SITE INFORMATION

Report Type: Closure Report 1RP-4875

General Site Information:						
Site:	**Chili Parlor 17 Federal #3H**					
Company:	**Marathon Oil Permian, LLC.**					
Section, Township and Range	**Unit M**	**Sec. 09**	**T 22S**	**R 33E**		
Lease Number:	**API No. 30-025-43138**					
County:	**Lea County**					
GPS:	**32.4022° N**			**103.5845° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From intersection of Co Rd 27-A and HWY 176 in rural Lea County, travel east on HWY 176 for 2.20 mi, turn southwest onto lease road and continue for 3.75 mi, turn west onto lease road for 6.75 mi, turn south onto lease road for 1.15 mi, turn west for 0.30 mi, turn south for 1.25 mi, turn east onto lease road for 0.90 mi, turn south for 0.50 mi, turn northeast onto two-track/ROW and continue for 1.25 mi to location.					

Release Data:	
Date Released:	11/2/2017
Type Release:	Produced Water
Source of Contamination:	Transfer Line
Fluid Released:	80 bbls
Fluids Recovered:	0 bbls

Official Communication:			
Name:	Jennifer Van Curen		Ike Tavarez
Company:	Marathon Oil		Tetra Tech
Address:	5555 San Felipe Street		4000 N. Big Spring
			Ste 401
City:	Houston, TX 77056		Midland, Texas
Phone number:	(713) 926-2500		(432) 687-8110
Fax:			
Email:	jvancuren@marathonoil.com		Ike.Tavarez@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	5,000

TETRA TECH

APPROVED
By Olivia Yu at 11:12 am, Sep 12, 2018

NMOCD approves 1RP-4875 for closure.

March 9, 2018

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 M, Section 09, Township 22 South, Range 33 East, Lea County, New Mexico.
1RP-4875.

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 M, Section 09, Township 22 South, Range 33 East, Lea County, New Mexico (site). The spill site coordinates are N 32.4022 º, W 103.5845 º. 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 2, 2017, and released approximately eighty (80) barrels of produced water due to a10" lay flat water transfer line being driven over. No fluids were recovered. The release occurred in the pasture and along a two-track road measuring approximately 60' x 95' and 18' x 975'. As a part of an emergency response, Marathon excavated the release area to approximately 2.0' below surface in order to remove the impacted soils. The initial C-141 form is included in Appendix A.

Groundwater

No water wells were listed within Section 09 on the New Mexico Office of the State Engineer's database or the USGS National Water Information System. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this 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, dated August 13, 1993. 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 5,000 mg/kg.

TETRA TECH

Soil Assessment and Analytical Results

On November 30, 2017, Tetra Tech personnel were onsite to evaluate and sample the release area. Eighteen (18) bottom hole samples (AH-1 through AH-18) were collected from the release area, which was excavated to 2.0' below surface. Selected samples were analyzed for TPH analysis 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 or total BTEX. Additionally, none of the samples collected showed TPH concentrations above the RRALs, with concentrations ranging from <14.9 mg/kg to 453 mg/kg.

The areas of bottom hole samples (AH-1, AH-3, AH-4, AH-5, AH-6, AH-7, AH-8, AH-9, AH-10, AH-11, AH-13, AH-14 and AH-17) showed chloride concentrations below the 600 mg/kg threshold. However, the areas of bottom hole samples (AH-2, AH-12, AH-15, AH-16 and AH-18) showed chloride concentrations of 8,580 mg/kg, 663 mg/kg, 798 mg/kg, 4,310 mg/kg, and 836 mg/kg, respectively.

Remediation Activities

On January 10-11, 2018, Tetra Tech personnel were onsite to supervise the additional excavation of the areas of AH-2, AH-12, AH-15, AH-16, and AH-18. The excavation areas and depths are shown on Figure 4 and highlighted (green) in Table 1. The areas of AH-12 and AH-18 were excavated to a total depth of 2.5' below surface and the areas of AH-2, AH-15 and AH-16 were excavated to a total depth of 3.0' below surface. All of the excavated material was hauled for proper disposal.

In order to ensure all of the impacted material was properly removed, bottom hole samples (AH-2B, AH-12B, AH-15B, AH-16B, and AH-18B) were collected as well as appropriate sidewall samples in each area. The samples were analyzed for chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The sampling locations are shown on Figure 3.

Referring to Table 1, all of the bottom hole and sidewall samples showed chloride concentrations below the 600 mg/kg threshold. Once the excavation was completed, Marathon sent the final confirmation data to the NMOCD and BLM to review and approve the site for backfilling. Once approved, the excavations were backfilled with clean material to surface grade.

TETRA TECH

Conclusions and Recommendations

Based on the soil assessment and remediation work 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.

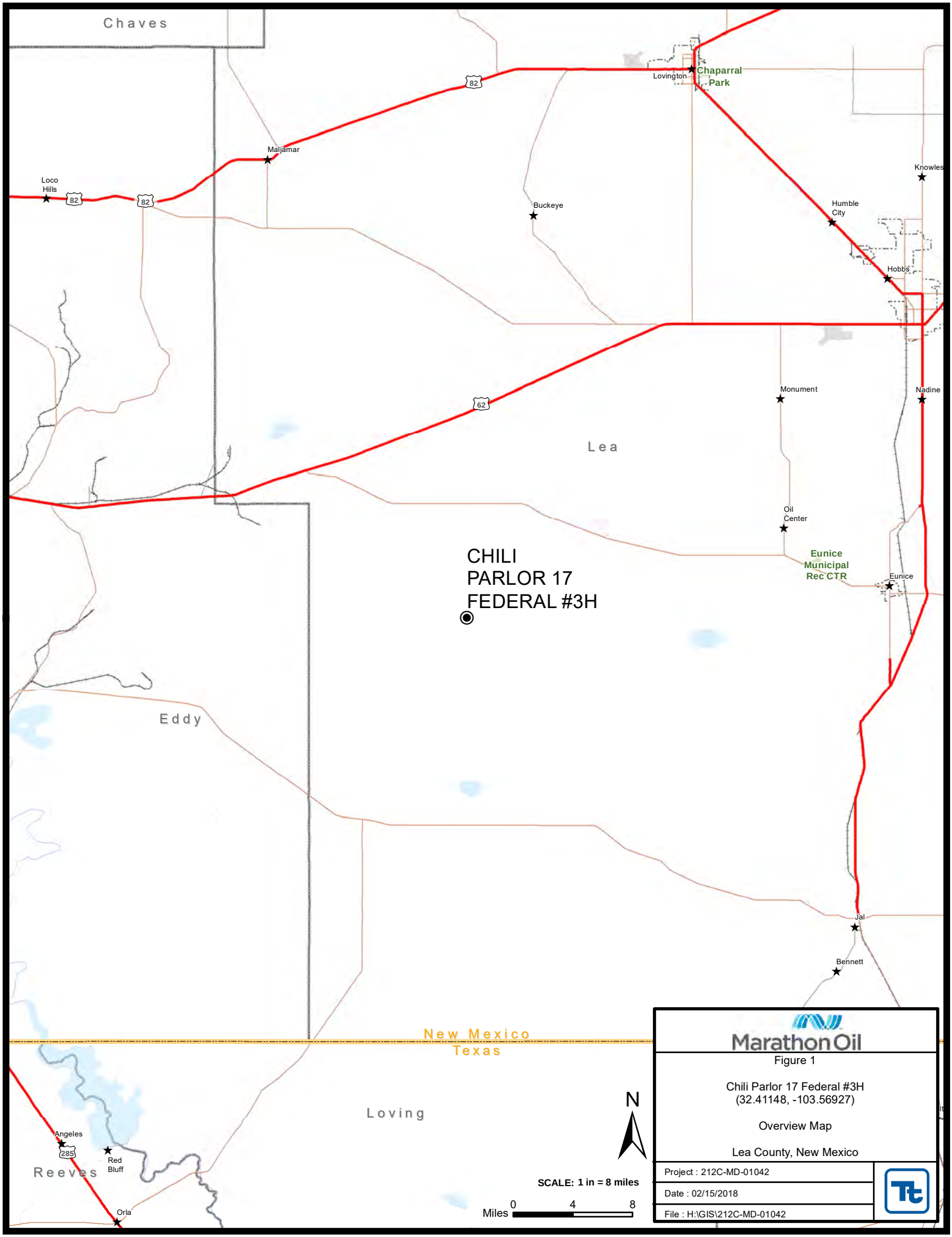
Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

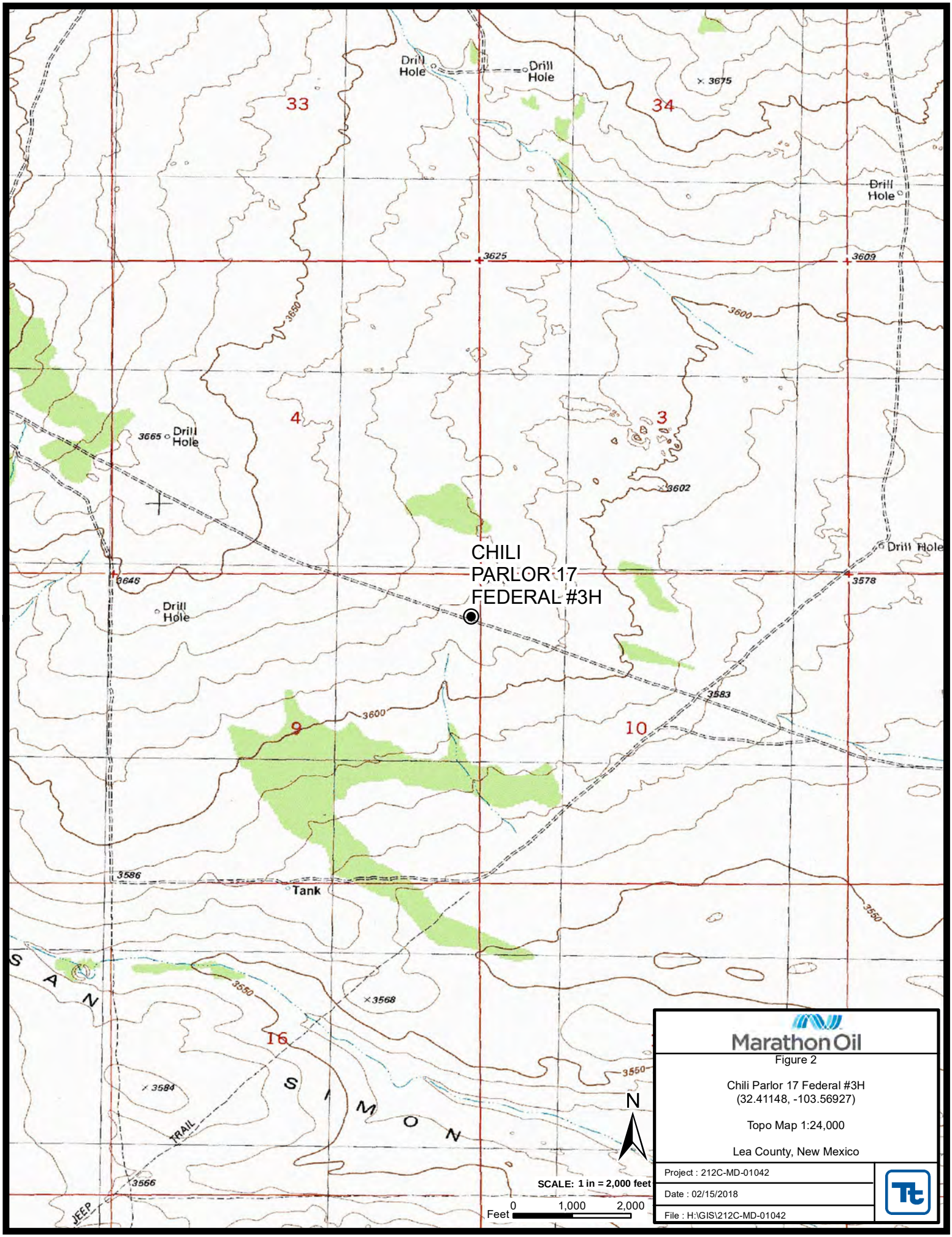
Clair Gonzales,
Project Manager

cc: Callie Karrigan - Marathon
Shelly Tucker - BLM

Figures



Mapped By: Isabel Marmolejo



Marathon Oil

Figure 2

Chili Parlor 17 Federal #3H
(32.41148, -103.56927)

Topo Map 1:24,000

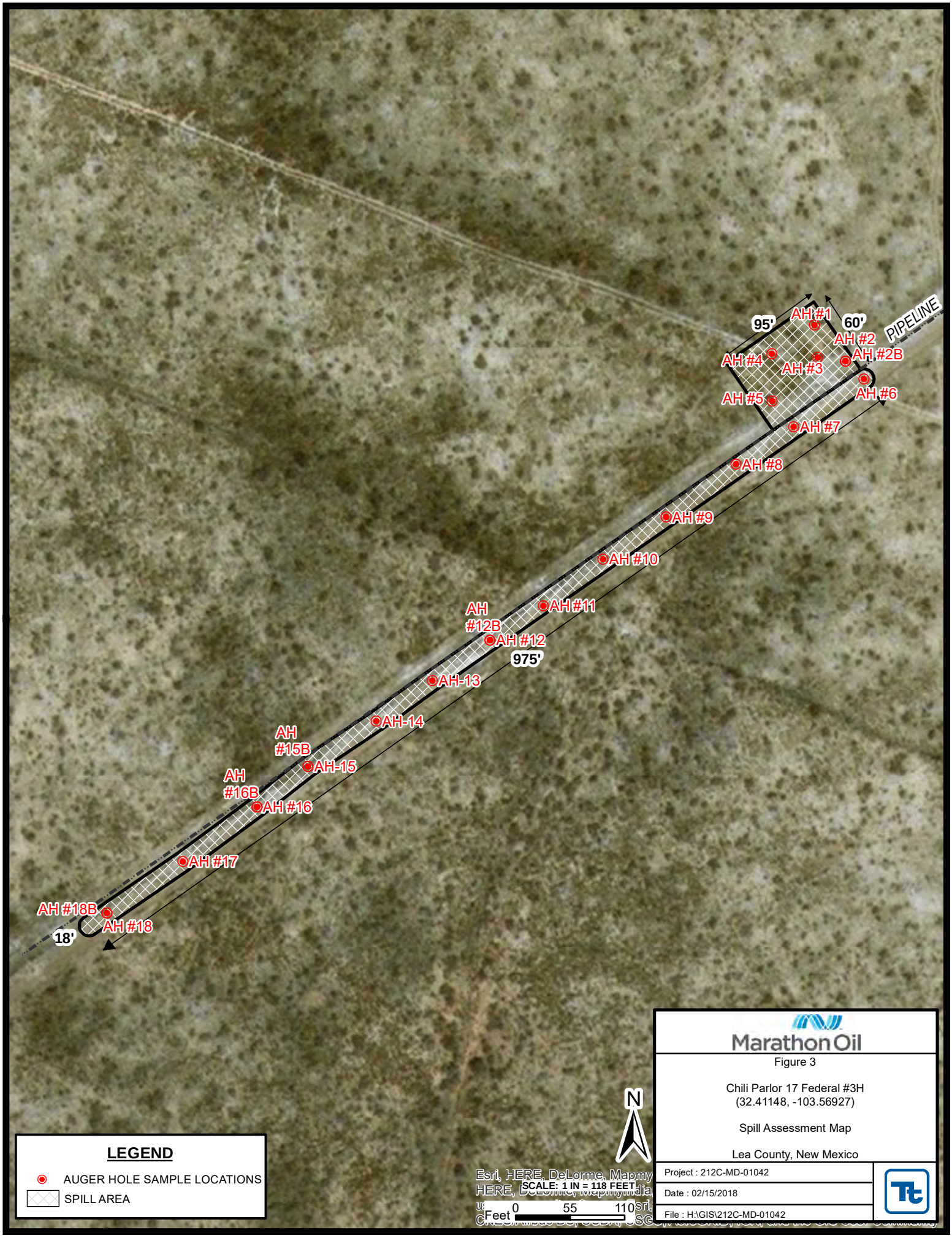
Lea County, New Mexico

Project : 212C-MD-01042

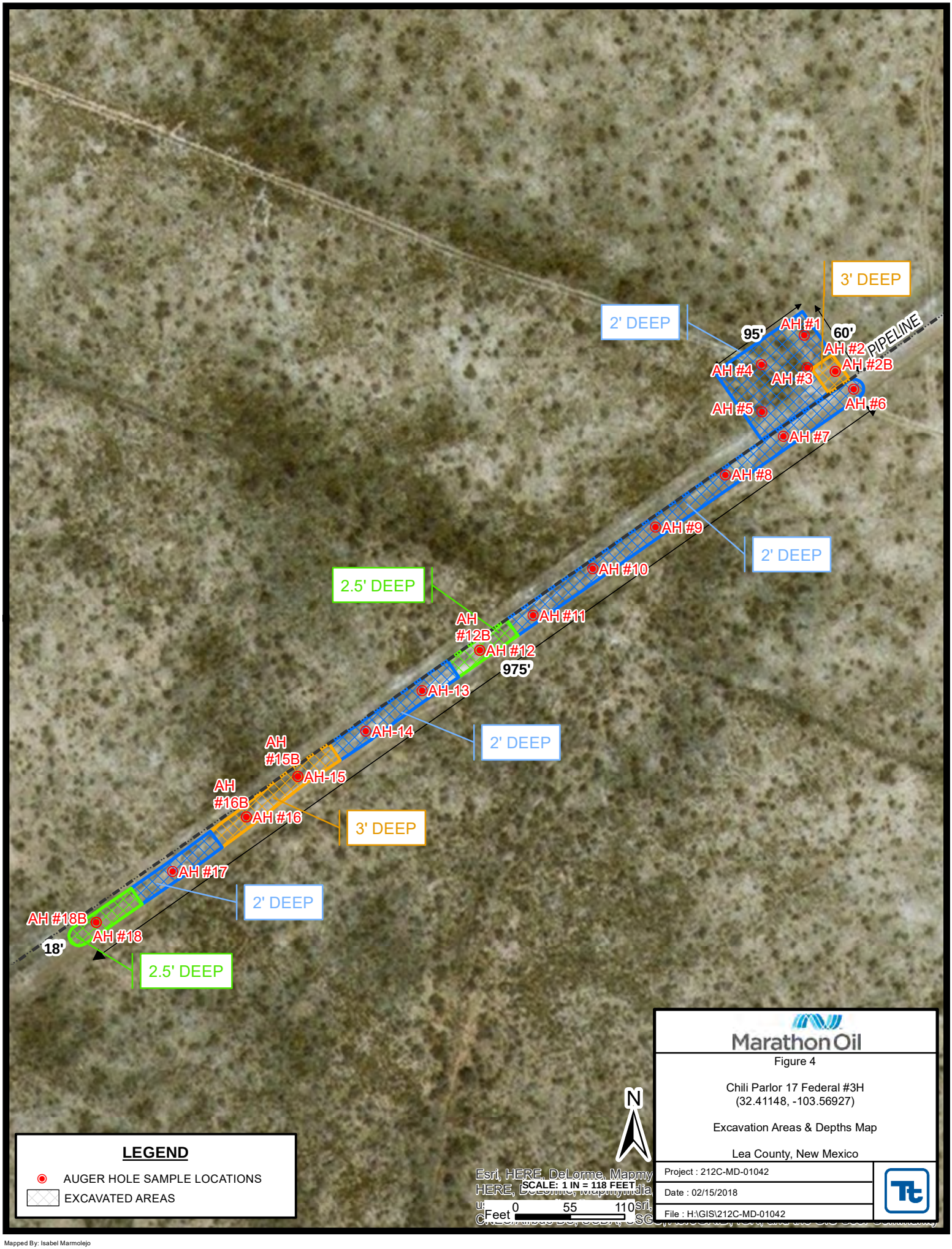
Date : 02/15/2018

File : H:\GIS\212C-MD-01042

Mapped By: Isabel Marmolejo



Mapped By: Isabel Marmolejo



LEGEND

- AUGER HOLE SAMPLE LOCATIONS
- EXCAVATED AREAS

Marathon Oil

Figure 4

Chili Parlor 17 Federal #3H
(32.41148, -103.56927)

Excavation Areas & Depths Map

Lea County, New Mexico

Project : 212C-MD-01042	
Date : 02/15/2018	
File : H:\GIS\212C-MD-01042	

Mapped By: Isabel Marmolejo

Tables

Table 1
Marathon
Chili Parlor 17 Federal 3H Transfer Line
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Excavation Bottom (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	C6-C10	C10-C28	C28-C35	Total						
AH#1	11/30/2017	0-6"	2'	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	53.3
AH#2	11/30/2017	0-3"	2'		X	<15.0	26.8	<15.0	26.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**8580**
AH#2B Bottom Hole	1/11/2018	-	3'	X		-	-	-	-	-	-	-	-	-	39.2
AH#2B North Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	48.2
AH#2B South Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	357
AH#2B East Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	7.59
AH#2B West Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	92.2
AH#3	11/30/2017	0-6"	2'	X		<15.0	23.5	<15.0	23.5	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	297
AH#4	11/30/2017	0-3"	2'	X		<14.9	<14.9	<14.9	<14.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	61.1
AH#5	11/30/2017	0-3"	2'	X		<15.0	71.3	<15.0	71.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	146
AH#6	11/30/2017	0-6"	2'	X		<15.0	30.5	<15.0	30.5	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.99
AH#7	11/30/2017	0-3"	2'	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	5.82
AH#8	11/30/2017	0-6"	2'	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	175
AH#9	11/30/2017	0-3"	2'	X		<15.0	24.7	<15.0	24.7	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	12.8
AH#10	11/30/2017	0-3"	2'	X		<15.0	344	109	453	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	223
AH#11	11/30/2017	0-3"	2'	X		<15.0	17.2	<15.0	17.2	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	36.9
AH#12	11/30/2017	0-3"	2'		X	<15.0	53.0	<15.0	53.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**663**
AH#12B Bottom Hole	1/11/2018	-	2.5'	X		-	-	-	-	-	-	-	-	-	<4.99
AH#12B North Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.93
AH#12B South Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.97
AH#12B East Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.95
AH#12B West Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	8.58

Table 1
Marathon
Chili Parlor 17 Federal 3H Transfer Line
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Excavation Bottom (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	C6-C10	C10-C28	C28-C35	Total						
AH#13	11/30/2017	0-3"	2'	X		<14.9	35.8	<14.9	35.8	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	292
AH#14	11/30/2017	0-6"	2'	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	118
AH#15	11/30/2017	0-6"	2'		X	<15.0	50.8	<15.0	50.8	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**798**
AH#15B Bottom Hole	1/11/2018	-	3'	X		-	-	-	-	-	-	-	-	-	83.1
AH#15B North Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	8.66
AH#15B East Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.98
AH#15B West Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.95
AH#16	11/30/2017	0-6"	2'		X	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**4310**
AH#16B Bottom Hole	1/11/2018	-	3'	X		-	-	-	-	-	-	-	-	-	<4.93
AH#16B South SideWall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	34.9
AH#16B East Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	60.0
AH#16B West Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	51.5
AH#17	11/30/2017	0-6"	2'	X		<14.9	<14.9	<14.9	<14.9	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	64.1
AH#18	11/30/2017	0-3"	2'		X	<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**836**
AH#18B Bottom Hole	1/11/2018		2.5'	X		-	-	-	-	-	-	-	-	-	23.6
AH#18B North Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.97
AH#18B South Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	5.74
AH#18B East Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	204
AH#18B West Sidewall	1/11/2018	-	-	X		-	-	-	-	-	-	-	-	-	189

(-) Not Analyzed

Areas Excavated and Removed

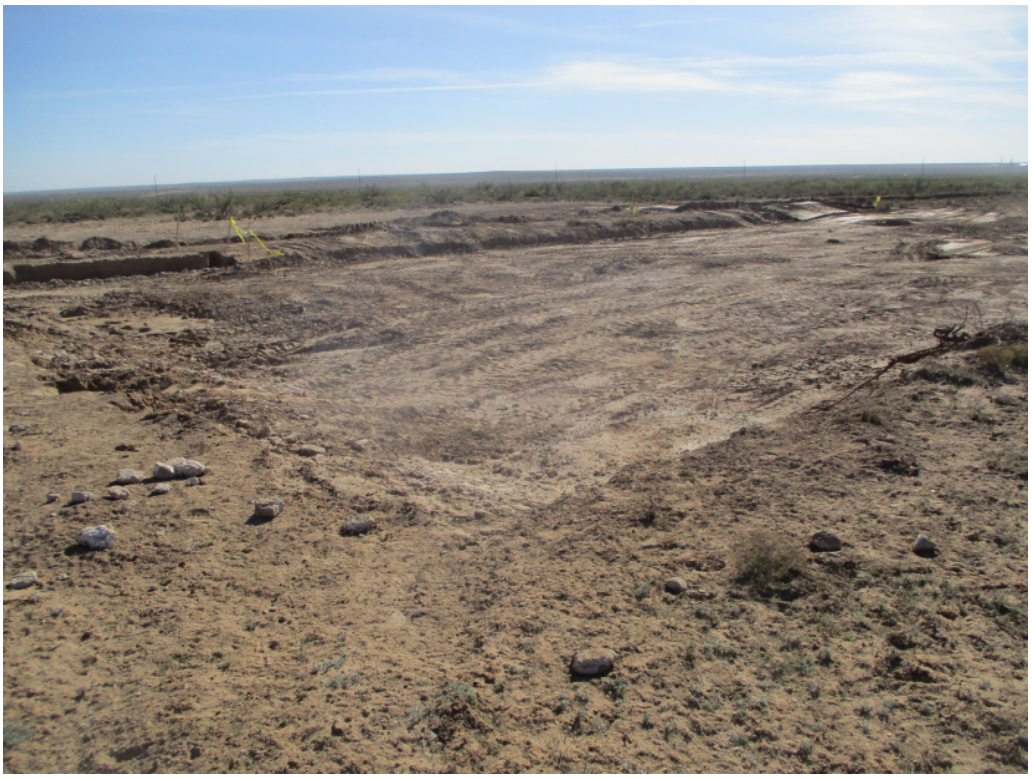
Photos

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

View South – Initial excavation along two-track

View North – Initial excavation along two-track

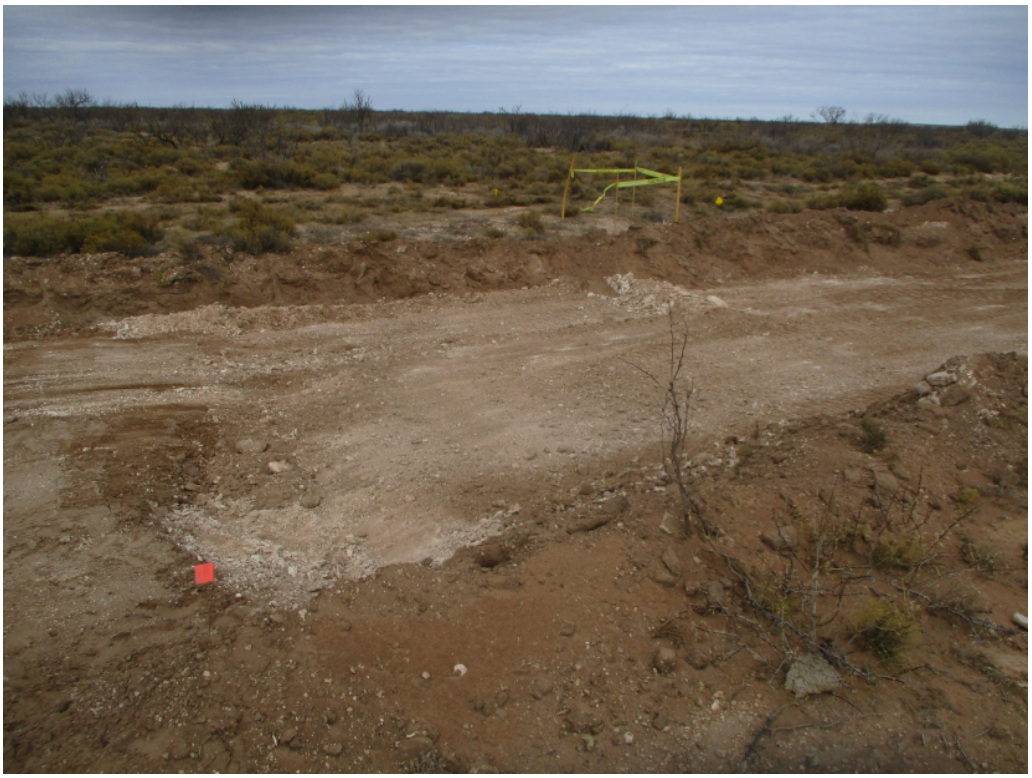
Marathon Oil
Chili Parlor 17 Federal #3H
Lea County, New Mexico



View East – Initial excavation area

View West – Additional excavation in the area of AH-2

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



View East – Additional excavation in the area of AH-12

View East – Additional excavation in the areas of AH-15 and AH-16

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

View South – Additional Excavation in the area of AH-18

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: Federal	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
M	9	22S	33E	240	SL	2200	EL	Lea

Latitude 32.4022 **Longitude** -103.5845

NATURE OF RELEASE

Type of Release : PW	Volume of Release: 80 bbls	Volume Recovered : 0
Source of Release: Transfer line	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker, BLM	
By Whom? Jennifer Van Curen	Date and Hour 11/2/2017 1:00 pm	
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 8:06 am, Nov 20, 2017

Describe Cause of Problem and Remedial Action Taken.*
As a result of a ranch hand running over and puncturing, with his truck, a 10" lay flat line that had been previously used to transfer produced water from the Chili Parlor 17-3H to the pond, a spill of approximately 80 bbls was released. The line was not in use at the time. Due to location and high infiltration rate of soil immediate action was to flag off the contaminated area for remediation purposes, and with approval from BLM initiated clean up.

Describe Area Affected and Cleanup Action Taken.*
Actual location of spill is: lat 32.406331 long -103.560145, initial ponding area was 44' X 77' and ran onto the access road approximately 800' in a narrow pattern. Clean up crew has initiated NM one call and spill cleanup is underway. Soil samples will be submitted to a laboratory when removal is complete to show corrective actions were effective.

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.

Signature: Raquel Chacon	OIL CONSERVATION DIVISION	
Printed Name: Raquel Chacon	Approved by Environmental Specialist:	
Title: Sr. HES Environmental Professional	Approval Date: 11/20/2017	Expiration Date:
E-mail Address: rchacon@marathonoil.com	Conditions of Approval: see attached directive	Attached ☑
Date: 11/8/2017 Phone: 281-910-0441(cell) 575-297-0988 (office)		

* Attach Additional Sheets If Necessary

1RP-4875 nOY1732430277 pOY1732434235

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

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. **(575)297-0988**
Facility Name **Chili Parlor 17 Federal #3H**	Facility Type **Oil and Gas Drilling Facility**

Surface Owner: Federal	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
M	09	22S	33E	240’	South	2200	East	Lea

Latitude N 32.4022° **Longitude** W 103.5845°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 80 bbls	Volume Recovered: 0 bbls
Source of Release: Transfer Line	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker, BLM	
By Whom? Jennifer Van Curen	Date and Hour 11/02/17 1:00 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

APPROVED
By Olivia Yu at 11:10 am, Sep 12, 2018

Describe Cause of Problem and Remedial Action Taken.*
A ranch hand drove over a 10” lay flat line, resulting in the release. With BLM approval, the area was immediately dug to 2.0’ below surface in order to remove the impacted soils.

Describe Area Affected and Cleanup Action Taken.*
The release occurred inside the pasture and along a two-track. Tetra Tech inspected the site and collected samples to ensure the proper removal of impacted soils. Soil that exceeded 600 mg/kg chlorides was removed and hauled for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted to the NMOCD and BLM for review.

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.

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez	Approved by District Supervisor:
Title: Project Manager	Approval Date: 9/12/2018 Expiration Date: xx/xx/xxxx
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: BLM approval Attached ☐
Date: 2/9/18 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

1RP-4875

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	33 180	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	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	8	9	10	11	12
18	17	16	15	14	13
19	20	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	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26 225	25
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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00592 POD1		CP	ED	3	2		13	22S	33E	638834	3585015*	427		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

PLSS Search:

Township: 22S **Range:** 33E

***UTM location was derived from PLSS - see Help**

2/8/18 9:50 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C

Analytical Report 570208

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Chil Parlor 17 Federal #3H Transfer Line

212C-MD-01042

14-DEC-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

14-DEC-17

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

Reference: XENCO Report No(s): **570208**
Chil Parlor 17 Federal #3H Transfer Line
Project Address: Lea County,New Mexico

Ike Tavarez:

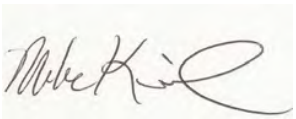
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 570208. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory 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. 570208 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,



Mike Kimmel
Client Services Manager

Sample Cross Reference 570208

Tetra Tech- Midland, Midland, TX

Chil Parlor 17 Federal #3H Transfer Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH#1 (0-6") 2'BEB	S	11-30-17 00:00		570208-001
AH#2 (0-3") 2'BEB	S	11-30-17 00:00		570208-002
AH#3 (0-6") 2'BEB	S	11-30-17 00:00		570208-003
AH#4 (0-3") 2'BEB	S	11-30-17 00:00		570208-004
AH#5 (0-3") 2'BEB	S	11-30-17 00:00		570208-005
AH#6 (0-6") 2'BEB	S	11-30-17 00:00		570208-006
AH#7 (0-3") 2'BEB	S	11-30-17 00:00		570208-007
AH#8 (0-6") 2'BEB	S	11-30-17 00:00		570208-008
AH#9 (0-3") 2'BEB	S	11-30-17 00:00		570208-009
AH#10 (0-3") 2'BEB	S	11-30-17 00:00		570208-010
AH#11 (0-3") 2'BEB	S	11-30-17 00:00		570208-011
AH#12 (0-3") 2'BEB	S	11-30-17 00:00		570208-012
AH#13 (0-3") 2'BEB	S	11-30-17 00:00		570208-013
AH#14 (0-6") 2'BEB	S	11-30-17 00:00		570208-014
AH#15 (0-6") 2'BEB	S	11-30-17 00:00		570208-015
AH#16 (0-6") 2'BEB	S	11-30-17 00:00		570208-016
AH#17 (0-6") 2'BEB	S	11-30-17 00:00		570208-017
AH#18 (0-3") 2'BEB	S	11-30-17 00:00		570208-018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3035409 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3035474 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3035491 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 570208

Tetra Tech- Midland, Midland, TX

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Project Id: 212C-MD-01042
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Tue Dec-05-17 03:37 pm
Report Date: 14-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	570208-001		570208-002		570208-003		570208-004		570208-005		570208-006	
	Field Id:	AH#1 (0-6") 2'BEB		AH#2 (0-3") 2'BEB		AH#3 (0-6") 2'BEB		AH#4 (0-3") 2'BEB		AH#5 (0-3") 2'BEB		AH#6 (0-6") 2'BEB	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Dec-08-17 15:00		Dec-08-17 15:00		Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00	
	Analyzed:	Dec-09-17 02:25		Dec-09-17 02:43		Dec-09-17 12:34		Dec-09-17 12:53		Dec-09-17 13:12		Dec-09-17 13:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00400	0.00400	<0.00399	0.00399	<0.00403	0.00403	<0.00401	0.00401	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30	
	Analyzed:	Dec-07-17 22:42		Dec-07-17 22:48		Dec-07-17 22:54		Dec-07-17 23:00		Dec-07-17 23:18		Dec-07-17 23:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		53.3	4.92	8580	49.0	297	4.92	61.1	4.94	146	5.00	<4.99	4.99
TPH By SW8015 Mod	***Extracted:***	Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00	
	Analyzed:	Dec-06-17 16:35		Dec-06-17 16:55		Dec-06-17 17:21		Dec-06-17 17:41		Dec-06-17 18:01		Dec-06-17 18:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<14.9	14.9	26.8	15.0	23.5	15.0	<14.9	14.9	71.3	15.0	30.5	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Total TPH		<14.9	14.9	26.8	15.0	23.5	15.0	<14.9	14.9	71.3	15.0	30.5	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 570208

Tetra Tech- Midland, Midland, TX

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Project Id: 212C-MD-01042
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Tue Dec-05-17 03:37 pm
Report Date: 14-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	570208-007		570208-008		570208-009		570208-010		570208-011		570208-012	
	Field Id:	AH#7 (0-3") 2'BEB		AH#8 (0-6") 2'BEB		AH#9 (0-3") 2'BEB		AH#10 (0-3") 2'BEB		AH#11 (0-3") 2'BEB		AH#12 (0-3") 2'BEB	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00	
BTEX by EPA 8021B	*Extracted:*	Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00		Dec-09-17 09:00	
	Analyzed:	Dec-09-17 13:50		Dec-09-17 14:09		Dec-09-17 14:28		Dec-09-17 14:47		Dec-09-17 15:06		Dec-09-17 15:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00402	0.00402	<0.00398	0.00398	<0.00404	0.00404	<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	*Extracted:*	Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30	
	Analyzed:	Dec-07-17 23:30		Dec-07-17 23:36		Dec-07-17 23:42		Dec-07-17 23:48		Dec-08-17 00:05		Dec-08-17 00:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.82	4.98	175	4.90	12.8	4.90	223	4.90	36.9	4.97	663	4.99
TPH By SW8015 Mod	*Extracted:*	Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00	
	Analyzed:	Dec-06-17 19:22		Dec-06-17 19:42		Dec-06-17 20:02		Dec-06-17 20:21		Dec-06-17 20:42		Dec-06-17 21:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	24.7	15.0	344	15.0	17.2	15.0	53.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	109	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	24.7	15.0	453	15.0	17.2	15.0	53.0	15.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 570208

Tetra Tech- Midland, Midland, TX

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Project Id: 212C-MD-01042
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Tue Dec-05-17 03:37 pm
Report Date: 14-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	570208-013		570208-014		570208-015		570208-016		570208-017		570208-018	
	Field Id:	AH#13 (0-3") 2'BEB		AH#14 (0-6") 2'BEB		AH#15 (0-6") 2'BEB		AH#16 (0-6") 2'BEB		AH#17 (0-6") 2'BEB		AH#18 (0-3") 2'BEB	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00		Nov-30-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Dec-10-17 09:15		Dec-10-17 09:15		Dec-10-17 09:15		Dec-10-17 09:15		Dec-10-17 09:15		Dec-10-17 09:15	
	Analyzed:	Dec-10-17 20:30		Dec-10-17 20:49		Dec-10-17 21:07		Dec-10-17 21:26		Dec-10-17 21:45		Dec-10-17 22:04	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
m,p-Xylenes		<0.00403	0.00403	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399	<0.00402	0.00402	<0.00403	0.00403
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00202	0.00202
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30		Dec-07-17 16:30	
	Analyzed:	Dec-08-17 00:29		Dec-08-17 00:35		Dec-08-17 00:41		Dec-08-17 13:51		Dec-08-17 00:53		Dec-08-17 00:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		292	4.99	118	4.92	798	4.94	4310	49.8	64.1	4.95	836	4.92
TPH By SW8015 Mod	***Extracted:***	Dec-06-17 11:00		Dec-06-17 11:00		Dec-06-17 11:00		Dec-07-17 12:00		Dec-07-17 12:00		Dec-07-17 12:00	
	Analyzed:	Dec-06-17 21:25		Dec-06-17 21:45		Dec-06-17 22:05		Dec-07-17 14:34		Dec-07-17 15:33		Dec-07-17 15:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		35.8	14.9	<15.0	15.0	50.8	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		35.8	14.9	<15.0	15.0	50.8	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0

Mike Kimmel
Client Services 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

+ 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035197 **Sample:** 570208-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 16:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.1	99.6	88	70-135	
o-Terphenyl	48.8	49.8	98	70-135	

Lab Batch #: 3035197 **Sample:** 570208-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 16:55

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	99.9	95	70-135	
o-Terphenyl	50.1	50.0	100	70-135	

Lab Batch #: 3035197 **Sample:** 570208-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 17:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.7	99.7	94	70-135	
o-Terphenyl	48.7	49.9	98	70-135	

Lab Batch #: 3035197 **Sample:** 570208-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 17:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.9	99.6	91	70-135	
o-Terphenyl	47.2	49.8	95	70-135	

Lab Batch #: 3035197 **Sample:** 570208-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 18:01

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	99.8	89	70-135	
o-Terphenyl	46.5	49.9	93	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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035197 **Sample:** 570208-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 18:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.2	99.8	90	70-135	
o-Terphenyl	47.3	49.9	95	70-135	

Lab Batch #: 3035197 **Sample:** 570208-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 19:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.7	91	70-135	
o-Terphenyl	46.4	49.9	93	70-135	

Lab Batch #: 3035197 **Sample:** 570208-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 19:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.9	100	91	70-135	
o-Terphenyl	47.4	50.0	95	70-135	

Lab Batch #: 3035197 **Sample:** 570208-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 20:02

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.7	99.9	90	70-135	
o-Terphenyl	46.7	50.0	93	70-135	

Lab Batch #: 3035197 **Sample:** 570208-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 20:21

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.6	99.9	90	70-135	
o-Terphenyl	46.0	50.0	92	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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035197 **Sample:** 570208-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 20:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	99.7	91	70-135	
o-Terphenyl	45.9	49.9	92	70-135	

Lab Batch #: 3035197 **Sample:** 570208-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 21:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.9	99.7	87	70-135	
o-Terphenyl	42.9	49.9	86	70-135	

Lab Batch #: 3035197 **Sample:** 570208-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 21:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.8	99.6	75	70-135	
o-Terphenyl	40.3	49.8	81	70-135	

Lab Batch #: 3035197 **Sample:** 570208-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 21:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.5	99.9	89	70-135	
o-Terphenyl	45.0	50.0	90	70-135	

Lab Batch #: 3035197 **Sample:** 570208-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 22:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	99.9	88	70-135	
o-Terphenyl	44.2	50.0	88	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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035310 **Sample:** 570208-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/17 14:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.7	99.8	92	70-135	
o-Terphenyl	46.9	49.9	94	70-135	

Lab Batch #: 3035310 **Sample:** 570208-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/17 15:33

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.3	99.6	89	70-135	
o-Terphenyl	46.4	49.8	93	70-135	

Lab Batch #: 3035310 **Sample:** 570208-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/17 15:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	99.8	91	70-135	
o-Terphenyl	48.0	49.9	96	70-135	

Lab Batch #: 3035409 **Sample:** 570208-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 02:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 3035409 **Sample:** 570208-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 02:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035474 **Sample:** 570208-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 12:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 3035474 **Sample:** 570208-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 12:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 3035474 **Sample:** 570208-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 13:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 3035474 **Sample:** 570208-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 13:31

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	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 3035474 **Sample:** 570208-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 13:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035474 **Sample:** 570208-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 14:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 3035474 **Sample:** 570208-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 14:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 3035474 **Sample:** 570208-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 14:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 3035474 **Sample:** 570208-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 15:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0264	0.0300	88	80-120	

Lab Batch #: 3035474 **Sample:** 570208-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 15:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 570208-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 20:30

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

Lab Batch #: 3035491 **Sample:** 570208-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 20:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 3035491 **Sample:** 570208-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 21:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 3035491 **Sample:** 570208-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 21:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 3035491 **Sample:** 570208-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 21:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 570208-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 22:04

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	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	

Lab Batch #: 3035197 **Sample:** 7635570-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/17 13:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	100	98	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

Lab Batch #: 3035310 **Sample:** 7635628-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/17 13:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.6	100	92	70-135	
o-Terphenyl	48.9	50.0	98	70-135	

Lab Batch #: 3035409 **Sample:** 7635691-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/08/17 19:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 3035474 **Sample:** 7635697-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/09/17 08:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 7635714-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/10/17 19:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Lab Batch #: 3035197 **Sample:** 7635570-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/17 13:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	49.1	50.0	98	70-135	

Lab Batch #: 3035310 **Sample:** 7635628-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/17 13:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.9	100	92	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 3035409 **Sample:** 7635691-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/08/17 17:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 3035474 **Sample:** 7635697-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/09/17 03:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 7635714-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/10/17 17:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	80-120	

Lab Batch #: 3035197 **Sample:** 7635570-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/06/17 14:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

Lab Batch #: 3035310 **Sample:** 7635628-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/07/17 14:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	100	92	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

Lab Batch #: 3035409 **Sample:** 7635691-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/08/17 18:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 3035474 **Sample:** 7635697-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/09/17 03:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 7635714-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 12/10/17 17:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 3035197 **Sample:** 570089-025 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 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	89.1	99.9	89	70-135	
o-Terphenyl	46.6	50.0	93	70-135	

Lab Batch #: 3035310 **Sample:** 570208-016 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/17 14:54

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.2	99.9	88	70-135	
o-Terphenyl	43.7	50.0	87	70-135	

Lab Batch #: 3035409 **Sample:** 570089-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/17 18:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 3035474 **Sample:** 570416-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 03:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208,

Project ID: 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 570416-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 18:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 3035197 **Sample:** 570089-025 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/06/17 15:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	100	97	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 3035310 **Sample:** 570208-016 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/07/17 15:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.8	92	70-135	
o-Terphenyl	47.7	49.9	96	70-135	

Lab Batch #: 3035409 **Sample:** 570089-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/08/17 18:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 3035474 **Sample:** 570416-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/09/17 04:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0342	0.0300	114	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Orders : 570208, **Project ID:** 212C-MD-01042

Lab Batch #: 3035491 **Sample:** 570416-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 12/10/17 18:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

* 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: Chil Parlor 17 Federal #3H Transfer Line

Work Order #: 570208 **Project ID:** 212C-MD-01042

Analyst: ALJ **Date Prepared:** 12/08/2017 **Date Analyzed:** 12/08/2017

Lab Batch ID: 3035409 **Sample:** 7635691-1-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	0.0998	0.109	109	0.100	0.120	120	10	70-130	35	
Toluene	<0.00200	0.0998	0.104	104	0.100	0.117	117	12	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.103	103	0.100	0.115	115	11	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.198	99	0.200	0.221	111	11	70-135	35	
o-Xylene	<0.00200	0.0998	0.0966	97	0.100	0.108	108	11	71-133	35	

Analyst: ALJ **Date Prepared:** 12/09/2017 **Date Analyzed:** 12/09/2017

Lab Batch ID: 3035474 **Sample:** 7635697-1-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	<0.00199	0.0996	0.104	104	0.100	0.0988	99	5	70-130	35	
Toluene	<0.00199	0.0996	0.0999	100	0.100	0.0944	94	6	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0996	100	0.100	0.0942	94	6	71-129	35	
m,p-Xylenes	<0.00398	0.199	0.191	96	0.201	0.181	90	5	70-135	35	
o-Xylene	<0.00199	0.0996	0.0945	95	0.100	0.0890	89	6	71-133	35	

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

Version: 1.%

BS / BSD Recoveries

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Work Order #: 570208 **Project ID:** 212C-MD-01042

Analyst: ALJ **Date Prepared:** 12/10/2017 **Date Analyzed:** 12/10/2017

Lab Batch ID: 3035491 **Sample:** 7635714-1-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	0.0998	0.105	105	0.100	0.109	109	4	70-130	35	
Toluene	<0.00200	0.0998	0.0993	99	0.100	0.103	103	4	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0991	99	0.100	0.104	104	5	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.190	95	0.201	0.200	100	5	70-135	35	
o-Xylene	<0.00200	0.0998	0.0943	94	0.100	0.0992	99	5	71-133	35	

Analyst: MNV **Date Prepared:** 12/07/2017 **Date Analyzed:** 12/07/2017

Lab Batch ID: 3035317 **Sample:** 7635619-1-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	247	99	250	249	100	1	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

Version: 1.%

BS / BSD Recoveries

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Work Order #: 570208 **Project ID:** 212C-MD-01042

Analyst: ARM **Date Prepared:** 12/06/2017 **Date Analyzed:** 12/06/2017

Lab Batch ID: 3035197 **Sample:** 7635570-1-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	953	95	1000	855	86	11	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1020	102	1000	933	93	9	70-135	35	

Analyst: ARM **Date Prepared:** 12/07/2017 **Date Analyzed:** 12/07/2017

Lab Batch ID: 3035310 **Sample:** 7635628-1-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	980	98	1000	986	99	1	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1010	101	1000	1040	104	3	70-135	35	

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

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Work Order # : 570208 **Project ID:** 212C-MD-01042

Lab Batch ID: 3035409 **QC- Sample ID:** 570089-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/08/2017 **Date Prepared:** 12/08/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.100	0.0854	85	0.101	0.0915	91	7	70-130	35	
Toluene	<0.00200	0.100	0.0805	81	0.101	0.0851	84	6	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0786	79	0.101	0.0810	80	3	71-129	35	
m,p-Xylenes	<0.00401	0.200	0.152	76	0.201	0.155	77	2	70-135	35	
o-Xylene	<0.00200	0.100	0.0777	78	0.101	0.0777	77	0	71-133	35	

Lab Batch ID: 3035474 **QC- Sample ID:** 570416-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/09/2017 **Date Prepared:** 12/09/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00199	0.0994	0.102	103	0.0996	0.102	102	0	70-130	35	
Toluene	<0.00199	0.0994	0.0891	90	0.0996	0.0832	84	7	70-130	35	
Ethylbenzene	<0.00199	0.0994	0.0819	82	0.0996	0.0732	73	11	71-129	35	
m,p-Xylenes	<0.00398	0.199	0.153	77	0.199	0.135	68	13	70-135	35	X
o-Xylene	<0.00199	0.0994	0.0770	77	0.0996	0.0697	70	10	71-133	35	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

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: Chil Parlor 17 Federal #3H Transfer Line

Work Order # : 570208 **Project ID:** 212C-MD-01042

Lab Batch ID: 3035491 **QC- Sample ID:** 570416-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/10/2017 **Date Prepared:** 12/10/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.100	0.0923	92	0.101	0.0934	92	1	70-130	35	
Toluene	<0.00200	0.100	0.0803	80	0.101	0.0787	78	2	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0801	80	0.101	0.0711	70	12	71-129	35	X
m,p-Xylenes	<0.00401	0.200	0.147	74	0.201	0.139	69	6	70-135	35	X
o-Xylene	<0.00200	0.100	0.0737	74	0.101	0.0639	63	14	71-133	35	X

Lab Batch ID: 3035317 **QC- Sample ID:** 566199-020 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/07/2017 **Date Prepared:** 12/07/2017 **Analyst:** MNV

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	52.0	248	301	100	248	305	102	1	90-110	20	

Lab Batch ID: 3035317 **QC- Sample ID:** 570208-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/07/2017 **Date Prepared:** 12/07/2017 **Analyst:** MNV

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	223	245	464	98	245	470	101	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

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: Chil Parlor 17 Federal #3H Transfer Line

Work Order # : 570208 **Project ID:** 212C-MD-01042

Lab Batch ID: 3035197 **QC- Sample ID:** 570089-025 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/06/2017 **Date Prepared:** 12/06/2017 **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	999	963	96	1000	1060	106	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	999	1050	105	1000	1130	113	7	70-135	35	

Lab Batch ID: 3035310 **QC- Sample ID:** 570208-016 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/07/2017 **Date Prepared:** 12/07/2017 **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	999	956	96	998	1030	103	7	70-135	35	
Diesel Range Organics (DRO)	<15.0	999	1000	100	998	1080	108	8	70-135	35	

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

570208

Client Name: Marathon

Site Manager: Ike Tavarez

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Project Location: (county, state) Lea County, New Mexico

Project #: 212C-MD-01042

Invoice to: Tetra Tech.

Receiving Laboratory: Xenco

Sampler Signature: Mike Carmona

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	HNO_3	ICE	None	# CONTAINERS	FILTERED (Y/N)
	AH#1 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#2 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#3 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#4 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#5 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#6 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#7 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#8 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#9 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#10 (0-3") 2'BEB	11/30/2017			X			X		1	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	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	PCBs 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sodium TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Conductivity			HOLD
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							
X		X	X												X							

Relinquished by: Date: 12/5 Time: 15:37

Received by: Date: 12.7 Time: 15:37

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard

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

Temp: 1.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 1.0

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

570208

Client Name: Marathon

Site Manager: Ike Tavarez

Project Name: Chil Parlor 17 Federal #3H Transfer Line

Project Location: (county, state) Lea County, New Mexico

Project #: 212C-MD-01042

Invoice to: Tetra Tech

Receiving Laboratory: Xenco

Sampler Signature: Mike Carmona

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)
	AH#11 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#12 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#13 (0-3") 2'BEB	11/30/2017			X			X		1	
	AH#14 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#15 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#16 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#17 (0-6") 2'BEB	11/30/2017			X			X		1	
	AH#18 (0-3") 2'BEB	11/30/2017			X			X		1	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B / 8260B	TPH TX1005 (Ext to C35)	TPH 8015M GRO - DRO - ORO - MRO	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 Sodium TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Conductivity			HOLD
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							
X		X												X							

Relinquished by: Date: 12/5 Time: 15:37

Received by: Date: 12.5.17 Time: 15:34

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard

☐ 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

Temp: 1.2 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 1.0

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 12/05/2017 03:37:00 PM

Work Order #: 570208

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)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#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: Shawnee Smith Date: 12/05/2017

Shawnee Smith

Checklist reviewed by: Mike Kimmel Date: 12/11/2017

Mike Kimmel

Analytical Report 573370

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Chili Parlor 17 Federal #3H Transfer Line

15-JAN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

15-JAN-18

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

Reference: XENCO Report No(s): **573370**
Chili Parlor 17 Federal #3H Transfer Line
Project Address: Lea County,New Mexico

Ike Tavarez:

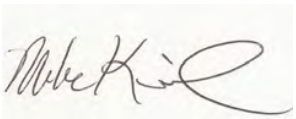
We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 573370. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory 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. 573370 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,



Mike Kimmel
Client Services Manager

Sample Cross Reference 573370

Tetra Tech- Midland, Midland, TX

Chili Parlor 17 Federal #3H Transfer Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH #2B Bottomhole (3'BEB)	S	01-11-18 00:00		573370-001
AH #2B North Sidewall (3'BEB)	S	01-11-18 00:00		573370-002
AH #2B South Sidewall (3'BEB)	S	01-11-18 00:00		573370-003
AH #2B East Sidewall (3'BEB)	S	01-11-18 00:00		573370-004
AH #2B West Sidewall (3'BEB)	S	01-11-18 00:00		573370-005
AH #12B Bottomhole (2.5BEB)	S	01-11-18 00:00		573370-006
AH #12B NorthSidewall (2.5'BEB)	S	01-11-18 00:00		573370-007
AH #12B Southsidwall (2.5'BEB)	S	01-11-18 00:00		573370-008
AH #12B East Sidewall (2.5 BEB)	S	01-11-18 00:00		573370-009
AH #12B West Sidewall (2.5'BEB)	S	01-11-18 00:00		573370-010
AH #15B Bottomhole (3'BEB)	S	01-11-18 00:00		573370-011
AH#15B North Sidewall (3'BEB)	S	01-11-18 00:00		573370-012
AH #15 B East Sidewall 3'(BEB)	S	01-11-18 00:00		573370-013
AH#15B West Sideall 3'(BEB)	S	01-11-18 00:00		573370-014
AH#16B Bottomhole (3'BEB)	S	01-11-18 00:00		573370-015
AH #16B South Sidewall (3'BEB)	S	01-11-18 00:00		573370-016
AH #16B East Sidewall (3'BEB)	S	01-11-18 00:00		573370-017
AH #16 West Sidewall (3'BEB)	S	01-11-18 00:00		573370-018
AH #18B Bottomhole (2.5'BEB)	S	01-11-18 00:00		573370-019
AH #18B North Sidewall (2.5'BEB)	S	01-11-18 00:00		573370-020
AH #18B South Sidewall (2.5'BEB)	S	01-11-18 00:00		573370-021
AH #18 B East Sidewall (2.5'BEB)	S	01-11-18 00:00		573370-022
AH #18B West Sidewall (2.5'BEB)	S	01-11-18 00:00		573370-023

Client Name: Tetra Tech- Midland

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Project ID:
Work Order Number(s): *573370*

Report Date: *15-JAN-18*
Date Received: *01/12/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 573370

Tetra Tech- Midland, Midland, TX

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Fri Jan-12-18 08:38 am
Report Date: 15-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	573370-001		573370-002		573370-003		573370-004		573370-005		573370-006	
	Field Id:	AH #2B Bottomhole (3'BEB		AH #2B North Sidewall (3'B		AH #2B South Sidewall (3'B		AH #2B East Sidewall (3'BE		AH #2B West Sidewall (3'B		AH #12B Bottomhole (2.5BI	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30	
	Analyzed:	Jan-15-18 15:42		Jan-15-18 12:31		Jan-15-18 12:38		Jan-15-18 12:45		Jan-15-18 12:52		Jan-15-18 13:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		39.2	4.94	48.2	4.96	357	4.92	7.59	4.94	92.2	4.98	<4.99	4.99

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 573370

Tetra Tech- Midland, Midland, TX

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Fri Jan-12-18 08:38 am
Report Date: 15-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	573370-007		573370-008		573370-009		573370-010		573370-011		573370-012	
	Field Id:	AH #12B NorthSidewall (2.5		AH #12B Southsidwall (2.5'		AH #12B East Sidewall (2.5		AH #12B West Sidewall (2.5		AH #15B Bottomhole (3'BE		AH#15B North Sidewall (3'E	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30	
	Analyzed:	Jan-15-18 13:20		Jan-15-18 13:27		Jan-15-18 13:34		Jan-15-18 13:41		Jan-15-18 16:17		Jan-15-18 14:08	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.93	4.93	<4.97	4.97	<4.95	4.95	8.58	4.91	83.1	4.99	8.66	4.97

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 573370

Tetra Tech- Midland, Midland, TX

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Fri Jan-12-18 08:38 am
Report Date: 15-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	573370-013		573370-014		573370-015		573370-016		573370-017		573370-018	
	Field Id:	AH #15 B East Sidewall 3'(B		AH#15B West Sideall 3'(BE		AH#16B Bottomhole (3'BE		AH #16B South Sidewall (3'		AH #16B East Sidewall (3'B		AH #16 West Sidewall (3'BE	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 13:30	
	Analyzed:	Jan-15-18 14:15		Jan-15-18 14:47		Jan-15-18 14:54		Jan-15-18 15:01		Jan-15-18 15:08		Jan-15-18 15:15	
	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	<4.93	4.93	34.9	4.95	60.0	4.93	51.5	4.98

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 573370

Tetra Tech- Midland, Midland, TX

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Project Id:
Contact: Ike Tavarez
Project Location: Lea County,New Mexico

Date Received in Lab: Fri Jan-12-18 08:38 am
Report Date: 15-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	573370-019		573370-020		573370-021		573370-022		573370-023	
	Field Id:	AH #18B Bottomhole (2.5'B		AH #18B North Sidewall (2.		AH #18B South Sidewall (2.		AH #18 B East Sidewall (2.5		AH #18B West Sidewall (2.5	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00		Jan-11-18 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-12-18 13:30		Jan-12-18 13:30		Jan-12-18 15:00		Jan-12-18 15:00		Jan-12-18 15:00	
	Analyzed:	Jan-15-18 15:22		Jan-15-18 15:29		Jan-15-18 17:51		Jan-15-18 18:12		Jan-15-18 17:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.6	4.98	<4.97	4.97	5.74	4.94	204	4.98	189	4.99

Mike Kimmel
Client Services 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

+ NELAC certification not offered for this compound.

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

BS / BSD Recoveries

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Work Order #: 573370 **Project ID:**

Analyst: OJS **Date Prepared:** 01/12/2018 **Date Analyzed:** 01/15/2018

Lab Batch ID: 3038311 **Sample:** 7637396-1-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	273	109	250	275	110	1	90-110	20	

Analyst: OJS **Date Prepared:** 01/12/2018 **Date Analyzed:** 01/15/2018

Lab Batch ID: 3038314 **Sample:** 7637422-1-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	238	95	250	241	96	1	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

Form 3 - MS / MSD Recoveries

Project Name: Chili Parlor 17 Federal #3H Transfer Line

Work Order # : 573370 **Project ID:**

Lab Batch ID: 3038311 **QC- Sample ID:** 573370-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/15/2018 **Date Prepared:** 01/12/2018 **Analyst:** OJS

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	39.2	247	283	99	247	286	100	1	90-110	20	

Lab Batch ID: 3038311 **QC- Sample ID:** 573370-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/15/2018 **Date Prepared:** 01/12/2018 **Analyst:** OJS

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	83.1	250	328	98	250	328	98	0	90-110	20	

Lab Batch ID: 3038314 **QC- Sample ID:** 573370-023 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/15/2018 **Date Prepared:** 01/12/2018 **Analyst:** OJS

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	189	250	445	102	250	456	107	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

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

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

573370

Client Name:	Marathon	Site Manager:	Ike Tavarez
Project Name:	Chili Parlor 17 Federal #3H Transfer Line		
Project Location: (county, state)	Lea County, New Mexico	Project #:	212C-MD-01042
Invoice to:	Tetra Tech, Inc.		
Receiving Laboratory:	Xenco Midland Tx	Sampler Signature:	Mike Carmona
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	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 #2B BottomHole (3'BEB)	1/11/2018			X				X			1	N															X							
	AH #2B North Sidewall(3'BEB)	1/11/2018			X				X			1	N															X							
	AH #2B South Sidewall(3'BEB)	1/11/2018			X				X			1	N															X							
	AH #2B East Sidewall(3'BEB)	1/11/2018			X				X			1	N															X							
	AH #2B West Sidewall(3'BEB)	1/11/2018			X				X			1	N															X							
	AH #12B BottomHole (2.5'BEB)	1/11/2018			X				X			1	N															X							
	AH #12B North Sidewall(2.5'BEB)	1/11/2018			X				X			1	N															X							
	AH #12B South Sidewall(2.5'BEB)	1/11/2018			X				X			1	N															X							
	AH #12B East Sidewall(2.5'BEB)	1/11/2018			X				X			1	N															X							
	AH #12B West Sidewall(2.5'BEB)	1/11/2018			X				X			1	N															X							

Relinquished by: Mike Carmona	Date: 1-12-18	Time: 838	Received by: Brianne Smith	Date: 1.12.18	Time: 8:38
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DELIVERED

REMARKS:

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

Temp: -1.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: -1.4

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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

573370

Client Name: Marathon	Site Manager: Ike Tavarez
Project Name: Chili Parlor 17 Federal #3H Transfer Line	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-01042
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Carmona
Comments:	

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 None		# CONTAINERS	FILTERED (Y/N)
	AH #15B BottomHole (3'BEB)	1/11/2018			X				X			1	N
	AH #15B North Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #15B East Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #15B West Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #16B BottomHole (3'BEB)	1/11/2018			X				X			1	N
	AH #16B South Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #16B East Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #16B West Sidewall (3'BEB)	1/11/2018			X				X			1	N
	AH #18B BottomHole (2.5'BEB)	1/11/2018			X				X			1	N
	AH #18B North Sidewall (2.5'BEB)	1/11/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	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
														X						
														X						
														X						
														X						
														X						
														X						
														X						
														X						
														X						
														X						
														X						

Relinquished by: yuika Carmona Date: 1-12-18 Time: 838
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY
Sample Temperature

REMARKS:
- [ ] STANDARD
- [X] RUSH: Same Day (24 hr) 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

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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

573370

Client Name: Marathon	Site Manager: Ike Tavarez
Project Name: Chili Parlor 17 Federal #3H Transfer Line	
Project Location: (county, state) Lea County, New Mexico	Project #: 212C-MD-01042
Invoice to: Tetra Tech, Inc.	
Receiving Laboratory: Xenco Midland Tx	Sampler Signature: Mike Carmona
Comments:	

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: None	PRESERVATIVE METHOD:	# CONTAINERS	FILTERED (Y/N)
	AH #18B South Sidewall (2.5'BEB)	1/11/2018			X				X			1	N
	AH #18B East Sidewall(2.5'BEB)	1/11/2018			X				X			1	N
	AH #18B West Sidewall(2.5'BEB)	1/11/2018			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	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
														X						
														X						
														X						

Relinquished by: Mike Carmona Date: 1-12-18 Time: 838
Received by: [signature] Date: 1.18.18 Time: 8 38

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

- [ ] STANDARD
- [X] 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

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 01/12/2018 08:38:00 AM

Work Order #: 573370

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)?	-1.4
#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: Shawnee Smith Date: 01/12/2018

Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 01/12/2018

Kelsey Brooks