Analytical Report 537440

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Eunice Yard

212C-MD-00374

03-OCT-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

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03-OCT-16

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

Reference: XENCO Report No(s): **537440**
Eunice Yard
Project Address: Lea Co NM

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) 537440. 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. 537440 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 537440

Tetra Tech- Midland, Midland, TX

Eunice Yard

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	09-22-16 10:22		537440-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 537440

Tetra Tech- Midland, Midland, TX

Project Name: Eunice Yard

Project Id: 212C-MD-00374
Contact: Ike Tavarez
Project Location: Lea Co NM

Date Received in Lab: Fri Sep-23-16 11:55 am
Report Date: 03-OCT-16
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	537440-001					
	Field Id:	MW-1					
	Depth:						
	Matrix:	WATER					
	Sampled:	Sep-22-16 10:22					
BTEX by EPA 8021B	***Extracted:***	Sep-26-16 18:00					
	Analyzed:	Sep-27-16 15:49					
	Units/RL:	mg/L	RL				
Benzene		ND	0.00200				
Toluene		ND	0.00150				
Ethylbenzene		ND	0.00200				
m,p-Xylenes		ND	0.00200				
o-Xylene		ND	0.00200				
Total Xylenes		ND	0.00200				
Total BTEX		ND	0.00150				
Inorganic Anions by EPA 300	***Extracted:***	Sep-30-16 18:07					
	Analyzed:	Sep-30-16 18:07					
	Units/RL:	mg/L	RL				
Chloride		1610	10.0				

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ 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: Eunice Yard

Work Orders : 537440,

Project ID: 212C-MD-00374

Lab Batch #: 3000832 **Sample:** 537440-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 15:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 3000832 **Sample:** 714262-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 05:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0277	0.0300	92	80-120	

Lab Batch #: 3000832 **Sample:** 714262-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 04:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 3000832 **Sample:** 714262-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 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	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 3000832 **Sample:** 537482-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 04:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	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: Eunice Yard

Work Orders : 537440, **Project ID:** 212C-MD-00374

Lab Batch #: 3000832 **Sample:** 537482-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/27/16 04:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	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: Eunice Yard

Work Order #: 537440 **Project ID:** 212C-MD-00374

Analyst: PJB **Date Prepared:** 09/26/2016 **Date Analyzed:** 09/27/2016

Lab Batch ID: 3000832 **Sample:** 714262-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.108	108	0.100	0.104	104	4	70-125	25	
Toluene	<0.00150	0.100	0.108	108	0.100	0.102	102	6	70-125	25	
Ethylbenzene	<0.00200	0.100	0.110	110	0.100	0.103	103	7	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.227	114	0.200	0.211	106	7	70-131	25	
o-Xylene	<0.00200	0.100	0.111	111	0.100	0.103	103	7	71-133	25	

Analyst: MNR **Date Prepared:** 09/30/2016 **Date Analyzed:** 09/30/2016

Lab Batch ID: 3001231 **Sample:** 714435-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300 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	<0.500	25.0	26.3	105	25.0	26.3	105	0	90-110	20	

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

Form 3 - MS / MSD Recoveries

Project Name: Eunice Yard

Work Order # : 537440 **Project ID:** 212C-MD-00374

Lab Batch ID: 3000832 **QC- Sample ID:** 537482-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09/27/2016 **Date Prepared:** 09/26/2016 **Analyst:** PJB

Reporting Units: mg/L

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	0.103	103	0.100	0.0994	99	4	70-125	25	
Toluene	<0.00150	0.100	0.103	103	0.100	0.0977	98	5	70-125	25	
Ethylbenzene	<0.00200	0.100	0.106	106	0.100	0.0997	100	6	71-129	25	
m,p-Xylenes	<0.00200	0.200	0.216	108	0.200	0.204	102	6	70-131	25	
o-Xylene	<0.00200	0.100	0.107	107	0.100	0.101	101	6	71-133	25	

Lab Batch ID: 3001231 **QC- Sample ID:** 537440-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09/30/2016 **Date Prepared:** 09/30/2016 **Analyst:** MNR

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300 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	1610	500	2120	102	500	2110	100	0	90-110	20	

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

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

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

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

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

537440

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: Globe Energy

SITE MANAGER: Ike Tavarez

PROJECT NO.: 212C-MD-00374

PROJECT NAME: Eunice Yard
Lea Co NM

LAB I.D. NUMBER	DATE 2016	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	9/22	1022	W		X	MW-1	4		3		X		X											X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) — Date: 9/23/16 Time: 1150
RECEIVED BY: (Signature) — Date: — Time: 1155
SAMPLED BY: (Print & Initial) — Date: — Time:

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) — Date: — Time:
TETRA TECH CONTACT PERSON: — Results by:

RECEIVING LABORATORY: Xenco
ADDRESS: — CITY: — STATE: — ZIP:
CONTACT: — PHONE: — DATE: — TIME:
RECEIVED BY: (Signature)
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2.6°C

REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 09/23/2016 11:55:00 AM

Work Order #: 537440

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)?	2.3
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

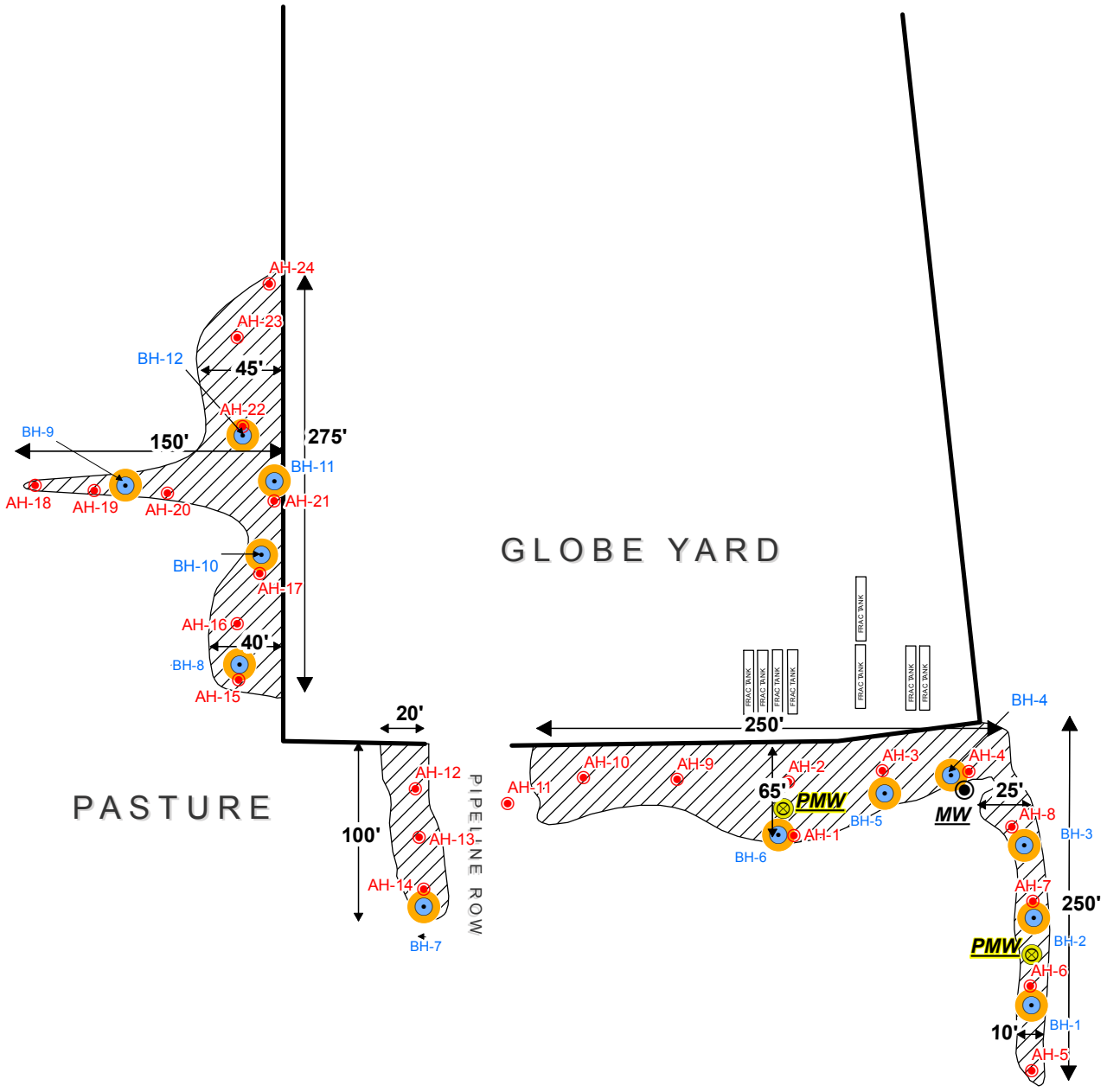
*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 09/23/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 09/23/2016



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- BOREHOLE SAMPLE LOCATIONS
- MONITOR WELL LOCATION
- PROPOSED MONITOR WELL LOCATIONS
- SPILL AREA

N

SCALE: 1 IN = 114 FEET

Feet 0 50 100

Figure 6

Eunice Yard

Proposed Monitor Well Location Map

Lea County, New Mexico

Project : 212C-MD-00374

Date : 03/18/2016

File : H:\GIS\212C-MD-00374

Mapped By: Isabel Marmolejo

Table 1
Globe Energy Services
MW-1 (Groundwater)
Eunice Yard
Lea County, New Mexico

Sample ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethlybenzene (mg/L)	Xylene (mg/L)	Total BTEX (mg/L)	Chloride (mg/L)
MW-1	9/22/2016	<0.00200	<0.00150	<0.00200	<0.00200	<0.00150	1,610