 1
Marathon Oil Company
Chili Parlor 17-3H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
AH-1	8/22/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.95
	"	1.5-2	X		-	-	-	-	-	-	-	-	-	<4.95
	"	2.5-3	X		-	-	-	-	-	-	-	-	-	<4.99
	"	3.5-4	X		-	-	-	-	-	-	-	-	-	<4.96
	"	4.5-5	X		-	-	-	-	-	-	-	-	-	<4.95
AH-2	8/22/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.97
	"	1.5-2	X		-	-	-	-	-	-	-	-	-	8.83
	"	2.5-3	X		-	-	-	-	-	-	-	-	-	<4.98
	"	3.5-4	X		-	-	-	-	-	-	-	-	-	<4.97
	"	4.5-5	X		-	-	-	-	-	-	-	-	-	<4.99
AH-3	8/22/2018	0-1	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	8.86
	"	1.5-2	X		-	-	-	-	-	-	-	-	-	83.9
	"	2.5-3	X		-	-	-	-	-	-	-	-	-	42.4
	"	3.5-4	X		-	-	-	-	-	-	-	-	-	33.4
	"	4.5-5	X		-	-	-	-	-	-	-	-	-	55.1

(-) Not Analyzed

Photos

Marathon Oil Permian LLC
Chili Parlor 17 Federal #3H
Lea County, New Mexico

View North – Area of release point.

View East – Area of release.

Appendix A

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Marathon Oil Permian LLC	Contact Raquel Chacon
Address 5555 San Felipe Street, Houston, Texas 77056	Telephone No. 281-910-0441 (cell) 575-297-0988 (office)
Facility Name: Chili Parlor 17 Federal 03H	Facility Type: Oil and gas drilling facility

Surface: Owner: State	Mineral: Owner: Federal	API No. : 30-025-43138

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	08	22S	33E	240	SL	2200	EL	Lea

Latitude 32.39974813 **Longitude** -103.59315405

NATURE OF RELEASE

Type of Release : Water	Volume of Release: unknown	Volume Recovered : unknown
Source of Release: Transfer line	Date and Hour of Occurrence 11/19/17; unknown 11/3/2017	Date and Hour of Discovery 11/20/2017; 4 pm
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
Not applicable.

RECEIVED
By Olivia Yu at 2:16 pm, Nov 29, 2017

Describe Cause of Problem and Remedial Action Taken.*
Rancher submitted photos and spill to OCD on 11/3/2017 initiating investigation by Marathon Oil. Cause of spill appeared to be during disconnection of transfer line by contractor. Less than 4 bbls of water leaked from line upon disconnecting. The line was flushed with fresh water.

Describe Area Affected and Cleanup Action Taken.*
Measurement of spill was about 10'X15' occurred South East adjacent to location. Samples will be taken as part of the investigation to confirm line was flushed prior to disconnecting.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Raquel Chacon Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist: OY	
Printed Name: Raquel Chacon		
Title: Sr. HES Environmental Professional	Approval Date: 11/29/2017	Expiration Date:
E-mail Address: rchacon@marathonoil.com	Conditions of Approval:	Attached ☑
Date: 11/28/2017 Phone: 281-910-0441(cell) 575-297-0988 (office)	see attached directive	

* Attach Additional Sheets If Necessary

1RP-4886 nOY1733352349 pOY1733354353

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _11/28/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-4886__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _12/29/2017_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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 Marathon Oil Permian, LLC	OGRID
Contact Name Callie Karrigan	Contact Telephone 575.297.0956
Contact email cnkarrigan@marathonoil.com	Incident # *(assigned by OCD)* 1RP-4886
Contact mailing address 2423 Bonita Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.39974 Longitude -103.59315
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Chili Parlor 17 Federal 03H	Site Type Oil and gas drilling facility
Date Release Discovered 11/3/2017	API# *(if applicable)* 30-025-43138

Unit Letter	Section	Township	Range	County
O	08	22S	33E	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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☑ Produced Water	Volume Released (bbls) <4 bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

According to the State of New Mexico C-141 Initial Report, the leak was discovered on November 3, 2017, and released approximately four (4) barrels of water due to the disconnection of a transfer line by a contractor.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☑ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

- ☑ The source of the release has been stopped.
- ☑ The impacted area has been secured to protect human health and the environment.
- ☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not 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: Clair Gonzales Title: Project Manager

Signature: Clair Gonzales Date: 10/9/2018

email: Clair.Gonzales@Tetratech.com Telephone: 432.687.4559

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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?	375 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ 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)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ 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?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☑ Yes ☐ 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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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: Clair Gonzales Title: Project Manager

Signature: Clair Gonzales Date: 10/9/2018

email: Clair.Gonzales@Tetratech.com Telephone: 432.682.4559

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Clair Gonzales Title: Project Manager

Signature: Clair Gonzales Date: 10/9/2018

email: Clair.Gonzales@Tetratech.com Telephone: 432.682.4559

OCD Only

Received by: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
Marathon - Chili Parlor 17 Federal #3H
Lea County, New Mexico

21 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

21 South 33 East

6	5	4	3	2 79 107	1
7	8	9	10	11 150	12
18 143	17	16	15	14	13
19	20	21	22	23	24
30	29	28 179	27	26	25
31	32	33 555 600	34	35	36

21 South 34 East

6	5	4 95	3	2	1
7	8 120	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 140	27	26	25
31	32	33	34	35	36

22 South 32 East

6	5	4	3	2	1
7 55	8	9	10	11	12
18	17	16	15	14 382 350	13
19 (S) 280	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 391
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South 34 East

6	5	4	3	2	1
7	8	9	10	11 30	12 50
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South 32 East

6	5	4	3	2	1
7 639	8	9	10	11	12
18	17	16	15	14	13
19	20 713	21 400	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South 33 East

6	5	4	3	2	1
7 475	8	9	10	11	12 325
18	17	16	15	14	13
19 400	20 400	21	22	23	24
30	29	28 400	27	26 225	25 225
31	32	33	34	35	36

23 South 34 East

6	5	4	3	2	1
7	8 225	9	10	11	12
18	17	16	15 430	14 318	13
19	20	21	22 295	23 265	24
30	29	28	27	26	25
31	32 130	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00854 POD1	CP	LE	1	1	2	33	21S	33E	633879	3590223	950	600	350
CP 01356 POD1	CP	LE	4	2	2	33	21S	33E	634560	3590014	1098	555	543

Average Depth to Water: **577 feet**

Minimum Depth: **555 feet**

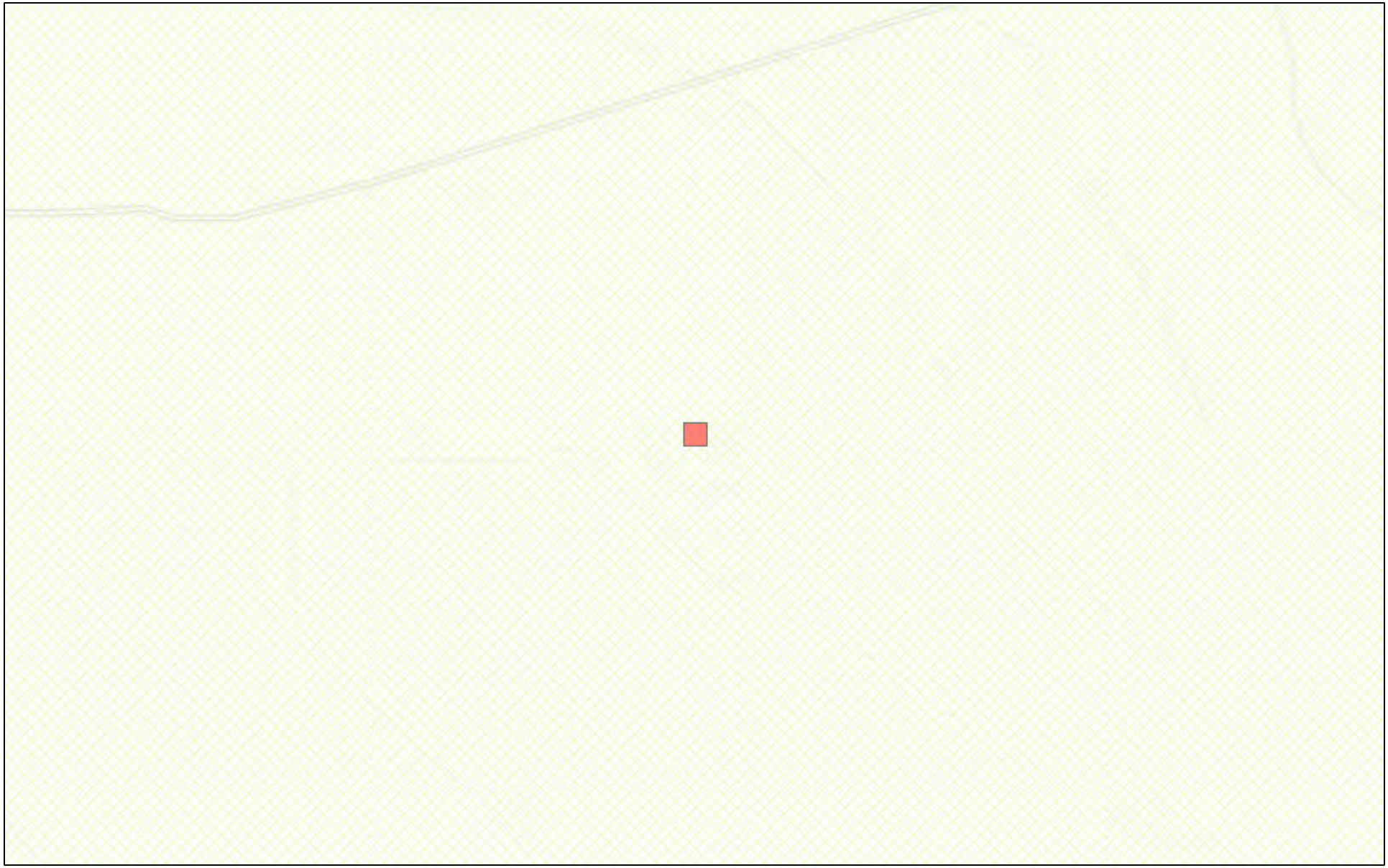
Maximum Depth: **600 feet**

Record Count: 2

PLSS Search:

Section(s): 33 **Township:** 21S **Range:** 33E

New Mexico NFHL Data



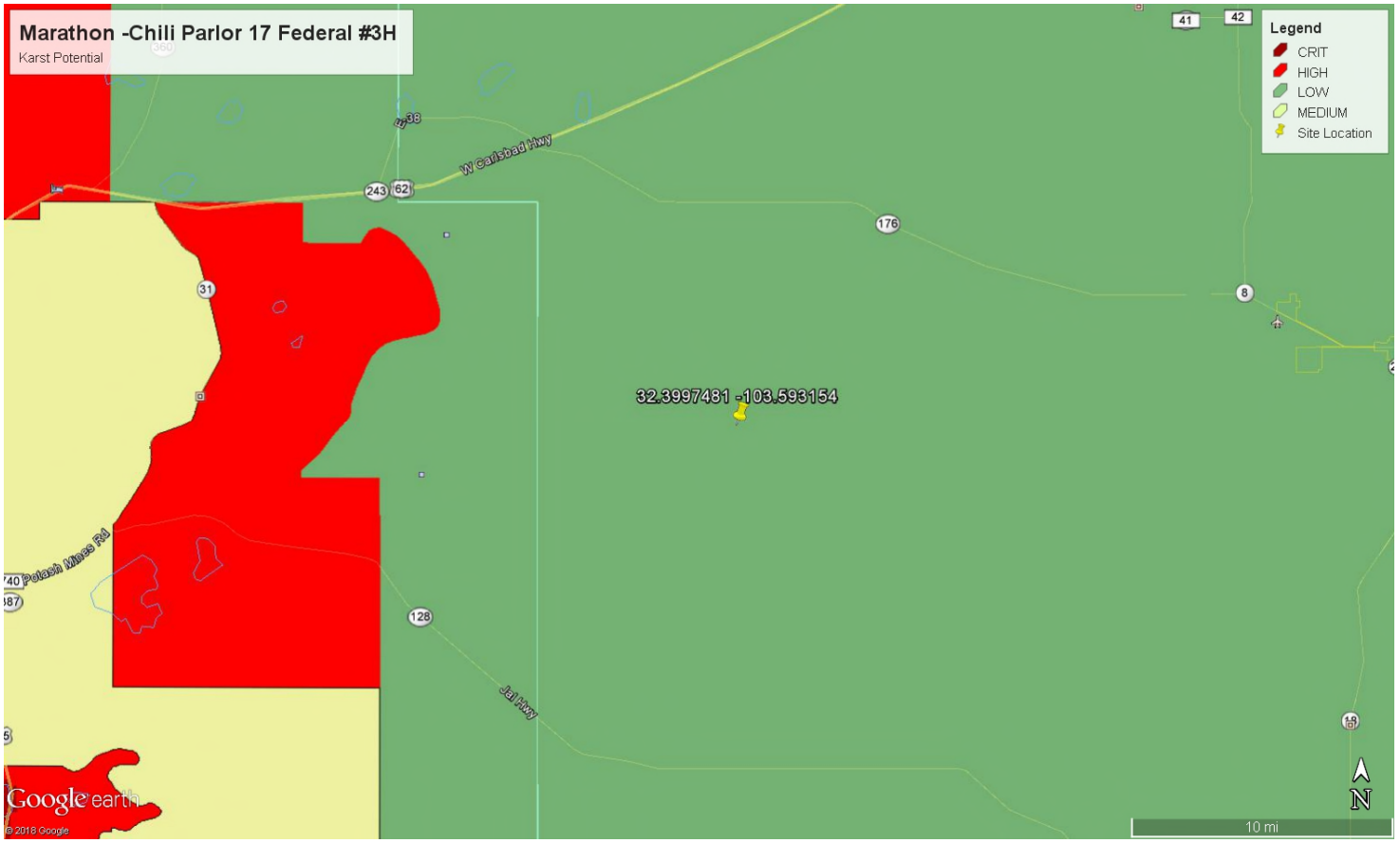
October 9, 2018

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,


Marathon -Chili Parlor 17 Federal #3H
Karst Potential
Legend
CRIT
HIGH
LOW
MEDIUM
Site Location
32.3997481 -103.593154
W Carlsbad Hwy
Potash Mines Rd
Jal Hwy
41
42
243
62
176
31
8
128
Google earth
© 2018 Google
10 mi
N

Appendix C

Analytical Report 597130

for

Tetra Tech- Midland

Project Manager: Clair Gonzales

Marathon-Chili Parlor 17-3H

212C-MD-01226.100

06-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

06-SEP-18

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **597130**
Marathon-Chili Parlor 17-3H
Project Address: Lea County, NM

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 597130. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 597130 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 597130

Tetra Tech- Midland, Midland, TX

Marathon-Chili Parlor 17-3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 0-1	S	08-22-18 00:00		597130-001
AH-1 1.5-2	S	08-22-18 00:00		597130-002
AH-1 2.5-3	S	08-22-18 00:00		597130-003
AH-1 3.5-4	S	08-22-18 00:00		597130-004
AH-1 4.5-5	S	08-22-18 00:00		597130-005
AH-2 0-1	S	08-22-18 00:00		597130-006
AH-2 1.5-2	S	08-22-18 00:00		597130-007
AH-2 2.5-3	S	08-22-18 00:00		597130-008
AH-2 3.5-4	S	08-22-18 00:00		597130-009
AH-2 4.5-5	S	08-22-18 00:00		597130-010
AH-3 0-1	S	08-22-18 00:00		597130-011
AH-3 1.5-2	S	08-22-18 00:00		597130-012
AH-3 2.5-3	S	08-22-18 00:00		597130-013
AH-3 3.5-4	S	08-22-18 00:00		597130-014
AH-3 4.5-5	S	08-22-18 00:00		597130-015

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3062194 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 597553-001 S.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 597130

Tetra Tech- Midland, Midland, TX

Project Name: Marathon-Chili Parlor 17-3H

Project Id: 212C-MD-01226.100
Contact: Clair Gonzales
Project Location: Lea County, NM

Date Received in Lab: Mon Aug-27-18 11:14 am
Report Date: 06-SEP-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	597130-001		597130-002		597130-003		597130-004		597130-005		597130-006	
	Field Id:	AH-1 0-1		AH-1 1.5-2		AH-1 2.5-3		AH-1 3.5-4		AH-1 4.5-5		AH-2 0-1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00	
BTEX by EPA 8021B	***Extracted:***	Sep-04-18 10:00										Sep-04-18 10:00	
	Analyzed:	Sep-05-18 15:51										Sep-05-18 15:51	
	Units/RL:	mg/kg	RL									mg/kg	RL
Benzene		<0.00200	0.00200									<0.00199	0.00199
Toluene		<0.00200	0.00200									<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200									<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401									<0.00398	0.00398
o-Xylene		<0.00200	0.00200									<0.00199	0.00199
Total Xylenes		<0.00200	0.00200									<0.00199	0.00199
Total BTEX		<0.00200	0.00200									<0.00199	0.00199
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-29-18 09:30		Aug-29-18 09:30		Aug-29-18 09:30		Aug-29-18 09:30		Aug-29-18 08:30		Aug-29-18 08:30	
	Analyzed:	Aug-29-18 15:17		Aug-29-18 15:22		Aug-29-18 15:28		Aug-29-18 15:33		Aug-29-18 16:05		Aug-29-18 16:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.98	4.98	<4.95	4.95	<4.99	4.99	<4.96	4.96	<4.95	4.95	<4.97	4.97
TPH By SW8015 Mod	***Extracted:***	Aug-28-18 14:00										Aug-29-18 14:00	
	Analyzed:	Aug-28-18 18:39										Aug-29-18 21:08	
	Units/RL:	mg/kg	RL									mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0									<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0									<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0									<15.0	15.0
Total TPH		<15.0	15.0									<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 597130

Tetra Tech- Midland, Midland, TX

Project Name: Marathon-Chili Parlor 17-3H

Project Id: 212C-MD-01226.100
Contact: Clair Gonzales
Project Location: Lea County, NM

Date Received in Lab: Mon Aug-27-18 11:14 am
Report Date: 06-SEP-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	597130-007		597130-008		597130-009		597130-010		597130-011		597130-012	
	Field Id:	AH-2 1.5-2		AH-2 2.5-3		AH-2 3.5-4		AH-2 4.5-5		AH-3 0-1		AH-3 1.5-2	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00	
BTEX by EPA 8021B	***Extracted:***									Sep-04-18 10:00			
	Analyzed:									Sep-05-18 15:51			
	Units/RL:									mg/kg	RL		
Benzene										<0.00201	0.00201		
Toluene										<0.00201	0.00201		
Ethylbenzene										<0.00201	0.00201		
m,p-Xylenes										<0.00402	0.00402		
o-Xylene										<0.00201	0.00201		
Total Xylenes										<0.00201	0.00201		
Total BTEX										<0.00201	0.00201		
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-29-18 08:30		Aug-29-18 08:30		Aug-29-18 08:30		Aug-29-18 08:30		Aug-29-18 08:30		Aug-29-18 08:30	
	Analyzed:	Aug-29-18 16:26		Aug-29-18 16:31		Aug-29-18 16:37		Aug-29-18 16:52		Aug-29-18 16:58		Aug-29-18 17:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8.83	4.96	<4.98	4.98	<4.97	4.97	<4.99	4.99	8.86	5.01	83.9	4.99
TPH By SW8015 Mod	***Extracted:***									Aug-29-18 14:00			
	Analyzed:									Aug-29-18 21:28			
	Units/RL:									mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0		
Diesel Range Organics (DRO)										<15.0	15.0		
Oil Range Hydrocarbons (ORO)										<15.0	15.0		
Total TPH										<15.0	15.0		

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 597130

Tetra Tech- Midland, Midland, TX

Project Name: Marathon-Chili Parlor 17-3H

Project Id: 212C-MD-01226.100
Contact: Clair Gonzales
Project Location: Lea County, NM

Date Received in Lab: Mon Aug-27-18 11:14 am
Report Date: 06-SEP-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	597130-013		597130-014		597130-015					
	Field Id:	AH-3 2.5-3		AH-3 3.5-4		AH-3 4.5-5					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Aug-22-18 00:00		Aug-22-18 00:00		Aug-22-18 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-29-18 08:30		Aug-29-18 08:30		Aug-29-18 08:30					
	Analyzed:	Aug-29-18 17:17		Aug-29-18 17:22		Aug-29-18 17:27					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		42.4	4.95	33.4	5.00	55.1	5.00				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Orders : 597130,

Project ID: 212C-MD-01226.100

Lab Batch #: 3061546 **Sample:** 597130-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/28/18 18:39

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.8	99.8	95	70-135	
o-Terphenyl	47.5	49.9	95	70-135	

Lab Batch #: 3061706 **Sample:** 597130-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/29/18 21:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	99.7	94	70-135	
o-Terphenyl	49.6	49.9	99	70-135	

Lab Batch #: 3061706 **Sample:** 597130-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/29/18 21:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.8	99.9	90	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 3062194 **Sample:** 597130-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3062194 **Sample:** 597130-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	70-130	
4-Bromofluorobenzene	0.0387	0.0300	129	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Orders : 597130,

Project ID: 212C-MD-01226.100

Lab Batch #: 3062194 **Sample:** 597130-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0273	0.0300	91	70-130	

Lab Batch #: 3061546 **Sample:** 7661323-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/28/18 14:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	100	95	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

Lab Batch #: 3061706 **Sample:** 7661422-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/29/18 14:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	51.2	50.0	102	70-135	

Lab Batch #: 3062194 **Sample:** 7661715-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3061546 **Sample:** 7661323-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/28/18 14:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	61.0	50.0	122	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Orders : 597130,

Project ID: 212C-MD-01226.100

Lab Batch #: 3061706 **Sample:** 7661422-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/29/18 15:09

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 3062194 **Sample:** 7661715-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	70-130	
4-Bromofluorobenzene	0.0259	0.0300	86	70-130	

Lab Batch #: 3061546 **Sample:** 7661323-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/28/18 14:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 3061706 **Sample:** 7661422-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/29/18 15:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 3062194 **Sample:** 7661715-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0239	0.0300	80	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Orders : 597130,

Project ID: 212C-MD-01226.100

Lab Batch #: 3061546 **Sample:** 597133-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/28/18 15:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	49.6	49.9	99	70-135	

Lab Batch #: 3061706 **Sample:** 597209-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/29/18 17:10

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.8	120	70-135	
o-Terphenyl	52.8	49.9	106	70-135	

Lab Batch #: 3062194 **Sample:** 597553-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/05/18 15:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0694	0.0300	231	70-130	**

Lab Batch #: 3061546 **Sample:** 597133-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/28/18 15:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	99.9	112	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 3061706 **Sample:** 597209-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/29/18 17:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.9	114	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Order #: 597130 **Project ID:** 212C-MD-01226.100

Analyst: ALJ **Date Prepared:** 09/04/2018 **Date Analyzed:** 09/05/2018

Lab Batch ID: 3062194 **Sample:** 7661715-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0904	90	0.101	0.110	109	20	70-130	35	
Toluene	0.000646	0.100	0.0868	87	0.101	0.0982	97	12	70-130	35	
Ethylbenzene	<0.00200	0.100	0.101	101	0.101	0.120	119	17	70-130	35	
m,p-Xylenes	<0.00401	0.200	0.185	93	0.201	0.222	110	18	70-130	35	
o-Xylene	<0.00200	0.100	0.0846	85	0.101	0.0997	99	16	70-130	35	

Analyst: SCM **Date Prepared:** 08/29/2018 **Date Analyzed:** 08/29/2018

Lab Batch ID: 3061678 **Sample:** 7661340-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	252	101	250	251	100	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Order #: 597130 **Project ID:** 212C-MD-01226.100

Analyst: SCM **Date Prepared:** 08/29/2018 **Date Analyzed:** 08/29/2018

Lab Batch ID: 3061686 **Sample:** 7661342-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	249	100	250	250	100	0	90-110	20	

Analyst: ARM **Date Prepared:** 08/28/2018 **Date Analyzed:** 08/28/2018

Lab Batch ID: 3061546 **Sample:** 7661323-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1050	105	1000	923	92	13	70-135	20	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1000	962	96	14	70-135	20	

Analyst: ARM **Date Prepared:** 08/29/2018 **Date Analyzed:** 08/29/2018

Lab Batch ID: 3061706 **Sample:** 7661422-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	942	94	1000	911	91	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	1000	981	98	4	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Order #: 597130

Lab Batch #: 3062194 **Project ID:** 212C-MD-01226.100

Date Analyzed: 09/05/2018 **Date Prepared:** 09/04/2018 **Analyst:** ALJ

QC- Sample ID: 597553-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	0.00204	0.104	0.0825	77	70-130	
Toluene	0.0594	0.104	0.175	111	70-130	
Ethylbenzene	0.100	0.104	0.181	78	70-130	
m,p-Xylenes	0.220	0.209	0.339	57	70-130	X
o-Xylene	0.0963	0.104	0.148	50	70-130	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Order # : 597130 **Project ID:** 212C-MD-01226.100

Lab Batch ID: 3061678 **QC- Sample ID:** 597130-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/29/2018 **Date Prepared:** 08/29/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1.11	248	244	98	248	245	98	0	90-110	20	

Lab Batch ID: 3061678 **QC- Sample ID:** 597130-015 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/29/2018 **Date Prepared:** 08/29/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	55.1	250	307	101	250	307	101	0	90-110	20	

Lab Batch ID: 3061686 **QC- Sample ID:** 596902-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/29/2018 **Date Prepared:** 08/29/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	288	248	522	94	248	523	95	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Marathon-Chili Parlor 17-3H

Work Order # : 597130 **Project ID:** 212C-MD-01226.100

Lab Batch ID: 3061686 **QC- Sample ID:** 597120-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/29/2018 **Date Prepared:** 08/29/2018 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	237	95	250	238	95	0	90-110	20	

Lab Batch ID: 3061546 **QC- Sample ID:** 597133-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/28/2018 **Date Prepared:** 08/28/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	880	88	999	885	89	1	70-135	20	
Diesel Range Organics (DRO)	<15.0	997	902	90	999	906	91	0	70-135	20	

Lab Batch ID: 3061706 **QC- Sample ID:** 597209-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/29/2018 **Date Prepared:** 08/29/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	904	91	999	878	88	3	70-135	20	
Diesel Range Organics (DRO)	<8.11	998	974	98	999	945	95	3	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

597130

Client Name: Marathon	**Site Manager:** Clair Gonzales
Project Name: Marathon - Chili Parlor 17-3H	
Project Location: (county, state) Lea County, NM	**Project #:** 212C-MD-01226.100
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco	**Sampler Signature:** Matt Castrejon

Comments: Run deeper samples if GRO+DRO exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
	AH-1 0-1	8/22/2018			X			X	1		X		X												X								
	AH-1 1.5-2	8/22/2018			X			X	1																X								
	AH-1 2.5-3	8/22/2018			X			X	1																X								
	AH-1 3.5-4	8/22/2018			X			X	1																X								
	AH-1 4.5-5	8/22/2018			X			X	1																X								
	AH-2 0-1	8/22/2018			X			X	1		X		X												X								
	AH-2 1.5-2	8/22/2018			X			X	1																X								
	AH-2 2.5-3	8/22/2018			X			X	1																X								
	AH-2 3.5-4	8/22/2018			X			X	1																X								
	AH-2 4.5-5	8/22/2018			X			X	1																X								

Relinquished by: Matthew Castrejan	Date: 8/27/18	Time: 1114	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 8/27/18 Time: 1114

Received by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.3R8 0.0

REMARKS: Standard turn-around

- ☐ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Final 1.000

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

597130

Client Name: Marathon	**Site Manager:** Clair Gonzales
Project Name: Marathon - Chili Parlor 17-3H	
Project Location: (county, state) Lea County, NM	**Project #:** 212C-MD-01226.100
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco	**Sampler Signature:** Matt Castrejon

Comments: Run deeper samples if GRO+DRO exceeds 1,000 mg/kg. Run deeper samples if benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	AH-3 0-1	8/22/2018			X				X			1		X		X												X							
	AH-3 1.5-2	8/22/2018			X				X			1																X							
	AH-3 2.5-3	8/22/2018			X				X			1																X							
	AH-3 3.5-4	8/22/2018			X				X			1																X							
	AH-3 4.5-5	8/22/2018			X				X			1																X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Matthew Castrejon	8/27/18	1114		8/27/18	1114
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY
Sample Temperature
3.3 R8
0.0

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 08/27/2018 11:14:00 AM

Work Order #: 597130

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 08/27/2018

Checklist reviewed by: Kelsey Brooks Date: 08/27/2018

Appendix D

NMSLO Seed Mix — Shallow (SH)

SHALLOW (SH) SITES SEED MIXTURE:

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sideoats grama	Vaughn, El Reno	4.0	F
Blue grama	Lovington, Hachita	3.0	D
Little bluestem	Pastura, Cimmaron	1.5	F
Green sprangletop	VNS, Southern	1.0	D
Plains bristlegrass	VNS, Southern	1.0	D
Forbs:			
Firewheel (*Gaillardia*)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
	Total PLS/acre	**13.0**	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box
VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at http://plants.usda.gov.