April 11, 2017 Reference No. 11135250-2

APPROVED
By Olivia Yu at 1:27 pm, May 31, 2017

NMOCD approves the delineation workplan and proposed remediation activities for 1RP-4499 with one condition: modification of depth to groundwater with the inclusion of NMOSE water table documentation.

Mr. Dean Ericson
ETC Field Services LLC
600 N. Marienfeld
Suite 700
Midland, TX 79701

Dear Mr. Ericson:

Re: Remediation Summary Report
Fullerton 16 Inch (1 RP-4499)
ETC Field Services LLC
1RP 4499
Site Location: Sec. 35, T 21-S, R 37-E
(Lat 32.42832N°, Long -103.1396W°)
Lea County, New Mexico

GHD Services, Inc. (GHD) is pleased to present this report for the above referenced site. The Fullerton 16 Inch (hereafter referred to as the "Site") is located within Section 35, Township 21 South, Range 37 East, in Lea County, New Mexico (see Figure 1).

Assessment and remediation activities were performed at the Site on March 27, 2017 by GHD. On November 2, 2016, a release of approximately 8 barrels (bbls) of natural gas/oil was reported to the State of New Mexico Oil Conservation Division (NMOCD) via Form C-141. A leaking 16-inch pipe was the cause of the release. Approximately 7.5 bbls were recovered utilizing a vacuum truck. Contaminated soils were excavated and stockpiled on site (see Figure 2). NMOCD release number 1RP 4499 was assigned.

1. Introduction

The release at this site occurred on land owned by a private individual. Following the release, GHD's Site assessment activities began with initial background soil sampling and analysis and limited excavation on March 27, 2017. Additional assessment activities were performed by excavating test pits and field screening the soil utilizing the PetroFLAG Hydrocarbon Analysis System. The excavation was extended to a depth of 10 feet bgs, and soil samples were collected from the four walls for laboratory analysis. Excavation activities were performed by Diamondback Disposal Services, Inc. of Hobbs, New Mexico, and observed by GHD. Soil samples were collected by GHD and analyzed by Cardinal Laboratories of Hobbs, New Mexico.

Based on information available from the United States Geologic Survey National Water Information System, the depth to groundwater at the Site is approximately 55 ft below ground surface (bgs). This is based on a water well that is located approximately 1 mile southeast of the Site (see Appendix A, Water

Well Reports for depth to water). Additionally, there are no well head protection areas or surface water bodies within 1000 feet of the Site. Therefore, the preliminary total ranking score is 10 (see table below).

Based on this score, the applicable NMOCD Site Specific Recommended Remediation Action Limits (RRALs) are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 1,000 mg/kg for total petroleum hydrocarbons (TPH), and 250 mg/kg for chlorides.

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria	Score
Depth to Ground Water (50-99 ft bgs)	10
Wellhead Protection Area (> 1000 ft from water source, > 200 ft from domestic source)	0
Distance to Surface Body Water (>1000 ft)	0
Ranking Criteria Total Score	**10***
*Because the ranking criteria total score is 20, NMOCD established RRALs are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 1,000 mg/kg for total TPH and 250 ppm for chlorides[1].	

1. NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993

2. Assessment Activities

Excavation activities to assess the horizontal and vertical extent of impacted soil from the release occurred on March 27, 2017 by GHD. Field screening of soil for petroleum hydrocarbons was performed to assess the horizontal and vertical extent of contaminated soil. Once field screening indicated soil concentrations were near or below the RRAL, soil samples were collected and submitted to Cardinal Laboratories for laboratory analysis. The soil samples were analyzed for BTEX by EPA Method 8021 and TPH by EPA Method 8015 full range (Table 1). Laboratory analytical data can be found in Appendix B.

The impacted area had been previously excavated to a depth of approximately 6 ft bgs and soil samples were collected by ETC Field Services LLC personnel for laboratory analysis. A sample was collected from the bottom of the excavation at approximately 6 ft bgs on October 31, 2016. Due to heavy rains, contaminated soil from the stockpile ran into the excavation and the soil was removed. Another sample was collected from the bottom of the excavation at 6 ft bgs on December 7, 2016. The samples were submitted to Xenco Laboratories in Midland, Texas for BTEX by EPA Method 8260B, TPH by EPA Method 8015B, and chloride by EPA Method 300. Benzene concentrations ranged from <0.005 to 0.273 mg/kg, total BTEX ranged from 0.0128 to 3.445 mg/kg, TPH ranged from 81.2 to 412.7 mg/kg, and chloride ranged from 12.2 to 13.7 mg/kg (Table 1).

Excavation activities to assess the horizontal and vertical extent of impacted soil from the release occurred on March 27, 2017 by GHD. Field screening of soil for petroleum hydrocarbons was performed to assess the horizontal and vertical extent of contaminated soil. Once field screening indicated soil concentrations were near or below the RRAL within the excavation, soil samples were collected and submitted to Cardinal Laboratories for laboratory analysis. Samples were collected from the base of the

excavation and the four walls. The soil samples were analyzed for BTEX by EPA Method 8021 and TPH by EPA Method 8015 full range (Table 1). Laboratory analytical data can be found in Appendix B.

The final dimensions of the excavation were measured at 14 feet wide by 18 feet long by 10 feet deep.

Only one sample (S-1113520-2-032717-S. Wall) contained a detectable analyte above the laboratory reporting limit. This sample contained a TPH diesel range organics concentration of 11.5 mg/kg which is below the RRAL.

3. Summary and Recommendations

Petroleum hydrocarbon impacted soils, based on field screening, at the Site were encountered at a depth up to 8 ft bgs. Confirmatory soil samples were collected from the base of the excavation, 10 ft bgs, and the four walls (see Figure 2) for laboratory analysis. Based on the laboratory results, GHD recommends the following:

- Backfilling of the excavation with clean fill material and wheel compacting to grade.
- Fertilizing and reseeding of the disturbed area with an appropriate seed mix.

Following completion of the above activities a request for no further action will be made for the Site. Should you have any questions, or require additional information regarding this submittal, please feel free to contact myself or Bernie Bockisch at (505) 884-0672.

Sincerely,

GHD

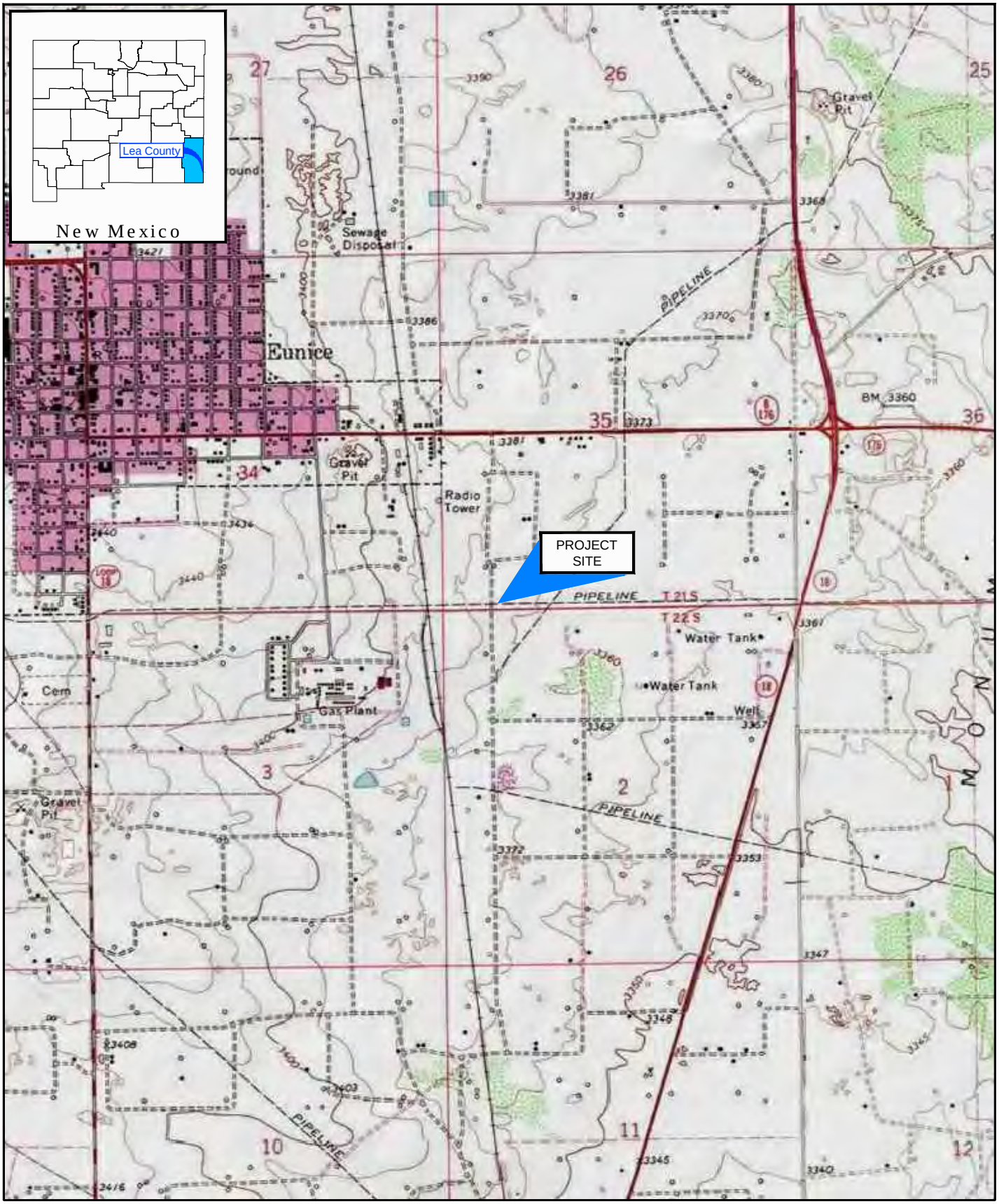
Alan Brandon
Senior Project Manager

Bernard Bockisch
New Mexico Operations Manager

AB/mc/01

Attachments: Figure 1
Figure 2
Table 1
Appendix A
Appendix B

Figures



Source: USGS 7.5 Minute Quad "Eunice and Eunice NE, New Mexico"

Lat/Long: 32.42832ÁNorth, 103.13960ÁWest

0 1000 2000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

ETC FIELD SERVICES
LEA COUNTY, NEW MEXICO
FULLERTON 16"

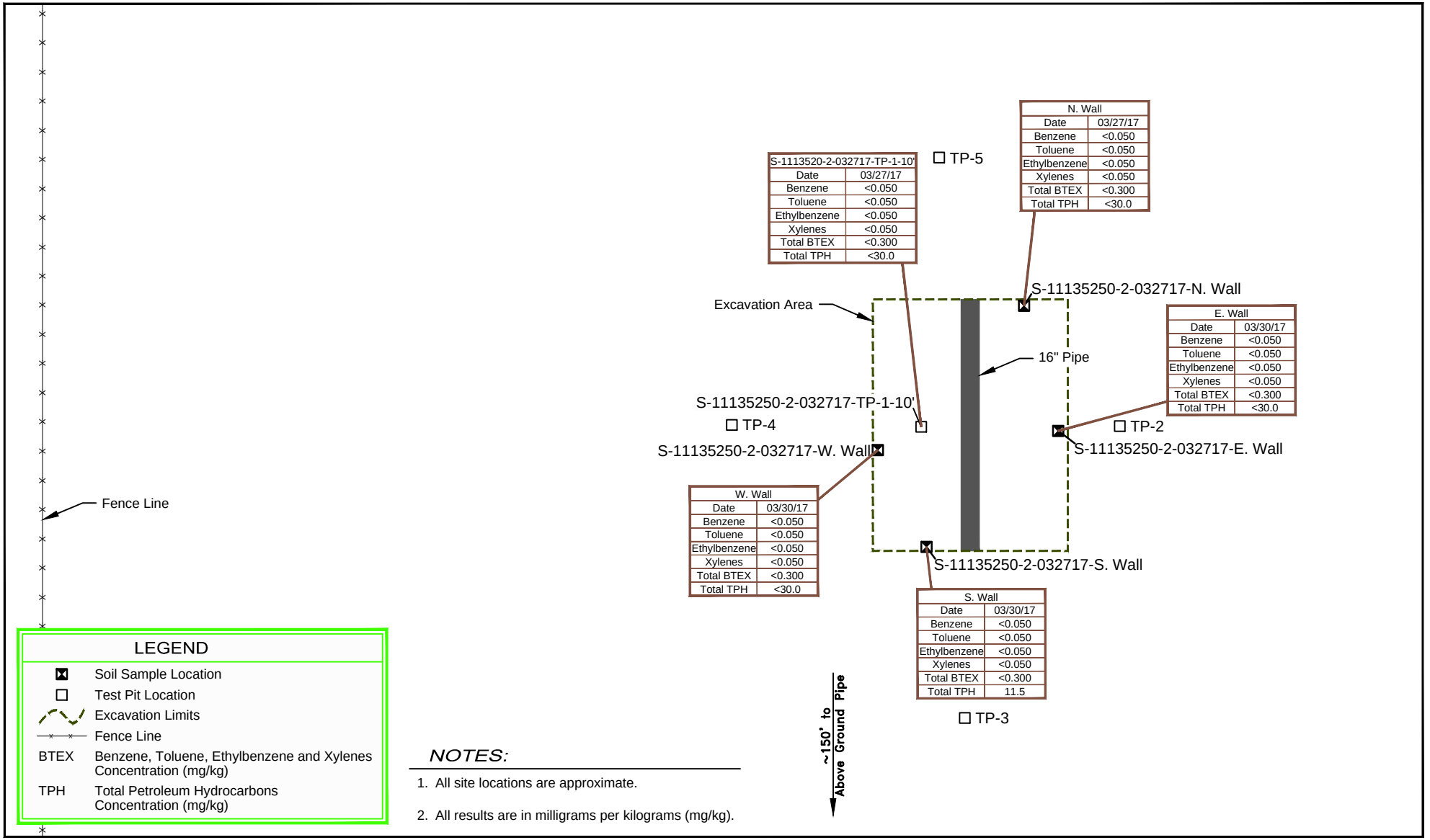
11135250-02

Apr 5, 2017

SITE LOCATION MAP

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-02(000)GN-DL001.dwg



0 5 10ft

ETC FIELD SERVICES
LEA COUNTY, NEW MEXICO
FULLERTON 16"

11135250-02

Apr 7, 2017

SOIL SAMPLE LOCATION

FIGURE 2

CAD File: I:\CAD\Files\Eight Digit Job Numbers\1113----\11135250-ETC Field Services\11135250-02(000)GN-DL001.dwg

Tables

Table 1

ETC Field Services LLC - Fullerton 16" Pipeline
Section 35, Township 21 South, Range 37 East
Lea County, New Mexico
Soil Analytical Results Summary

Sample ID	Date	Sample Depth	Chlorides	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	TPH	TPH	TPH	Total TPH
		(ft.)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	GRO (C6-C-10)	DRO (C10-C28)	EXT DRO (C28-C36)	GRO/DRO
									(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
NMOCD Remediation Action Levels			***250***	***10***	***NE***	***NE***	***NE***	***50***	***NE***	***NE***	***NE***	***1,000***
	EXCAVATION SAMPLES											
*BtmHole	10/31/2016	6	12.2	<0.005	<0.005	<0.005	0.0128	0.0128	74.7	338	NA	412.7
*WstPile	10/31/2016	--	71.6	0.0461	0.58	0.333	0.814	1.7731	12,900.0	22,300.0	NA	35,200.0
*BtmH	12/7/2016	6	13.7	0.273	1.4	0.404	1.368	3.445	32.9	48.3	NA	81.2
*WstPil	12/7/2016	--	166.0	<0.005	<0.005	<0.005	0.026	0.026	2,450.0	11,100.0	NA	13,550.0
S-1113520-2-032717-TP-1 10'	3/27/2017	10	NA	<0.05	<0.05	<0.05	<0.15	<0.30	<10.0	<10.0	<10.0	<30.0
S-1113520-2-032717-N. Wall	3/27/2017	5	NA	<0.05	<0.05	<0.05	<0.15	<0.30	<10.0	<10.0	<10.0	<30.0
S-1113520-2-032717-S. Wall	3/27/2017	5	NA	<0.05	<0.05	<0.05	<0.15	<0.30	<10.0	11.5	<10.0	11.5
S-1113520-2-032717-E. Wall	3/27/2017	5	NA	<0.05	<0.05	<0.05	<0.15	<0.30	<10.0	<10.0	<10.0	<30.0
S-1113520-2-032717-W. Wall	3/27/2017	5	NA	<0.05	<0.05	<0.05	<0.15	<0.30	<10.0	<10.0	<10.0	<30.0

Note: Concentrations that are bold exceed the NMOCD Remediation Action Level
* Samples taken by ETC Field Services
NE = Not Established
mg/Kg = milligrams per Kilogram
-- = Not Applicable
NA = Not Analyzed

Appendices

Appendix A
Water Well Reports

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews Bulletins

Please see news on new formats
- Full News

Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322521103073601

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322521103073601 22S.37E.02.222314

Lea County, New Mexico
Latitude 32°25'21", Longitude 103°07'36" NAD27
Land-surface elevation 3,356 feet above NAVD88
The depth of the well is 87 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1965-11-18		D	63.82			2		U		
1986-02-26		D	55.12			2		U		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms

Appendix B
Certified Laboratory Reports

CARDINAL Laboratories

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

April 04, 2017

BERNARD BUCKISCH

GHD SERVICES, INC.

6121 INDIAN SCHOOL RD, NE STE. 200

ALBUQUERQUE, NM 87110

RE: FULLERTON 16"

Enclosed are the results of analyses for samples received by the laboratory on 03/29/17 14:12.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

GHD SERVICES, INC.
BERNARD BUCKISCH
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

Received:	03/29/2017	Sampling Date:	03/27/2017
Reported:	04/04/2017	Sampling Type:	Soil
Project Name:	FULLERTON 16"	Sampling Condition:	Cool & Intact
Project Number:	1113520-2	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S-1113520-2-032717-TT-1-10 (H700825-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/31/2017	ND	1.97	98.4	2.00	4.94	
Toluene*	<0.050	0.050	03/31/2017	ND	1.82	91.1	2.00	5.44	
Ethylbenzene*	<0.050	0.050	03/31/2017	ND	1.80	89.8	2.00	6.04	
Total Xylenes*	<0.150	0.150	03/31/2017	ND	5.13	85.5	6.00	5.90	
Total BTEX	<0.300	0.300	03/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.1 %* *72-148*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2017	ND	222	111	200	0.749	
DRO >C10-C28	<10.0	10.0	03/29/2017	ND	223	111	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	03/29/2017	ND					

Surrogate: 1-Chlorooctane *96.9 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *107 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

GHD SERVICES, INC.
BERNARD BUCKISCH
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

Received:	03/29/2017	Sampling Date:	03/27/2017
Reported:	04/04/2017	Sampling Type:	Soil
Project Name:	FULLERTON 16"	Sampling Condition:	Cool & Intact
Project Number:	1113520-2	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S-1113520-2-032717- N. WALL (H700825-02)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/31/2017	ND	1.97	98.4	2.00	4.94	
Toluene*	<0.050	0.050	03/31/2017	ND	1.82	91.1	2.00	5.44	
Ethylbenzene*	<0.050	0.050	03/31/2017	ND	1.80	89.8	2.00	6.04	
Total Xylenes*	<0.150	0.150	03/31/2017	ND	5.13	85.5	6.00	5.90	
Total BTEX	<0.300	0.300	03/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.8 %* *72-148*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2017	ND	222	111	200	0.749	
DRO >C10-C28	<10.0	10.0	03/29/2017	ND	223	111	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	03/29/2017	ND					

Surrogate: 1-Chlorooctane *94.6 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *103 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

GHD SERVICES, INC.
BERNARD BUCKISCH
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

Received:	03/29/2017	Sampling Date:	03/27/2017
Reported:	04/04/2017	Sampling Type:	Soil
Project Name:	FULLERTON 16"	Sampling Condition:	Cool & Intact
Project Number:	1113520-2	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S-1113520-2-032717- S. WALL (H700825-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/31/2017	ND	1.97	98.4	2.00	4.94	
Toluene*	<0.050	0.050	03/31/2017	ND	1.82	91.1	2.00	5.44	
Ethylbenzene*	<0.050	0.050	03/31/2017	ND	1.80	89.8	2.00	6.04	
Total Xylenes*	<0.150	0.150	03/31/2017	ND	5.13	85.5	6.00	5.90	
Total BTEX	<0.300	0.300	03/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *72-148*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2017	ND	222	111	200	0.749	
DRO >C10-C28	**11.5**	10.0	03/29/2017	ND	223	111	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	03/29/2017	ND					

Surrogate: 1-Chlorooctane *103 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *112 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

GHD SERVICES, INC.
BERNARD BUCKISCH
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

Received:	03/29/2017	Sampling Date:	03/27/2017
Reported:	04/04/2017	Sampling Type:	Soil
Project Name:	FULLERTON 16"	Sampling Condition:	Cool & Intact
Project Number:	1113520-2	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S-1113520-2-032717- E.WALL (H700825-04)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/31/2017	ND	1.97	98.4	2.00	4.94	
Toluene*	<0.050	0.050	03/31/2017	ND	1.82	91.1	2.00	5.44	
Ethylbenzene*	<0.050	0.050	03/31/2017	ND	1.80	89.8	2.00	6.04	
Total Xylenes*	<0.150	0.150	03/31/2017	ND	5.13	85.5	6.00	5.90	
Total BTEX	<0.300	0.300	03/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.6 %* *72-148*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2017	ND	222	111	200	0.749	
DRO >C10-C28	<10.0	10.0	03/29/2017	ND	223	111	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	03/29/2017	ND					

Surrogate: 1-Chlorooctane *103 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *110 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

GHD SERVICES, INC.
BERNARD BUCKISCH
6121 INDIAN SCHOOL RD, NE STE. 200
ALBUQUERQUE NM, 87110
Fax To:

Received:	03/29/2017	Sampling Date:	03/27/2017
Reported:	04/04/2017	Sampling Type:	Soil
Project Name:	FULLERTON 16"	Sampling Condition:	Cool & Intact
Project Number:	1113520-2	Sample Received By:	Celey D. Keene
Project Location:	NOT GIVEN		

Sample ID: S-1113520-2-032717- W. WALL (H700825-05)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/31/2017	ND	1.97	98.4	2.00	4.94	
Toluene*	<0.050	0.050	03/31/2017	ND	1.82	91.1	2.00	5.44	
Ethylbenzene*	<0.050	0.050	03/31/2017	ND	1.80	89.8	2.00	6.04	
Total Xylenes*	<0.150	0.150	03/31/2017	ND	5.13	85.5	6.00	5.90	
Total BTEX	<0.300	0.300	03/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *72-148*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/29/2017	ND	222	111	200	0.749	
DRO >C10-C28	<10.0	10.0	03/29/2017	ND	223	111	200	1.25	
EXT DRO >C28-C36	<10.0	10.0	03/29/2017	ND					

Surrogate: 1-Chlorooctane *88.4 %* *25.1-158*

Surrogate: 1-Chlorooctadecane *93.9 %* *26.8-170*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	GHD Services, Inc	**BILL TO**	
Project Manager:	Bernard Bockisch	P.O. #:	
Address:	6121 Indian School, Rd, NE STE 200	Company:	EJC
City:	Albuquerque State: NM Zip: 87110	Attn:	Dean Ericson
Phone #:	505-884-0672 Fax #:	Address:	
Project #:	111352D-2 Project Owner:	City:	
Project Name:	Fullerton 16"	State: Zip:	
Project Location:		Phone #:	
Sampler Name:	Alan Brandon	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021	TPH 8015 Full range
470825-																
01	S-111352D-2-032717-TP1	G	1			X							3/27/17	1315	X	X
02	S-111352D-2-032717-N.wall	G	1			X							3/27/17	1545	X	X
03	S-111352D-2-032717-S.wall	G	1			X							3/27/17	1600	X	X
04	S-111352D-2-032717-E.wall	G	1			X							3/27/17	1530	X	X
05	S-111352D-2-032717-W.wall	G	1			X							3/27/17	1535	X	X

Relinquished By:	Date: 3/29/17	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
	Time: 2:12		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: 505-697-2025 Alan bernard.bockisch@ghd.com	
	Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	2.0°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) CSK #75	

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #

Xenco Job # 541732

Client / Reporting Information

Company Name / Branch: Energy Transfer Company Field Services

Company Address: 600 N. Marienfeld, Midland, Texas 79701

Email: johnnie.bradford@energytransfer.com

Phone No: (432) 450-5542

Project Contact: Johnnie Bradford

Samplers's Name - Johnnie Bradford

Project Information

Project Name/Number: Fullerton 16" Conf

Project Location: Eunice NM

Invoice To: Same as above

PO Number: None

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TCLP BETX	TCLP RCRA 8 Metals	TPH	Chlorides	Field Comments
1	WstPil	0	12/7/2016	09:45 ~~10:01~~		1									X	X	X	X	
2	BtmH	6'	12/7/2016	10:01 ~~0:00~~		1									X	X	X	X	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

Turnaround Time (Business days)

- [ ] Same Day TAT
- [X] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [X] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Johnnie Bradford	12/08/2016 15:43		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X
			5			

Cooler Temp. Thermo. Corr. Fac.

Temp: IR ID:R-8
CF:+ 0.1
Corrected Temp: 7.6

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost o any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but terms will be enforced unless previously negotiated under a fully executed client contract.

Certificate of Analysis Summary 541732

Energy Transfer- Midland, Midland, TX

Project Name: Fullerton 16" Conf

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Thu Dec-08-16 03:43 pm
Report Date: 16-DEC-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	541732-001		541732-002									
	Field Id:	WstPil		BtmH									
	Depth:			6 ft									
	Matrix:	SOIL		SOIL									
	Sampled:	Dec-07-16 09:45		Dec-07-16 10:01									
TCLP BTEX by SW 8260B SUB: TX104704215	*Extracted:*	Dec-14-16 17:00		Dec-14-16 17:00									
	Analyzed:	Dec-14-16 18:41		Dec-14-16 18:59									
	Units/RL:	mg/L	RL	mg/L	RL								
Benzene		ND	0.00500	0.273	0.00500								
Toluene		ND	0.00500	1.40	0.00500								
Ethylbenzene		ND	0.00500	0.404	0.00500								
m,p-Xylenes		0.0119	0.0100	0.926	0.0100								
o-Xylene		0.0137	0.00500	0.442	0.00500								
TCLP Mercury by SW 7470A SUB: TX104704215	*Extracted:*	Dec-14-16 11:30		Dec-14-16 11:30									
	Analyzed:	Dec-14-16 18:08		Dec-14-16 18:10									
	Units/RL:	mg/L	RL	mg/L	RL								
Mercury		ND	0.000200	ND	0.000200								
TCLP Metals by SW846 6010B SUB: TX104704215	*Extracted:*	Dec-15-16 09:30		Dec-15-16 09:30									
	Analyzed:	Dec-15-16 16:48		Dec-15-16 16:51									
	Units/RL:	mg/L	RL	mg/L	RL								
Arsenic		ND	0.0500	ND	0.0500								
Barium		1.02	0.0500	0.893	0.0500								
Cadmium		ND	0.0250	ND	0.0250								
Chromium		ND	0.0500	ND	0.0500								
Lead		ND	0.0500	ND	0.0500								
Selenium		ND	0.100	ND	0.100								
Silver		ND	0.100	ND	0.100								

Julian Martinez
Project Manager

Final 1.000

Certificate of Analysis Summary 541732

Energy Transfer- Midland, Midland, TX

Project Name: Fullerton 16" Conf

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Thu Dec-08-16 03:43 pm
Report Date: 16-DEC-16
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	541732-001		541732-002					
	Field Id:	WstPil		BtmH					
	Depth:			6- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Dec-07-16 09:45		Dec-07-16 10:01					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-13-16 14:18		Dec-13-16 14:18					
	Analyzed:	Dec-13-16 20:00		Dec-13-16 20:07					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		166	5.00	13.7	5.00				
TPH by SW 8015B	***Extracted:***	Dec-09-16 14:00		Dec-09-16 14:00					
	Analyzed:	Dec-10-16 07:26		Dec-10-16 07:50					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		2450	150	32.9	15.0				
C10-C28 Diesel Range Hydrocarbons		11100	150	48.3	15.0				
Total TPH		13800	150	81.2	15.0				

Julian Martinez
Project Manager

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #

Xenco Job # 539556

Client / Reporting Information

Company Name / Branch: Energy Transfer Company Field Services

Company Address: 600 N. Marienfeld, Midland, Texas 79701

Email: johnnie.bradford@energytransfer.com

Phone No: (432) 450-5542

Project Contact: Johnnie Bradford

Samplers's Name - Johnnie Bradford

Project Information

Project Name/Number: Fullerton 16"

Project Location: Eunice NM

Invoice To: Same as above

PO Number: None

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TCLP BETX	TCLP RCRA 8 Metals	TPH	Chlorides
1	WstPile	0	10/31/2016	0907	S	1									X	X	X	X
2	BtmHole	6'	10/31/2016	0915	"	"									"	"	"	"
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Field Comments

Turnaround Time (Business days)

- [ ] Same Day TAT
- [X] 5 Day TAT
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- [X] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: Johnnie Bradford	Date Time: 11/01/2016 0956	Received By: 1	Relinquished By:	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X

Cooler Temp. Thermo. Corr. Factor

Temp: IR ID:R-8
CF:+ 0.1
Corrected Temp: 8.7 8.8

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of sam losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analy be enforced unless previously negotiated under a fully executed client contract.

Certificate of Analysis Summary 539556

Energy Transfer- Midland, Midland, TX

Project Name: Fullerton 16"

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Tue Nov-01-16 09:56 am
Report Date: 07-NOV-16
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	539556-001		539556-002					
	Field Id:	WstPile		BtmHole					
	Depth:			-6 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-31-16 09:07		Oct-31-16 09:15					
TCLP BTEX by SW 8260B SUB: TX104704215	***Extracted:***	Nov-03-16 13:02		Nov-03-16 16:00					
	Analyzed:	Nov-03-16 14:11		Nov-03-16 17:21					
	Units/RL:	mg/L	RL	mg/L	RL				
Benzene		0.0461	0.00500	ND	0.00500				
Toluene		0.580	0.00500	ND	0.00500				
Ethylbenzene		0.333	0.00500	ND	0.00500				
m,p-Xylenes		0.539	0.0100	0.0128	0.0100				
o-Xylene		0.275	0.00500	ND	0.00500				
TCLP Mercury by SW 7470A SUB: TX104704215	***Extracted:***	Nov-04-16 09:00		Nov-04-16 09:00					
	Analyzed:	Nov-04-16 17:45		Nov-04-16 17:47					
	Units/RL:	mg/L	RL	mg/L	RL				
Mercury		ND	0.000200	ND	0.000200				
TCLP Metals by SW846 6010B SUB: TX104704215	***Extracted:***	Nov-04-16 09:30		Nov-04-16 09:30					
	Analyzed:	Nov-04-16 16:30		Nov-04-16 16:33					
	Units/RL:	mg/L	RL	mg/L	RL				
Arsenic		ND	0.0500	ND	0.0500				
Barium		0.904	0.0500	1.21	0.0500				
Cadmium		ND	0.0250	ND	0.0250				
Chromium		ND	0.0500	ND	0.0500				
Lead		ND	0.0500	ND	0.0500				
Selenium		ND	0.100	ND	0.100				
Silver		ND	0.100	ND	0.100				

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 539556

Energy Transfer- Midland, Midland, TX

Project Name: Fullerton 16"

Project Id:
Contact: Johnnie Bradford
Project Location: Eunice NM

Date Received in Lab: Tue Nov-01-16 09:56 am
Report Date: 07-NOV-16
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	539556-001		539556-002					
	Field Id:	WstPile		BtmHole					
	Depth:			6 ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Oct-31-16 09:07		Oct-31-16 09:15					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Nov-04-16 17:04		Nov-04-16 17:04					
	Analyzed:	Nov-04-16 19:23		Nov-04-16 19:44					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		71.6	5.00	12.2	5.00				
TPH by SW 8015B	***Extracted:***	Nov-02-16 11:00		Nov-02-16 11:00					
	Analyzed:	Nov-02-16 20:56		Nov-02-16 21:21					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		12900	150	74.7	15.0				
C10-C28 Diesel Range Hydrocarbons		22300	150	338	15.0				
Total TPH		35200	150	413	15.0				

Kelsey Brooks
Project Manager

Final 1.000

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