TETRA TECH, INC.

1910 N. Big Spring St.
Midland, Texas 79705
432-686-8081

November 4, 2010

Messer's Justin Wright and John Gates
ConocoPhillips
29 Vacuum Complex Lane
Lovington, NM 88260

RE: Request for Closure
MCA 2A Header Fiberglass Trunk Line
Lea County, New Mexico
Unit G, Sec. 29, T17S, R32E
1RP 2223

Dear Messer's Wright and Gates:

Tetra Tech submits this suggested request for closure for the soil remediation performed February 6, 2010 through October 29, 2010, at ConocoPhillips' MCA 2A Header 3-inch Trunk Line oil/produced water release site (Site). This work was in support of ConocoPhillips' efforts to remediate soil affected by a 1 barrel crude oil and 21 barrel produced water release reported to the New Mexico Oil Conservation Division (NMOCD; C141 attached). The Site is located below the Mescalero Ridge, approximately 1.4 miles southwest of the ConocoPhillips MCA Unit office in Lea County, New Mexico (32.807717°N, 103.784688°W). The U.S. Bureau of Land Management (USBLM) is the land administrator.

The Site is located in the Querecho Plains of eastern New Mexico. This area generally consists of a thin cover of Quaternary sand dunes overlying the undivided Triassic Upper Chinle Group[1]. The Pyote series soil at the Site is well drained, non-calcareous fine sands.[2]

The Site is heavily populated with oil field pipelines. Observations made by Tetra Tech during the initial site visit revealed at least 5 pipelines extending through the Site; two steel 4-inch pipelines, one 2-inch diameter steel pipeline, one 3-inch diameter fiberglass produced water trunk line and one 8-inch transite line. The two 4-inch steel lines were out-of-service and segments of these lines were removed in late July 2010, to allow unrestricted access to the affected area.

Exposure Pathway Analysis

Depth to water in the vicinity of the Site is estimated to be approximately 76 feet below ground surface (fbgs). This interpretation is based information gathered at monitoring well MW-20 that is described in ConocoPhillips' remediation project entitled "*Maljamar Gas Plant GW-020*" (log

[1] U.S. Department of Agriculture, Natural Resources Conservation Services. Web Soil Survey Database.
[2] Turner, M.T., D.N. Cox, B.C Mickelson, A.J. Roath, and C.D Wilson, 1973. Soil Survey Lea County, New Mexico. U.S. Depart of Agr Soil Conser Ser, 89p.

submitted in initial findings report dated October 6, 2009). The monitoring well is located approximately 2,160 feet northeast of the Site. The nearest playa is approximately 0.4 miles southeast of the Site.

Following the ranking criteria presented in "*Guidelines for Remediation of Leaks, Spills, and Releases*" promulgated on August 13, 1993 by the NMOCD, this Site has the following score:

Criteria		Ranking Score
Depth to groundwater	50 - 99 feet	10
Distance from water source	>1,000 feet	0
Distance from domestic water source	>200 feet	0
Distance from surface water body	>1,000 feet	0
Total Ranking Score		10

The recommended remediation action level for a ranking score of 10-19 is 10 parts per million (ppm) for benzene, 50 ppm for total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 ppm for total petroleum hydrocarbons (TPH).

Summary of Work

A Site investigation was competed and the findings report was submitted to the NMOCD and the BLM in October 2009. The findings indicated TPH concentrations were either not present or below its remedial action level in samples collected from the affected areas. Benzene and BTEX concentrations were not present in any of the samples.

The initial excavation work plan, submitted October 6, 2009, was approved by both the NMOCD and BLM (October 26 and 27, respectfully) proposed the excavation of three areas (A, B, and C) affected by the oil/produced water release to a minimum depth of 6 feet below ground surface (fbgs). Adjacent sand dune material would be used to partially backfilled the excavation. Natural wind erosion would re-sculpture the affected area and restore the sand dune lizards, *Sceloporus arenicolus,* habitat.

On February 17, 2010, the NMOCD, BLM and Tetra Tech representatives met on-site to discuss a transite line hazard and possible work around strategies. The NMOCD and BLM agreed (February 19, 2010) that in Area A (or 1; 50-feet by 26-feet) the affected soil would be excavated to a depth of 4-feet and clay material would be returned to the site and compacted to a 1-foot thick barrier, and the area would be backfilled with borrowed sand. In Area C (or 2) the affected soil, under a hazardous transite line, would be hand excavated to a depth of 2-feet and borrowed clay material would be compacted to a 1-foot thick barrier (Figure 1). The excavation would be 3-feet by 35-feet and supported by a plywood retention wall. Confirmation samples would be collected from Area B (or 3; 10-feet by 6-feet) and the area backfilled with surrounding sand.

On July 21, 2010, ConocoPhillips removed segments of the two 4-inch steel lines that were out-of-service to allow unrestricted access to the affected Area A. Remediation of all affected areas resumed on August 3, 2010 and was completed October 29, 2010, with the closing of the access road.

Scope of Work

Area A (50-feet by 26-feet) affected soil was excavated to a depth of 4-feet and hauled to a State approved disposal location. Clay material was returned to the excavation and compacted to a 1-foot thick barrier and the area backfilled with borrowed sand. In Area C, the affected soil under the transite line was hand excavated to a depth of 2-feet and borrowed clay material was compacted to form a 1-foot thick barrier. The excavation was approximately 3-feet by 35-feet. Confirmation samples were collected from Area B (10-feet by 6-feet) and left open to allow for windblown native soil to re-sculpture the area.

Findings

Soil encountered at the Site was moist reddish yellow medium to very fine grained loose silty sands from the surface to varying depths. The dune sands overly red sandy clay, interbedded with caliche.

Because TPH and BTEX concentrations reported in the initial findings report, dated October 6, 2009, were either below the recommended remedial action levels or not detected, these constituents were not analyzed for excavation clean confirmation.

Chloride concentrations were detected in the south wall and the floor of the Area A excavation. A complete analytical report is presented in the Appendix.

		Sampling Location (5 Sample Composite)				
Constituent	**Units**	W-Wall	N-Wall	S-Wall	E-Wall	Floor
Chloride	(mg/Kg)	ND	ND	84.2	ND	45.3

mg/Kg = milligrams per kilogram

Excavation clean confirmation for the small oval Area B is presented below and in the Appendix. Chloride concentrations were detected in the wall samples but no in the floor of the Area B excavation.

		Sampling Locations			
Constituent	**Units**	E-Wall	W-Wall	N-Wall	Floor
Chloride	(mg/Kg)	48.6	51.1	5.88	ND

mg/Kg = milligrams per kilogram

Conclusions

A laboratory analysis of the over-excavations indicates clean boundaries in Areas A and B were achieved (Photo Log). Clay barriers were placed in Area A and under the transite pipeline (Area C) to prevent potential downward migration of residual chloride in soil due to precipitation.

Recommendations

Based on the work performed at this Site, Tetra Tech recommends no further action. Tetra Tech suggests that ConocoPhillips request closure from the NMOCD and the BLM for this mixed crude oil/produced water release location. If you have any questions or need additional information, please call me.

Sincerely,

Tetra Tech

Charles Durrett

Digitally signed by Charles Durrett
DN: cn=Charles Durrett, o=Tetra Tech, Inc., ou, email=charles.durrett@tetratech.com, c=US
Date: 2010.11.04 14:38:31 -05'00'

Charles Durrett
Sr. Project Manager

Attachment

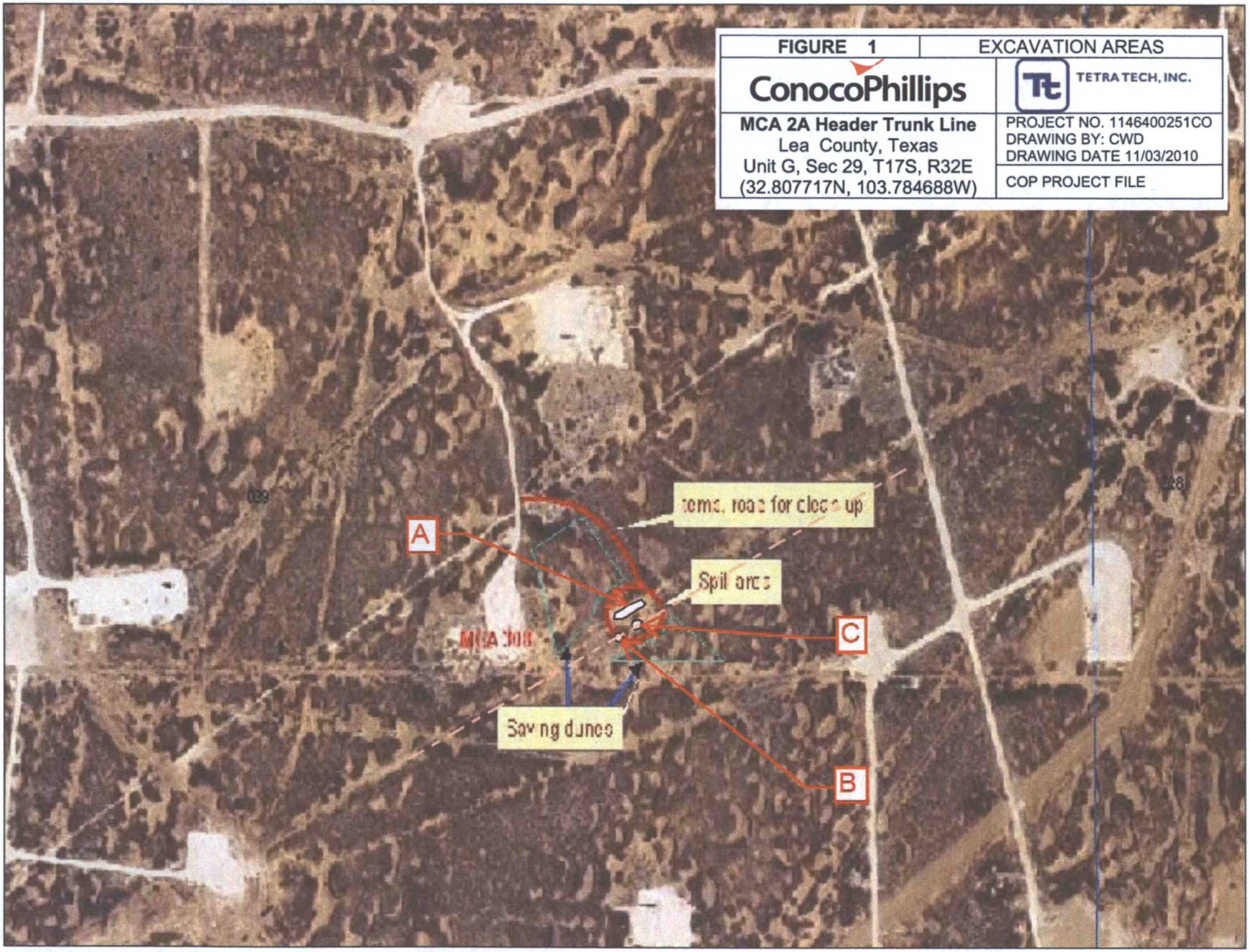


FIGURE 1
EXCAVATION AREAS
ConocoPhillips
TETRA TECH, INC.
MCA 2A Header Trunk Line
Lea County, Texas
Unit G, Sec 29, T17S, R32E
(32.807717N, 103.784688W)
PROJECT NO. 1146400251CO
DRAWING BY: CWD
DRAWING DATE 11/03/2010
COP PROJECT FILE
A
B
C
Spill area
Saving dunes

EXCAVATION AREA A

July 23, 2009

August 11, 2010
4" Lines cut in
July 2010

August 11, 2010
Clay Barrier

August 12, 2010

EXCAVATION AREA B (No Before Photo)

November 3, 2010
Native Soil Backfill

EXCAVATION AREA C

July 23, 2009

February 11, 2010

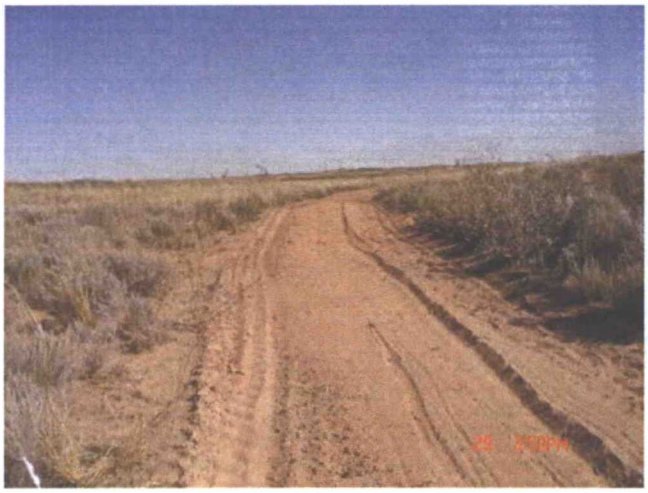
August 3, 2010

August 4, 2010
Clay Barrier

August 6, 2010

ACCESS ROAD

October 29, 2010
Before



October 29, 2010
After

APPENDIX

Zenco Laboratories Report August 5, 2010
Zenco Laboratories November 4, 2010

Analytical Report 384302

for

Tetra Tech- Midland

Project Manager: Charles Durrett

MCA 2 A Flowline

05-AUG-10

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

XENCO Laboratories

ACCREDITED IN ACCORDANCE WITH nelac

05-AUG-10

Project Manager: **Charles Durrett**
Tetra Tech- Midland
1910 N. Big Spring
Midland, TX 79705

Reference: XENCO Report No: **384302**
MCA 2 A Flowline
Project Address: Maljamar, NM

Charles Durrett:

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 384302. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 384302 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,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 384302

Tetra Tech- Midland, Midland, TX

MCA 2 A Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
W-Wall	S	Aug-04-10 10:00	1 - 4 ft	384302-001
N-Wall	S	Aug-04-10 10:15	1 - 4 ft	384302-002
Floor	S	Aug-04-10 10:30	1 - 4 ft	384302-003
S-Wall	S	Aug-04-10 10:45	1 - 4 ft	384302-004
E- Wall	S	Aug-04-10 11:00	1 - 4 ft	384302-005
RO-1 Surface	S	Aug-04-10 09:00	S - S	384302-006
RO-1 6"	S	Aug-04-10 09:05	6 - 6 In	384302-007
RO-2 Surface	S	Aug-04-10 09:15	S - S	384302-008
RO 2	S	Aug-04-10 09:20	6 - 6 In	384302-009

CASE NARRATIVE

Client Name: Tetra Tech- Midland
Project Name: MCA 2 A Flowline

Project ID:
Work Order Number: 384302

Report Date: 05-AUG-10
Date Received: 08/04/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-817540 Percent Moisture
None

Batch: LBA-817587 Anions by E300
None

Certificate of Analysis Summary 384302

Tetra Tech- Midland, Midland, TX

Project Name: MCA 2 A Flowline

Project Id:
Contact: Charles Durrett
Project Location: Maljamar, NM

Date Received in Lab: Wed Aug-04-10 02:15 pm
Report Date: 05-AUG-10
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	384302-001		384302-002		384302-003		384302-004		384302-005		384302-006	
	Field Id:	W-Wall		N-Wall		Floor		S-Wall		E- Wall		RO-1 Surface	
	Depth:	1-4 ft		1-4 ft		1-4 ft		1-4 ft		1-4 ft		S-S	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-04-10 10:00		Aug-04-10 10:15		Aug-04-10 10:30		Aug-04-10 10:45		Aug-04-10 11:00		Aug-04-10 09:00	
Anions by E300	***Extracted:***												
	Analyzed:	Aug-04-10 14:24		Aug-04-10 14:24		Aug-04-10 14:24		Aug-04-10 14:24		Aug-04-10 14:24		Aug-04-10 14:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND		ND	4.29	45.3	4.34	84.2	4.29	ND	4.27	ND	4.34
Percent Moisture	***Extracted:***												
	Analyzed:	Aug-05-10 08:53		Aug-05-10 08:53		Aug-05-10 08:53		Aug-05-10 08:53		Aug-05-10 08:53		Aug-05-10 08:53	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.47	1.00	2.09	1.00	3.23	1.00	2.06	1.00	1.59	1.00	3.16	1.00

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

Certificate of Analysis Summary 395847

Tetra Tech- Midland, Midland, TX

Project Name: MCA 2A Trunkline

Project Id: 114.6400314
Contact: Charles Durrett
Project Location:

Date Received in Lab: Wed Nov-03-10 01:00 pm
Report Date: 04-NOV-10
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	395847-001		395847-002		395847-003		395847-004					
	Field Id:	East		West		North		Floor					
	Depth:	3 ft		3 ft		3 ft		3 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Nov-03-10 09:30		Nov-03-10 09:40		Nov-03-10 09:50		Nov-03-10 10:00					
Anions by E300	***Extracted:***												
	Analyzed:	Nov-03-10 16:28		Nov-03-10 16:28		Nov-03-10 16:28		Nov-03-10 16:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		48.6	4.27	51.1	4.34	5.88	4.26	ND	4.32				
Percent Moisture	***Extracted:***												
	Analyzed:	Nov-04-10 08:15		Nov-04-10 08:15		Nov-04-10 08:15		Nov-04-10 08:15					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		1.54	1.00	3.30	1.00	1.42	1.00	2.77	1.00				

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.

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.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

BS / BSD Recoveries

Project Name: MCA 2A Trunkline

Work Order #: 395847
Analyst: LATCOR
Lab Batch ID: 830423
Sample: 830423-1-BKS
Batch #: 1
Units: mg/kg

Date Prepared: 11/03/2010
Project ID: 114.6400314
Date Analyzed: 11/03/2010
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 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	ND	10.0	9.15	92	10	9.44	94	3	75-125	20	

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

Form 3 - MS Recoveries

Project Name: MCA 2A Trunkline

Work Order #: 395847
Lab Batch #: 830423
Project ID: 114.6400314
Date Analyzed: 11/03/2010
Date Prepared: 11/03/2010
Analyst: LATCOR
QC- Sample ID: 395840-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	5550	2060	7480	94	75-125	

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

BRL - Below Reporting Limit

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: MCA 2A Trunkline

Work Order #: 395847

Lab Batch #: 830423 **Project ID:** 114.6400314

Date Analyzed: 11/03/2010 **Date Prepared:** 11/03/2010 **Analyst:** LATCOR

QC- Sample ID: 395840-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	5550	5650	2	20	

Lab Batch #: 830422

Date Analyzed: 11/04/2010 **Date Prepared:** 11/04/2010 **Analyst:** JLG

QC- Sample ID: 395757-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	17.2	17.7	3	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: C. Durrett
Company Name: TetraTech
Company Address: 1910 N Big Spring
City/State/Zip: Midland TX 79705
Telephone No: 432, 661 3853 Fax No:
Sampler Signature: e-mail:

Project Name: MCA 2A Turbine
Project #: 114.6400314
Project Loc:
PO #:
Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 395847

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	C1 Hold			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	East		3'	3 Nov 10	930		1							X			S												X				X	
	West		3'		940		1							X			S												X				X	
	North		3'		950		1							X			S												X				X	
	Floor		3'	3 Nov 10	1000		1							X			S												X				X	

Special instructions:
24 HR Turn

Relinquished by:	Date	Time	Received by:	Date	Time
	3/11/10	1:00			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				11/3/10	1:00

Laboratory Comments:
Sample Containers Intact? Y
VOCs Free of Headspace? N/A
Labels on container(s) on lid Y
Custody seals on container(s) N
Custody seals on cooler(s) N
Sample Hand Delivered by Sampler/Client Rep. ? N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 4°C 23.5°C

XENCO Laboratories	Document Title: Sample Receipt Checklist
XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Setra Tech

Date/Time: 11/3/10 1:00

Lab ID #: 395847

Initials: AS

Sample Receipt Checklist

AS 11/3/10

1. Samples on ice?	Blue	(Water)	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	°C	lbs	°C	lbs	°C	lbs	°C	lbs	°C
	24 R 11/3/10								
	23.5								

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

Corrective Action Taken: _____

Check all that apply:
- ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
- ☐ Initial and Backup Temperature confirm out of temperature conditions
- ☐ Client understands and would like to proceed with analysis

Certificate of Analysis Summary 384302

Tetra Tech- Midland, Midland, TX

Project Name: MCA 2 A Flowline

Project Id:
Contact: Charles Durrett
Project Location: Maljamar, NM

Date Received in Lab: Wed Aug-04-10 02:15 pm
Report Date: 05-AUG-10
Project Manager: Brent Barron, II

Analysis Requested												
	Lab Id:	384302-007		384302-008		384302-009						
	Field Id:	RO-1 6"		RO-2 Surface		RO 2						
	Depth:	6-6 In		S-S		6-6 In						
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	Aug-04-10 09:05		Aug-04-10 09:15		Aug-04-10 09:20						
Anions by E300	*Extracted:*											
	Analyzed:	Aug-04-10 14:24		Aug-04-10 14:24		Aug-04-10 14:24						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Chloride		ND	4.32	39.8	4.39	120	9.34					
Percent Moisture	*Extracted:*											
	Analyzed:	Aug-05-10 08:53		Aug-05-10 08:53		Aug-05-10 08:53						
	Units/RL:	%	RL	%	RL	%	RL					
Percent Moisture		2.75	1.00	4.26	1.00	10.1	1.00					

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.

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.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

BS / BSD Recoveries

Project Name: MCA 2 A Flowline

Work Order #: 384302
Analyst: LATCOR
Lab Batch ID: 817587
Sample: 817587-1-BKS
Units: mg/kg

Date Prepared: 08/04/2010
Batch #: 1

Project ID:
Date Analyzed: 08/04/2010
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Anions by E300 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	ND	10.0	9.42	94	10	9.47	95	1	75-125	20	

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

Form 3 - MS Recoveries

Project Name: MCA 2 A Flowline

Work Order #: 384302
Lab Batch #: 817587
Project ID:
Date Analyzed: 08/04/2010
Date Prepared: 08/04/2010
Analyst: LATCOR
QC- Sample ID: 383909-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	100	81.2	81	75-125	

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

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: MCA 2 A Flowline

Work Order #: 384302

Lab Batch #: 817587 **Project ID:**

Date Analyzed: 08/04/2010 **Date Prepared:** 08/04/2010 **Analyst:** LATCOR

QC- Sample ID: 383909-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Anions by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 817540

Date Analyzed: 08/05/2010 **Date Prepared:** 08/05/2010 **Analyst:** JLG

QC- Sample ID: 384149-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	ND	ND	NC	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: C Durrett
Company Name: TETRA Tech
Company Address: 1910 N Big Spring
City/State/Zip: Midland TX
Telephone No: 432 686 8081 Fax No:
Sampler Signature:
e-mail: Charles.Durrett@TetraTech.com

Project Name: MCA 2A Flowline
Project #:
Project Loc: Maljamar, NM
PO #:
Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 384307

Analyze For:

TCLP:
TOTAL:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO_4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride			RUSH TAT (Pre-Schedule) (24, 48, 72 hrs)	Standard TAT
01	W-WALL	1'	4'	4/29/10	1000		1							X		S														X			X	
02	N-WALL			"	1015		1																											
03	FLOOR				1030		1																											
04	S-WALL				1045		1																											
05	E WALL				1100		1																											
06	RO-1 Surface	SURFACE			900		1																											
07	RO-1 6"	6"	6"		905		1																											
08	RO-2 Surface	SURFACE			915		1							X		S														X			X	
09	RO 2	6"	6"	4/29/10	920		1							X		S														X			X	

Special Instructions:

Laboratory Comments:

Sample Containers Intact?	Y	N	NA		
VOCs Free of Headspace?	Y	N	NA		
Labels on container(s)	Y	N			
Custody seals on container(s)	Y	N	NA		
Custody seals on cooler(s)	Y	N	NA		
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N			
by Courier? UPS DHL FedEx Lone Star					
402 glass					
Temperature Upon Receipt: 8.1 °C					

Relinquished by:	Date	Time	Received by:	Date	Time
JA Deems	4/29/10	215			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Lam	8.4.10	14:15

XENCO Laboratories	Document Title: Sample Receipt Checklist
XENCO Laboratories Atlanta, Boca Raton, Corpus Christi, Dallas Houston, Miami, Odessa, Philadelphia Phoenix, San Antonio, Tampa	Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Tetra Tech

Date/Time: 8.4.10 14:15

Lab ID # : 384302

Initials: AL

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	(No)	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	(N/A)	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Yes	(No)		
7. Chain of custody signed when relinquished / received?	(Yes)	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	(Yes)	No		
10. Sample matrix / properties agree with chain of custody?	(Yes)	No		
11. Samples in proper container / bottle?	(Yes)	No		
12. Samples properly preserved?	(Yes)	No	N/A	
13. Sample container intact?	(Yes)	No		
14. Sufficient sample amount for indicated test(s)?	(Yes)	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	(N/A)	
17. VOC sample have zero head space?	Yes	No	(N/A)	

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	8.1 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

Contact:_____ Contacted by:_____ Date/Time:_____

Regarding: _____

_____

Corrective Action Taken:_____

_____

_____

_____

Check all that apply: ☐Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐Initial and Backup Temperature confirm out of temperature conditions
☐Client understands and would like to proceed with analysis

Analytical Report 395847

for

Tetra Tech- Midland

Project Manager: Charles Durrett

MCA 2A Trunkline

114.6400314

04-NOV-10

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL01273):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):
Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

04-NOV-10

Project Manager: **Charles Durrett**
Tetra Tech- Midland
1910 N. Big Spring
Midland, TX 79705

Reference: XENCO Report No: **395847**
MCA 2A Trunkline
Project Address:

Charles Durrett:

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 395847. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 395847 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,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 395847

Tetra Tech- Midland, Midland, TX

MCA 2A Trunkline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
East	S	Nov-03-10 09:30	3 ft	395847-001
West	S	Nov-03-10 09:40	3 ft	395847-002
North	S	Nov-03-10 09:50	3 ft	395847-003
Floor	S	Nov-03-10 10:00	3 ft	395847-004

CASE NARRATIVE

Client Name: Tetra Tech- Midland
Project Name: MCA 2A Trunkline

Project ID:	*114.6400314*	*Report Date:*	*04-NOV-10*
Work Order Number:	*395847*	*Date Received:*	*11/03/2010*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None