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 *ISECEIVED* Revised October 10, 2003

Submit 2 Copies to appropriate with Rule 116 on back side of form

UDO SEEOH Release Notification and Corrective Action

	OP	ERATOR	Initial Report	X Final Report
Name of Company Plains Pipeline,	LP	Contact Camille Bryant		
Address 2530 State Highway 214, De	nver City, TX 79323	Telephone No. (575)441-1099		
Facility Name Jal Tank Farm Tank 12	14	Facility Type Tank Farm		
Surface Owner Plains	Mineral Owne	er	Lease No.	

LOCATION OF RELEASE

Unit Letter A	Section 5	Township 26S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32.07884° North

Longitude 103.17952° West

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 200 bbls	Volume Recovered 190 bbls
Source of Release Tank 1214 at Jal Tank Farm	Date and Hour of Occurrence 9/12/2008	Date and Hour of Discovery 9/12/2008 05:30
Was Immediate Notice Given? X Yes No Not Required	If YES, To Whom? Larry Johnson (left message)	
By Whom? Daniel Bryant	Date and Hour 9/15/2008 09:30	
Was a Watercourse Reached?	If YES, Volume Impacting the W	'atercourse.

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken:* Heavy rain overwhelmed partially blocked roof drain during extremely heavy rain storm. 2 roof drains were stopped up. Drains were cleared & draining proceeded, but at some point, the roof on Tank 1214 flooded with oil, causing release of approx. 200 bbls on ponded rainwater inside firewall.

Describe Area Affected and Cleanup Action Taken.* All released materials were contained inside the secondary containment. The release was remediated as per NMOCD recommended guidelines. Please reference the attached Remediation Summary & Site Closure Request for remediation details.

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 Camille Bryant	Approved by District Supervisor.
Title: Remediation Coordinator	Approval Date: 3/7/2014 Expiration Date:
E-mail Address: cjbryant@paalp.com Date: 3 7 1 Phone: (575)441-1099	Conditions of Approval:

1 RP- 1961 PGRL\$828\$51554

DEC 1 5 2015

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

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Name of Con		Plains Pipel				Contact	Daniel Brya				
Address		and the second sec	and the second se	dland, Tx 7970			No. (432) 557-5	5865			
Facility Nam	e	Jal Tank Far	rm Tank	1214		Facility Typ	e Tank Farm				
Surface Own	er Plains			Mineral (Owner				Lease 1		
				LOC	TIO	N OF REI	EASE F	名1井	30.02	5.11955.	00.00
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/	West Line	County	
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				Latitude N 32	2.07884	° Longitude	W 103.17952	0			
				NAT	URE	OF RELI	EASE				
Type of Releas	se Crue	de Oil					Release 200 bbl	ls		Recovered 190 b	
Source of Rele	ase Ta	nk 1214 at Jal	Tank Far	m		09/12/2008		e	Date and 09/12/200	Hour of Discover 08 05:30	у
Was Immediat	e Notice C		Vac [No 🗌 Not R	anvirad	If YES, To	Whom? son (left message				
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FORL 0828051101

Basin Environmental Service Technologies, LLC

3100 Plains Highway P. O. Box 301 Lovington, New Mexico 88260 bjarguijo@basinenv.com Office: (575) 396-2378 Fax: (575) 396-1429

a Effective Solutions

HOBBS OCD

REMEDIATION SUMMARY &

MAR 07 2014

SITE CLOSURE REQUEST

RECEIVED

PLAINS PIPELINE, LP JAL TANK FARM TANK 1214 Plains SRS #2008-253 Lea County, New Mexico Unit Letter "A" (NE/NE), Section 5, Township 26 South, Range 37 East Latitude 32.07884° North, Longitude 103.17952° West NMOCD Reference #1RP-1961

Prepared For:

Plains Pipeline, LP 333 Clay Street, Suite 1600 Houston, Texas 77002

Prepared By:

Basin Environmental Service Technologies, LLC 3100 Plains Highway Lovington, New Mexico 88260

December 2013

approved Environmental Specialist NMOCD - DISTI 317/14

Ben J. Arguijo Project Manager

3/7

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2.0	NMOCD SITE CLASSIFICATION	1
3.0	SUMMARY OF SOIL REMEDIATION ACTIVITIES	2
4.0	QA/QC PROCEDURES	3
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	4.3 Laboratory Protocol	3
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FIGURES

Figure 1 – Site Location Map Figure 2 – Site & Sample Location Map

TABLES

Table 1 - Concentrations of Benzene, BTEX, TPH & Chloride in Soil

APPENDICES

Appendix A – Release Notification and Corrective Action (Form C-141) Appendix B – Photographs Appendix C – Laboratory Analytical Reports

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Pipeline, LP (Plains), has prepared this *Remediation Summary & Site Closure Request* for the release site known as Jal Tank Farm Tank 1214. The legal description of the release site is Unit Letter "A" (NE/NE), Section 5, Township 26 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32.07884° North latitude and 103.17952° West longitude. The property affected by the release is owned by Plains. A "Site Location Map" is provided as Figure 1.

On November 12, 2008, Plains discovered a release had occurred at the Jal Station Tank Farm. During a rain storm, two (2) drains on the roof of storage tank #1214 became partially clogged with debris and were subsequently overwhelmed by heavy rainfall, resulting in a flood of crude oil on the roof of the tank. The flooding crude oil breached the sidewalls of the tank and comingled with pooled rainwater inside the earthen containment area surrounding that section of the Jal Tank Farm.

The release was reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on November 15, 2008. The "Release Notification and Corrective Action" (Form C-141) indicated that approximately two hundred barrels (200 bbls) of crude oil were released. During initial response activities, a vacuum truck was utilized to recover approximately one hundred and ninety barrels (190 bbls) of free product from within the containment berm, resulting in a net loss of ten barrels (10 bbls) of crude oil.

The Form C-141 is provided as Appendix A. General photographs of the site are provided as Appendix B.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated depth-to-groundwater information was unavailable for Section 5, Township 26 South, Range 37 East. A depth-togroundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately one hundred and twenty feet (120') below ground surface (bgs). However, historical and anecdotal evidence suggests that the depth to groundwater in the area is actually ninety-feet (90') bgs. Based on the NMOCD ranking system, ten (10) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within one thousand feet (1,000') of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the Jal Tank Farm Tank 1214 release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene 10 mg/Kg (ppm)
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) 1,000 mg/Kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On September 16, 2008, following initial response activities, remediation activities commenced at the site. From September 19 through September 22, 2008, visibly stained topsoil was scraped up, blended with non-impacted soil, and stockpiled on-site, pending final disposition. Further excavation was precluded by the presence of numerous underground pipes and appurtenances along the flow path of the release.

On September 22, 2008, excavated soil was blended with non-impacted soil and stockpiled onsite, pending final disposition.

On October 3, 2008, the affected area was treated with a water/fertilizer mix, aerated, and placed back into the excavation. The excavation was left undisturbed for the duration of the 2008-2009 winter season to facilitate bioremediation.

On April 2, 2009, three (3) soil samples (South of Tank #1214, East of Tank #1214, and West of Tank #1214) were collected from the backfilled excavation. The soil samples were submitted to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of TPH concentrations using EPA Method SW 846-8015M. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Soil sample locations are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical reports are provided as Appendix C.

Laboratory analytical results indicated TPH concentrations ranged from 4,877 mg/Kg in soil sample East of Tank #1214 to 11,310 mg/Kg in soil sample West of Tank #1214.

On April 14, 2009, the impacted area was treated with a water/fertilizer mix, aerated, and left undisturbed for several months to facilitate bioremediation. A subsequent fertilization/bioremediation event was conducted on July 15, 2010.

On November 5, 2010, three (3) soil samples (South of Tank #1214, East of Tank #1214, and West of Tank #1214) were collected from the areas represented by the three (3) soil samples collected on April 2, 2009. The soil samples were submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory method detection limit (MDL) of 15.4 mg/Kg in soil sample East of Tank #1214 to 110.5 mg/Kg in soil sample West of Tank #1214.

Due to personnel changes at Plains and Basin Environmental, the soil samples collected on November 5, 2010, were not analyzed for BTEX constituent concentrations, and a *Remediation Summary & Site Closure Request* was never prepared and submitted to the NMOCD.

In October 2012, following consultation with a Plains representative, Basin Environmental resumed remediation activities at the Jal Tank Farm Tank 1214 release site.

On October 26, 2012, four (4) soil samples (South Side 1, South Side 2, East Side, and West Side) were collected from the impacted area and submitted to the laboratory for analysis of TPH concentrations. Soil sample South Side 2 was also analyzed for concentrations of chloride. Laboratory analytical results indicated TPH concentrations ranged from 22.0 mg/kg in soil sample South Side 1 to 93.8 mg/kg in soil sample South Side 2. The chloride concentration in soil sample South Side 2 was 3.83. However, due to a laboratory error, the sample was analyzed out of hold-time, and the result was deemed to be invalid.

On December 6, 2012, the area represented by soil sample South Side 2 was re-sampled, and one (1) soil sample (South Side 2) was submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated the TPH concentration in soil sample South Side 2 was 62.1 mg/kg, and the chloride concentration was 6.29 mg/kg.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil Samples were delivered to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of BTEX, TPH, and/or chloride concentrations using the methods described below. Soil samples were analyzed for BTEX, TPH, and/or chloride concentrations within fourteen (14) days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method SW 846-8021b
- TPH concentrations in accordance with modified EPA Method SW 846-8015M
- Chloride concentrations in accordance with EPA Method 300.1

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory analytical reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Soil samples collected from the Jal Tank Farm Tank 1214 remediation site were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, TPH, and chloride were below the regulatory remediation action levels established for the site. Based on these laboratory analytical results, Basin Environmental recommends Plains provide the NMOCD Hobbs District Office a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the Jal Tank Farm Tank 1214 release site.

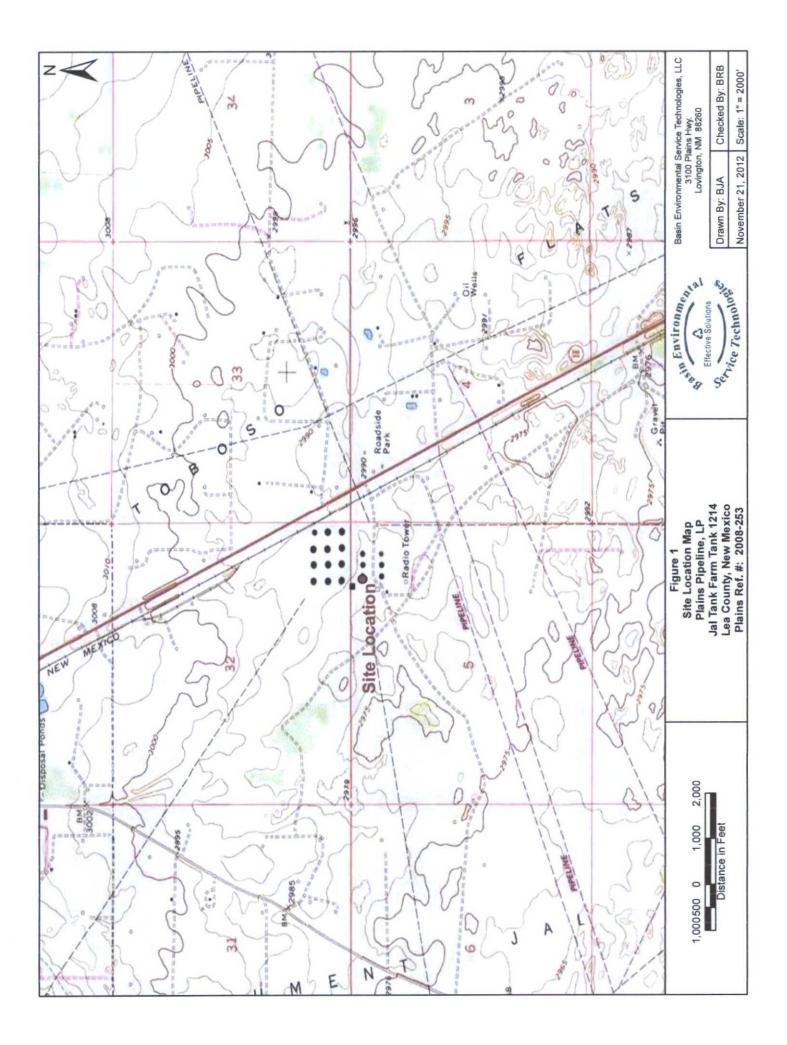
6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Basin Environmental has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Pipeline, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Pipeline, LP.

7.0 DISTRIBUTION:

- Copy 1: Geoffrey Leking New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 1) 1625 French Drive Hobbs, NM 88240 geoffreyr.leking@state.nm.us
- Copy 2: Jeff Dann Plains Pipeline, LP 333 Clay Street, Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 3: Camille Bryant Plains Pipeline, LP 2530 State Highway 214 Denver City, Texas 79323 cjbryant@paalp.com
- Copy 4: Basin Environmental Service Technologies, LLC P.O. Box 301 Lovington, New Mexico 88260



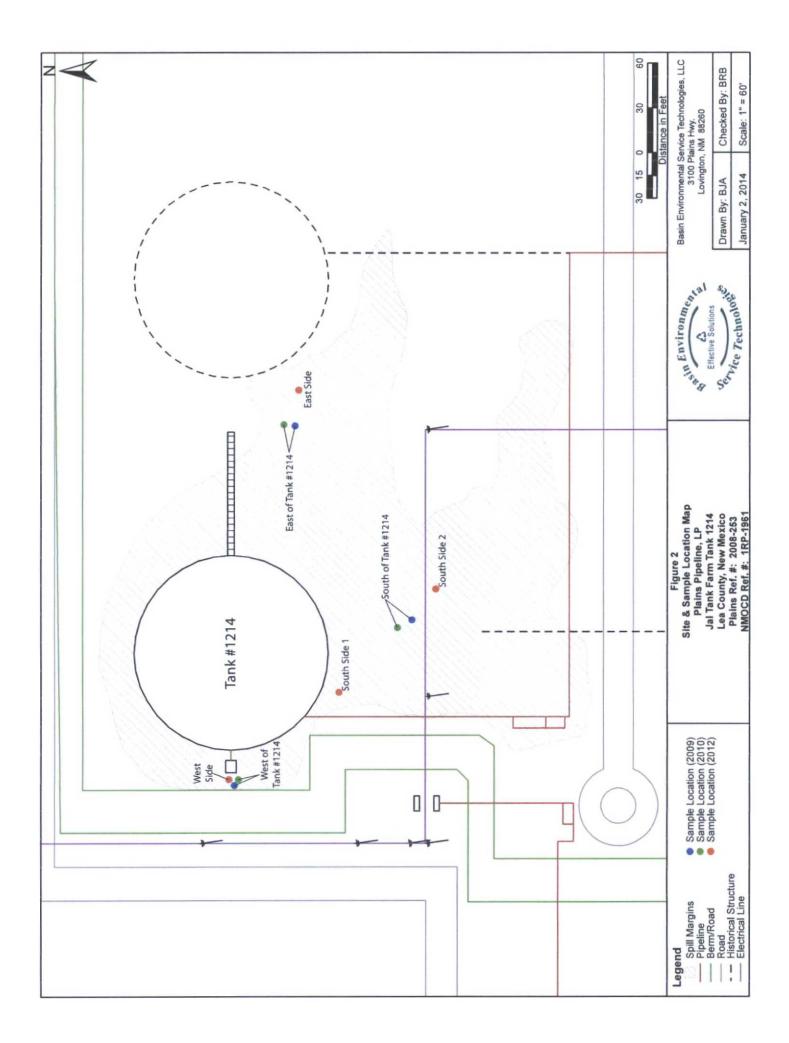
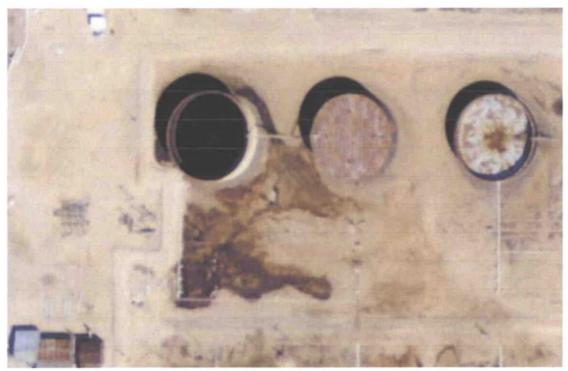


TABLE 1 CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

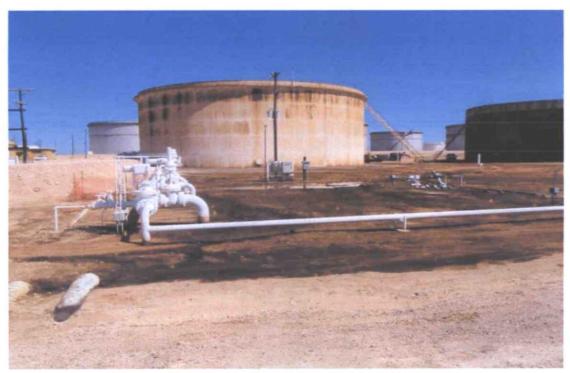
PLAINS PIPELINE, LP JAL TANK FARM TANK 1214 LEA COUNTY, NEW MEXICO PLAINS SRS #: 2008-253 NMOCD REFERENCE #: 1RP-1961

					4	IETHOD: EI	METHOD: EPA SW 846-8021B, 5030	8021B, 5030	-		MET	METHOD: 8015M	SM	TOTAL	300.1
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL	BENZENE (mg/Kg)	g) (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M.P XYLENES (mg/Kg)	O- XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C ₆ -C ₁₂ (mg/Kg)	DRO C ₁₂ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	Ce ^{-C35} (mg/Kg)	CHLORIDE (mg/Kg)
South of Tank #1214	0.5'	4/2/2009	In-Situ								27.6	4.970	1,300	6.298	,
East of Tank #1214	0.5'	4/2/2009	In-Situ						,		57.1	3,980	840	4,877	
West of Tank #1214	0.5'	4/2/2009	In-Situ								<75.6	9,060	2,250	11,310	
	No. of the local division of the local divis									Seattle and					
South of Tank #1214	0.5'	11/5/2010	In-Situ	1				,			<15.3	82.8	15.5	98.3	
East of Tank #1214	0.5'	11/5/2010	In-Situ							i.	<15.4	<15.4	<15.4	<15.4	
West of Tank #1214	0.5'	11/5/2010	In-Situ								<15.6	93.3	17.2	110.5	
	- Ward				Star Line		1 1 2								and a second
South Side 1	0.5'	10/26/2012	In-Situ	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0024	<17.8	22.0	<17.8	22.0	
South Side 2	0.5'	10/26/2012	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	0.0021	0.0021	0.0021	<16.3	93.8	<16.3	93.8	3.83*
East Side	0.5'	10/26/2012	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<15.1	50.1	<15.1	50.1	
West Side	0.5'	10/26/2012	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<15.3	53.6	<15.3	53.6	
			and the second						in survey		- ALLES	Server .	and		The second s
South Side 2	0.5'	12/6/2012	In-Situ					-			<15.5	62.1	<15.5	62.1	6.29
							- And - And -	a la su		and the second	and a second	Contraction of the	and the second		
NMOCD Regulatory Standard	ndard			10						50				1,000	500

- = Not analyzed.
 * Analyzed out of hold-time



Jal Tank Farm Tank 1214 - Historic Aerial Photograph of Release Site



Jal Tank Farm Tank 1214 - Release Site (Looking North)



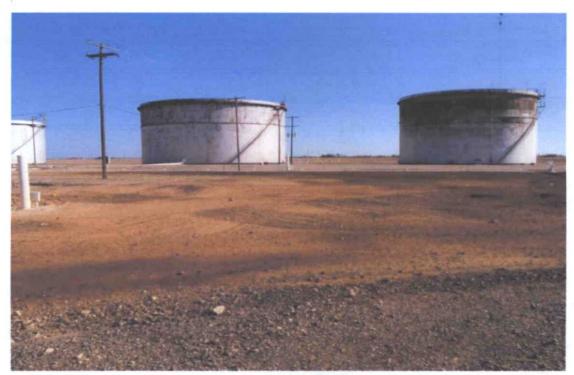
Jal Tank Farm Tank 1214 - Release Site (Looking Northeast)



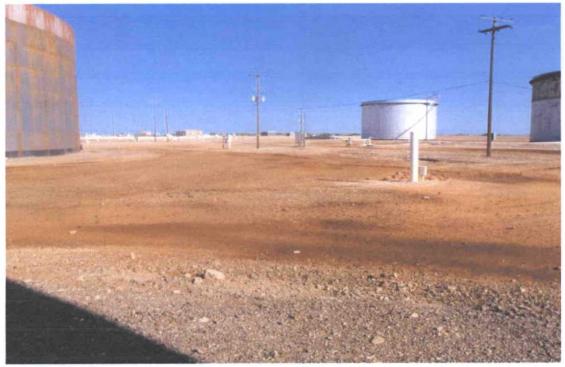
Jal Tank Farm Tank 1214 - Release Site (Looking East)



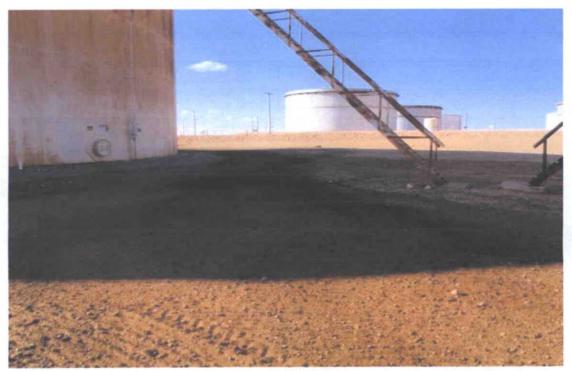
Jal Tank Farm Tank 1214 - Release Site (Looking West)



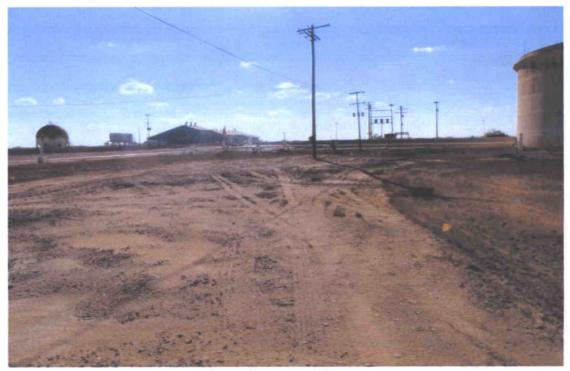
Jal Tank Farm Tank 1214 - Release Site (Following Removal of Heavily Impacted Soil)



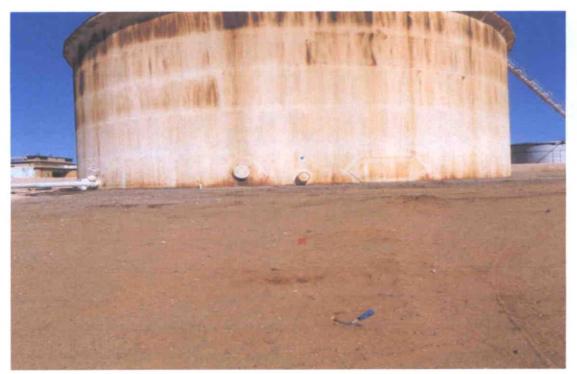
Jal Tank Farm Tank 1214 - Release Site (Following Removal of Heavily Impacted Soil)



Jal Tank Farm Tank 1214 - Release Site (Following Removal of Heavily Impacted Soil)



Jal Tank Farm Tank 1214 - Release Site (Following Removal of Heavily Impacted Soil)



Jal Tank Farm Tank 1214 - Soil Sample Location, "South of Tank #1214"



Jal Tank Farm Tank 1214 - Soil Sample Location, "East of Tank #1214"



Jal Tank Farm Tank 1214 - Soil Sample Location, "West of Tank #1214"



Jal Tank Farm Tank 1214 - Current Aerial Photograph of Release Site

. *

Analytical Report 329164

for

PLAINS ALL AMERICAN EH&S

Project Manager: Daniel Bryant

Jal Tank Farm Tank# 1214 2008-253

07-APR-09





12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B-TX - Odessa/Midland, TX T104704400-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Miramar, FL E86349 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

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07-APR-09



Project Manager: Daniel Bryant PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 329164 Jal Tank Farm Tank# 1214 Project Address: Jal, NM

Daniel Bryant:

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 329164. 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. 329164 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,

AN

Brent Barron, II Odessa Laboratory Manager

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Sample Cross Reference 329164



PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Tank Farm Tank# 1214

Sample Id	Matrix	Date Collected Sample Depth	Lab Sample Id
East of Tank # 1214	S	Apr-02-09 15:00	329164-001
South of Tank # 1214	S	Apr-02-09 15:10	329164-002
West of Tank # 1214	S	Apr-02-09 15:20	329164-003



Project Id: 2008-253 Contact: Daniel Bryant Project Location: Jal, NM

Certificate of Analysis Summary 329164 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Jal Tank Farm Tank# 1214



Date Received in Lab: Thu Apr-02-09 05:00 pm Report Date: 07-APR-09

					Project Manager: Brent Barron, II
	Lab 1d:	329164-001	329164-002	329164-003	
Amburde Dammadal	Field Id:	East of Tank # 1214	South of Tank # 1214	West of Tank # 1214	
Anarysis Kequesieu	Depth:				
	Matrix:	SOIL	SOIL	SOIL	
	Sampled:	Apr-02-09 15:00	Apr-02-09 15:10	Apr-02-09 15:20	
Percent Maisture	Extracted:				
	Analyzed:	Apr-03-09 17:00	Apr-03-09 17:00	Apr-03-09 17:00	
	Units/RL:	% R	RL % RL	L % RL	
Percent Moisture		ND 1.00	00'I CN 0	00.1 UN 1.00	
TPH RV SWR015 Mod	Extracted:	Apr-06-09 14:11	Apr-06-09 14:11	Apr-06-09 14:11	
	Analyzed:	Apr-06-09 18:35	Apr-06-09 18:59	Apr-06-09 19:24	
	Units/RL:	mg/kg R	RL mg/kg R	RL mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		57.1 15.1	1 27.6 15.1	1 ND 75.6	
C12-C28 Diesel Range Hydrocarbons		3980 15.1	1 4970 15.1	1 9060 75.6	
C28-C35 Oil Range Hydrocarbons		840 15.1	1 1300 15.1	1 2250 75.6	
Total TPH		4877.1 15.1	1 6297.6 15.1	1 11310 75.6	
					-

> This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The hitterpretations and results expressed throughout this analytical report research the basil obternation of XE-NCO Laboratories. XE-NCO has backarookes and areas the representation of the data hereby presented. Our fability is limited to the amount involved for this work order unless otherwise agreed to in writing.

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Odessa Laboratory Director Brent Barron 24

Page 4 of 12





- 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.
- * Outside XENCO's scope of NELAC Accreditation.

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: Jal Tank Farm Tank# 1214

IAI IBI %R %	Work Orders : 329164,	,		Project I	D: 2008-253		
TPH By SW8015 Mod Analytes Amount IAI True Amount IAI True Amount IBI Recovery %R Control Limits Page 1-Chiorooctane 120 100 120 70-135 0 0 - Terphenyl 58.6 50.0 117 70-135 0 Lab Batch #: 755046 Sample: 527839-1-BSD / BSD Batch: 1 Matrix: Solid V TPH By SW8015 Mod Amount Analytes True Found Recovery (IB) Recovery %R D Page 1-Chiorooctane 0 121 100 121 70-135 0 1-Chiorooctane 121 100 121 70-135 0 0 1-Chiorooctane 57.4 50.0 115 70-135 0 1-Chiorooctane 121 100 1121 70-135 0 1-Chiorooctane 101 100 105 70-135 0 1-Chiorooctane 108 100 1005 70-135 0 1-Chiorooctane 108 100 1	Lab Batch #: 755046	Sample: 527839-1-BKS / B	KS Ba	tch: 1 Matr	ix: Solid		
Initial and by Stream of Mode Feand I.AI Ansenut I.BI Recovery I.BI Number 1.55 I-Chinococtane 120 100 120 70-135 0 o-Terphenyl Sanaple: 527839-1-BSD/BSD Batch: 1 Marcin: Sold 70-135 0 Lab Batch #: 755046 Sanaple: 527839-1-BSD/BSD Batch: 1 Marcin: Sold 70-135 0 Lab Batch #: 755046 Sanaple: 527839-1-BSD/BSD Batch: 1 Marcin: Sold 70-135 0 1-Chinococtane Date Analyzed: 04/06/09 15:25 Marcin: I Marcin: I 70-135 0 1-Chinococtane 121 100 121 70-135 0 1-Chinococtane 57:40 Sample: 527839-1-BLK / BLK Batch: I Matrix: Sold 0 Lab Batch #: 755046 Sample: 527839-1-BLK / BLK Batch: I Matrix: Sold 0 100 108 70-135 0 Lab Batch #: 755046 Sample: 329164-001 / SMP Amount I.Bl Amount I.Bl Recovery Sold 1 70-135 0 0	Units: mg/kg	Date Analyzed: 04/06/09 15:02	SU	RROGATE RE	COVERY S	TUDY	
Analyces Intervention	трн е		Found	Amount	%R	Limits	Flags
OTE Date Date <thdate< th=""> Date Date D</thdate<>		Analytes			[D]		
Lab Batch #: 755046 Sample: 527839-1-BSD / BSD Batch: 1 Matrix: Solid Units: mg/kg Date Analyzed: 04/06/09 15:25 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery % R [D] Control Limits % R [D] Flag 1-Chlorooctane 121 100 121 70-135 - o-Terphenyl 57.4 50.0 115 70-135 - Lab Batch #: 755046 Sample: 527839-1-BLK / BLK Batch: 1 Matrix: Solid - Terphenyl Date Analyzed: 04/06/09 15:48 SURROGATE RECOVERY STUDY - - Analytes Date Analyzed: 04/06/09 15:48 SURROGATE RECOVERY STUDY - TPH By SW8015 Mod Amount [A] Recovery [B] Control [B] Sol - 1-Chlorooctane 108 100 108 70-135 - 1-State #: State #: 1 Matrix: Soil - 1-Chlorooctane 108 100 108 70-135	1-Chlorooctane		120	100	120	70-135	
Units: mg/kg Date Analyzed: 04/06/09 15:25 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found IAI True Amount IBI Recovery %R IDI Control %R IDI Flag 1-Chorooctane 121 100 121 70-135 - o-Terphenyl 57.4 50.0 115 70-135 - Lab Batch #: 755046 Sample: 527839-1-BLK/BLK Batch: 1 Matrix: Solid - TPH By SW8015 Mod Amount IAI Mamount IBI Recovery %R Natrix: Solid - 1-Chorooctane 108 100 108 70-135 - 1-Chorooctane 90.6 100 100 70-135 - 1-Chorooctane 99.6 100 100 70-135 - 1-Chorooctane 99.6	o-Terphenyl		58.6	50.0	117	70-135	
TPH By SW8015 Mod Analytes Amount Found IAI True Amount [B] Recovery %R IDI Control %R %R Flag %R 1-Chlorooctane 121 100 121 70-135 - 0-Terphenyl 57.4 50.0 115 70-135 - Lab Batch #: 755046 Sample: 527839-1-BLK / BLK Batch: 1 Matrix: Solid - TPH By SW8015 Mod Amount Found Amount IAI True Amount IBI Recovery %R Control 108 - 1-Chlorooctane 108 100 108 70-135 - 1-Chlorooctane 108 100 108 70-135 - 1-Chlorooctane 52.6 50.0 105 70-135 - 1-Chlorooctane 98 100 108 70-135 - Lab Batch #: 755046 Sample: 329164-001 / SMP Batch: 1 Matrix: Soil - Lab Batch #: 755046 Sample: 329164-002 / SMP Amount IAI Imount IBI Recovery %R Control 1Dinits %R Flag 1-Chlorooctane </td <td>Lab Batch #: 755046</td> <td>Sample: 527839-1-BSD / B</td> <td>SD Ba</td> <td>tch: 1 Matri</td> <td>ix: Solid</td> <td></td> <td></td>	Lab Batch #: 755046	Sample: 527839-1-BSD / B	SD Ba	tch: 1 Matri	ix: Solid		
Fund Amount Recovery Linkits Flag Analytes 121 100 121 70-135 7 1-Chlorooctane 57.4 50.0 115 70-135 7 e-Terphenyl 57.4 50.0 115 70-135 7 Lab Batch #; 755046 Sample: 527839-1-BLK / BLK Batch:: 1 Matrix: Solid 7 Linkits: mg/kg Date Analyzed: 04/06/09 15:48 SURFOGATE RECOVERY STUDY 7<	Units: mg/kg	Date Analyzed: 04/06/09 15:25	SU	RROGATE RE	COVERY S	TUDY	
1-Chlorooctane 121 100 121 70-135 o-Terphenyl 57.4 50.0 115 70-135 Lab Batch #: 755046 Sample: 527839-1-BLK / BLK Batch:: 1 Matrix: Solid Units: mg/kg Date Analyzed: 04/06/09 15:48 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery % (B) Control Limits % (R) Flag 1-Chlorooctane 108 100 108 70-135 - 1-Chlorooctane 108 100 108 70-135 - Lab Batch #: 755046 Sample: 329164-001 / SMP Batch:: 1 Matrix: Soil - Luits: mg/kg Date Analyzed: 04/06/09 18:35 SURROGATE RECOVERY STUDY - TPH By SW8015 Mod Amount [A] True Amount [A] Matrix: Soil - - 1-Chlorooctane 99.6 100 100 70-135 - 1-Chlorooctane 99.6 100 100 70-135 - 1-Chlorooctane 9			Found	Amount	%R	Limits	Flags
International control Internateon contro International contro <th< td=""><td></td><td>Altarytes</td><td>121</td><td>100</td><td>121</td><td>70-135</td><td></td></th<>		Altarytes	121	100	121	70-135	
Lab Batch #: 755046 Sample: 527839-1-BLK / BLK Batch: 1 Matrix: Solid Units: mg/kg Date Analyzed: 04/06/09 15:48 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount fal Amount [B] Recovery %R [D] Control %R (D] 1-Chlorooctane 108 100 108 70-135 70-135 1-Chlorooctane Sample: 329164-001 / SMP Batch: 1 Matrix: Soil Flag Lab Batch #: 755046 Sample: 329164-001 / SMP Batch: 1 Matrix: Soil Flag Units: mg/kg Date Analyzed: 04/06/09 18:35 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount fal True Amount [B] Recovery %R [D] Control I.Imits %R Flag 1-Chlorooctane 99.6 100 100 70-135 70-135 1-Chlorooctane Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Flag 1-Chlorooctane Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Flag 1-Chlorooctane Sample: 329164-002 / SMP Batch: 1							
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o-Terphenyl 52.6 50.0 105 70-135 Lab Batch #: 755046 Sample: 329164-001 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:35 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 99.6 100 100 70-135 1-Chlorooctane 99.6 100 100 70-135 Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery %R [D] Control Limits %R [D] Flags 1-Chlorooctane 107 100 107 70-135	1-Chlorooctane	Allarytes	108	100	108	70-135	
Units: mg/kg Date Analyzed: 04/06/09 18:35 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 99.6 100 100 70-135 o-Terphenyl 44.7 50.0 89 70-135 Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:59 Batch: 1 Matrix: Soil TPH By SW8015 Mod Amount [A] True Amount [A] 1 Matrix: Soil I-Chlorooctane 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 107 100 107 70-135							
Units: mg/kg Date Analyzed: 04/06/09 18:35 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 99.6 100 100 70-135 o-Terphenyl 44.7 50.0 89 70-135 Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:59 Batch: 1 Matrix: Soil TPH By SW8015 Mod Amount [A] True Amount [A] 1 Matrix: Soil I-Chlorooctane 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 107 100 107 70-135	Lah Batch #: 755046	Sample: 329164-001 / SMF	Ba	tch: 1 Matr	ix: Soil		
TPH By SW8015 ModAmount Found [A]True Amount [B]Recovery %R [D]Control Limits %RFlags1-Chlorooctane99.610010070-1350o-Terphenyl44.750.08970-1350Lab Batch #: 755046Sample: 329164-002 / SMP Date Analyzed: 04/06/09 18:59Batch: 1Matrix: Soil5000TPH By SW8015 ModAmount Found [A]True Amount [B]Control %R (D)Control Limits %R %R (D)Flags1-Chlorooctane10710010770-1350						TUDY	
I-Chlorooctane 99.6 100 100 70-135 o-Terphenyl 44.7 50.0 89 70-135 Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Luits: mg/kg Date Analyzed: 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found [A] True Amount [B] Recovery %R [D] Control Limits %R Flags 1-Chlorooctane 107 100 107 70-135 Flags		By SW8015 Mod	Amount Found	True Amount	Recovery %R	Control Limits	Flags
o-Terphenyl 44.7 50.0 89 70-135 Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount [A] True Amount [A] Recovery [B] %R %R [D] Control Limits %R Flags 1-Chlorooctane 107 100 107 70-135 Flags		Analytes	[/	[/	[D]		
Lab Batch #: 755046 Sample: 329164-002 / SMP Batch: 1 Matrix: Soil Units: mg/kg Date Analyzed: 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found [A] True Amount [B] Recovery %R [D] Control Limits %R 1-Chlorooctane 107 100 107 70-135	1-Chlorooctane		99.6	100	100		
Units: mg/kg Date Analyzed: 04/06/09 18:59 SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found [A] True Amount [B] Recovery %R [D] Control Limits %R [D] Flags 1-Chlorooctane 107 100 107 70-135	o-Terphenyl		44.7	50.0	89	70-135	
TPH By SW8015 ModAmount Found [A]True Amount [B]Control Limits %R [D]FlagsAnalytes10710010770-135	Lab Batch #: 755046	Sample: 329164-002 / SMP	Ba	tch: 1 Matri	ix: Soil		
Found [A]Found [A]Amount [B]Recovery %R [D]Limits %RFlag1-Chlorooctane10710010770-135	Units: mg/kg	Date Analyzed: 04/06/09 18:59	SU	RROGATE RE	COVERY S	TUDY	
I-Chlorooctane 107 100 107 70-135			Found	Amount	%R	Limits	Flags
		Analytes	107	100		70.125	
	o-Terphenyl		45.4	50.0	91	70-135	

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / BAll results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Jal Tank Farm Tank# 1214

ork Orders : 329164			Project I	D:2008-253		
Lab Batch #: 755046	Sample: 329164-003 / SMP	Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 04/06/09 19:24	SU	RROGATE RI	ECOVERY S	TUDY	
ТРН Е	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		103	100	103	70-135	
o-Terphenyl		53.7	50.0	107	70-135	
Lab Batch #: 755046	Sample: 329162-005 S / MS	Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 04/07/09 01:02	SU	RROGATE RI	ECOVERY S	TUDY	
ТРН Е	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
1-Chlorooctane		120	100	120	70-135	
o-Terphenyl		57.1	50.0	114	70-135	
Lab Batch #: 755046	Sample: 329162-005 SD / M	ISD Ba	tch: 1 Matr	ix: Soil		
Units: mg/kg	Date Analyzed: 04/07/09 01:25	SU	RROGATE RI	ECOVERY S	TUDY	
ТРН Е	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		121	100	121	70-135	_
o-Terphenyl		59.6	50.0	119	70-135	-

** 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: Jal Tank Farm Tank# 1214

Work Order #: 329164 Analyst: BHW Lab Batch ID: 755046 Sample: 527839-1-BKS	Units: mg/kg	TPH By SW8015 Mod Blank Sample Result	Analytes
Date Prepared: Batch #:	BLANK	Spike ult Added	[B]
Date Prepared: 04/06/2009 Batch #: 1	(BLANK S	Blank Spike Result	[c]
60	PIKE / BI	Blank Spike %R	[0]
	LANK SF	Spike Added	[E]
	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	Blank Spike Duplicate	Result [F]
Proj Date An	CATE RI	Blk. Spk Dup. %R	[6]
Project ID: 2008-253 Date Analyzed: 04/06/2009 Matrix: Solid	COVER	RPD %	
008-25: 4/06/20(Y STUD	Control Limits %R	
6			

Flag

Control Limits %RPD

35 35

70-135 70-135

-0

16 86

905 975

1000 1000

16 16

910 974

1000 1000

Q R

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons 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

Page 8 of 12



Form 3 - MS / MSD Recoveries



Project Name: Jal Tank Farm Tank# 1214

Work Order #: 32916	329164		
Lab Batch ID: 755046	755046	QC- Sample ID: 329162-005 S	62-005 S
Date Analyzed: 04/07/2009	04/07/2009	Date Prepared: 04/06/2009	5/2009
Reporting Units: mg/kg	mg/kg		MATRD

Project ID: 2008-253 Matrix: Soil 1

BHW

Analyst: Batch #:

Reporting Units: mg/kg		M	ATRIX SPIKI	E/MAT	RIX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	FE RECO	VERY S	TUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[Y]		Σ		[E]	[1] mean		0/	VI0/	a we	
C6-C12 Gasoline Range Hydrocarbons	32.9	1060	959	87	1060	978	89	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	514	1060	1420	85	1060	1470	90	3	70-135	35	

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery

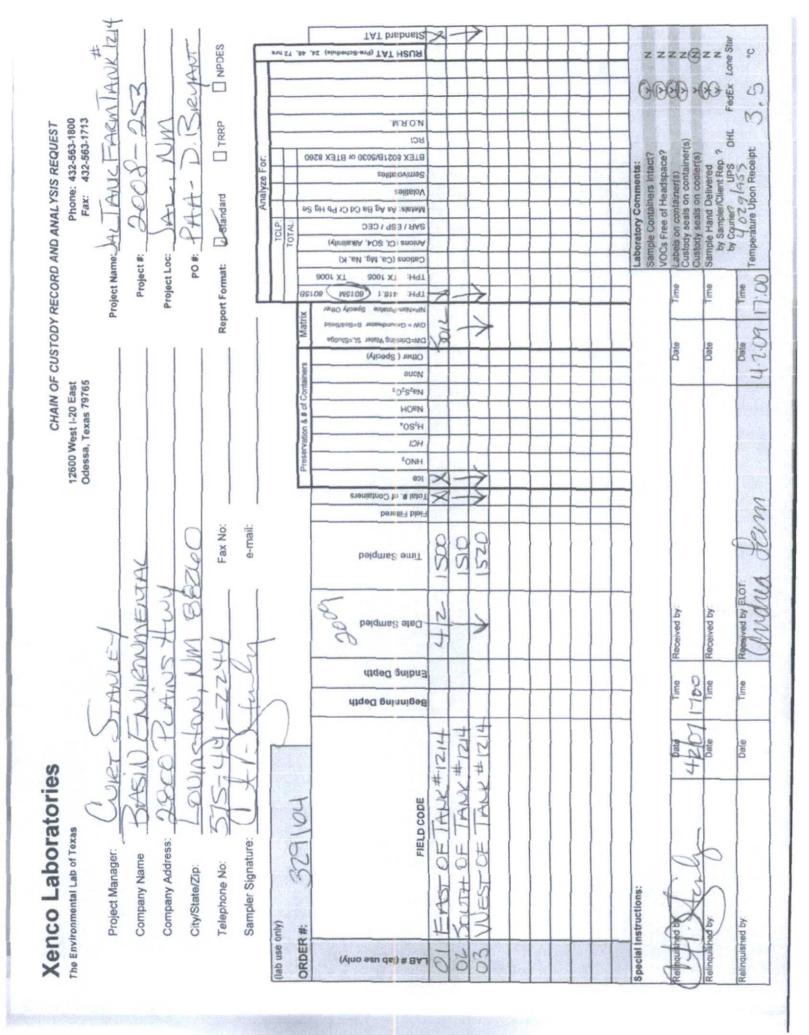


Project Name: Jal Tank Farm Tank# 1214

Work Order #: 329164

Lab Batch #:					-	D: 2008-253	
Date Analyzed:	04/03/2009	Date Pr	epared: 04/0	3/2009	Analy	st: BEV	
QC- Sample ID:	329147-041 D	F	Batch #: 1		Matr	ix: Soil	
Reporting Units:	%		SAMPLE /	SAMPLE	DUPLIC	ATE RECO	OVERY
	Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
	Analyte			[B]			
Percent Moisture			3.72	4.50	19	20	

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



Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client:	Basin Env	Phins
Date/ Time:	4.2.09	00:51
Lab ID # :	32916	4
Initials:	al	

Sample Receipt Checklist

		in the second		Cli	ent Initials
#1	Temperature of container/ cooler?	Yes	No	3.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Ves	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11		(Yes)	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13		Yes	No	See Below	
#14		Yes	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17		Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Ves	No	Not Applicable	

Variance Documentation

Contact:		Contacted by:	Date/ Time:
Regarding:			
Corrective Action Taker	<u>):</u>		
Check all that Apply:		See attached e-mail/ fax Client understands and would like to proceed with ana Cooling process had begun shortly after sampling eve	

Analytical Report 396289

for PLAINS ALL AMERICAN EH&S

Project Manager: Daniel Bryant

Jal Tank Farm #1214

SRS# 2008-253

09-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 (AALII), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

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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)





09-NOV-10

Project Manager: Daniel Bryant PLAINS ALL AMERICAN EH&S 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: **396289** Jal Tank Farm #1214 Project Address: Lea County, NM

Daniel Bryant:

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 396289. 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. 396289 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,

TATA

Brent Barron, II Odessa Laboratory Manager

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Sample Cross Reference 396289



PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Tank Farm #1214

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South of Tank #1214	S	Nov-05-10 10:50		396289-001
East of Tank #1214	S	Nov-05-10 10:55		396289-002
West of Tank #1214	S	Nov-05-10 11:00		396289-003





Client Name: PLAINS ALL AMERICAN EH&S Project Name: Jal Tank Farm #1214



Project ID: SRS# 2008-253 Work Order Number: 396289 Report Date: 09-NOV-10 Date Received: 11/05/2010

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None



Project Id: SRS# 2008-253 Contact: Daniel Bryant Project Location: Lea County, NM

Certificate of Analysis Summary 396289 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Jal Tank Farm #1214



Date Received in Lab: Fri Nov-05-10 03:15 pm Report Date: 09-NOV-10

with the second and incommon inclusion						Project Manager: Brent Barron, II	Brent Barron, II
	Lab Id:	396289-001		396289-002	396289-003		
Analisis Damadad	Field 1d:	South of Tank #1214	14	East of Tank #1214	West of Tank #1214	14	
naisan hav sistinuv	Depth:		_				
	Matrix:	SOIL		SOIL	SOIL		
	Sampled:	Nov-05-10 10:50	0	Nov-05-10 10:55	Nov-05-10 11:00	00	
Percent Moisture	Extracted:						
	Analyzed:	Nov-09-10 08:15	5	Nov-09-10 08:15	Nov-09-10 08:15	15	
	Units/RL:	%	RL	% R	RL %	RL	
Percent Moisture		2.01 1.00	00.	2.50 1.00	3.29	1.00	
TPH By SW8015 Mod	Extracted:	Nov-08-10 10:45	5	Nov-08-10 10:45	Nov-08-10 10:45	45	
	Analyzed:	Nov-08-10 15:59	6	Nov-08-10 16:18	Nov-08-10 16:37	37	
	Units/RL:	mg/kg	RL	mg/kg R	RL mg/kg	RL	
C6-C12 Gasoline Range Hydrocarbons		ND 1	15.3	ND 15.4	QN	15.6	
C12-C28 Diesel Range Hydrocarbons		82.8 1	15.3	ND 15.4	93.3	15.6	
C28-C35 Oil Range Hydrocarbons		15.5 1	15.3	ND 15.4	17.2	15.6	
Total TPH		98.3 1	15.3	ND 15.4	4 110.5 15.6	15.6	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. In interpretations and results expressed introughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no reaponsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Odessa Laboratory Manager Brent Barron, II



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.

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Final 1.000



Project Name: Jal Tank Farm #1214

Lab Batch #: 831048	Sample: 578160-1-BKS / BH			:Solid		
Units: mg/kg	Date Analyzed: 11/08/10 14:59	su	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chlomostona	Analytes		100		70.125	
1-Chlorooctane o-Terphenyl		92.2 53.0	100	92	70-135	
Lab Batch #: 831048	Sample: 578160-1-BSD / BS					
Units: mg/kg	Date Analyzed: 11/08/10 15:18		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Thurytes	93.7	99.6	94	70-135	
o-Terphenyl		60.0	49.8	120	70-135	
ab Batch #: 831048	Sample: 578160-1-BLK / BL		h: 1 Matrix RROGATE R		STUDV	
Units: mg/kg	Date Analyzed: 11/08/10 15:38	50	KROGATE R	ECOVERIS	STUDI	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Centrel Limits %R	Flags
1-Chlorooctane		97.4	100	97	70-135	
o-Terphenyl		52.5	50.1	105	70-135	
Lab Batch #: 831048	Sample: 396289-001 / SMP	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/10 15:59		RROGATE R	ECOVERY S	STUDY	
ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		104	100	104	70-135	
o-Terphenyl		54.5	50.1	109	70-135	
Lab Batch #: 831048	Sample: 396289-002 / SMP	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/10 16:18	SU	RROGATE R	ECOVERY S	STUDY	
ТРН І	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		99.3	100	99	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



Project Name: Jal Tank Farm #1214

ork Orders : 396289	, Sample: 396289-003 / SMP	Bate	h: 1 Matrix			
Units: mg/kg	Date Analyzed: 11/08/10 16:37	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		99.8	101	99	70-135	
o-Terphenyl		53.1	50.3	106	70-135	
Lab Batch #: 831048	Sample: 396348-001 S / MS	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/10 23:02	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		107	100	107	70-135	
o-Terphenyl		60.6	50.0	121	70-135	
Lab Batch #: 831048	Sample: 396348-001 SD / MS	D Bate	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/08/10 23:24	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		96.2	100	96	70-135	
o-Terphenyl		50.2	50.2	100	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



BS / BSD Recoveries



Project Name: Jal Tank Farm #1214

Work Order #: 396289		č	to Prenar	Date Prenared: 11/08/2010	0			Proj Date Al	ject ID: S	Project ID: SRS# 2008-253 Date Analyzed: 11/08/2010	253
Lab Batch ID: 831048	Sample: 578160-1-BKS		Batch #:	h #: 1					Matrix: Solid	bilo	
Units: mg/kg			BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	SPIKE / B	SIANK S	PIKE DUPL	ICATE	RECOVE	RY STUD	×
TPH By SW8015 Mod	115 Mod	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	01
		[V]		Result	%R		Duplicate	%R	%	%R	0

TPH By SW8015 Mod	Blank Sample Result [A]	Spike	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[0]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	QN	1000	931	93	966	974	98	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	977	98	966	911	91	7	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



Form 3 - MS / MSD Recoveries



Project Name: Jal Tank Farm #1214

Lab Batch ID: 831048 Work Order #: 396289

Date Analyzed: 11/08/2010

Project ID: SRS# 2008-253 BEV -Analyst: Batch #:

QC- Sample ID: 396348-001 S

Date Prepared: 11/08/2010

Matrix: Soil

Reporting Units: mg/kg		M	MATRIX SPIKE	TAM / 3	NX SPI	KE DUPLICATE	FE RECO	VERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	[A]	Added [B]		%R [D]	Added [E]	Result [F]		%	%R	%KPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1100	1090	66	1100	981	89	11	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1100	843	77	1100	770	70	6	70-135	35	

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Final 1.000

Page 10 of 13



Sample Duplicate Recovery



Project Name: Jal Tank Farm #1214

Work Order #: 396289

Lab Batch #: 831044 Date Analyzed: 11/09/2010 QC- Sample ID: 396373-003 D	Date Prepared: 11/ Batch #:	09/2010 I	Ana	Project I lyst:JLG trix: Soil	D: SRS# 200	08-253
Reporting Units: %	SAN	IPLE /	SAMPLE	DUPLIC	ATE RECO	OVERY
Percent Moisture Analyte	Re	Sample sult AJ	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.1	82	1.99	9	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 Laboracories	
Atlanta, Boos Platon, Corp. 1	. se, Datas
Houston, Mittol, Citassa	P 14

Document Title: Sample Receipt Checklist

Document No .: SYS-SRC

Revision/Date: No. 01, 5/27/2010

Effective Date: 6/1/2010 Page 1 of 1

Phoenix,	San Antonio	Ten			
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Frelogin / Nonconform the Report - Sample Log-In

client: Basin Environmental	78.74	
Date/Time: 11-5-10 15.15		
2610 : 396289		
initials: XM		

Sample Fill on Chacklist

1. Samples on ice?	Slue	Water	No	
2. Shipping container in good condition?	Yee	No	None	
3. Custody seals intact on shipping container (cooler) and be the?	Yes	No	N/A	
4. Citzle of Cestody precively	Yes	No		
E. Sample instructions com on chain of custody?	(Yes)	No		
E. Any missing mine su	Yes	(No)		
7. Chain of custody signed v see relinquished inseared?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and muct?	Tes	No		
10. Sample matrix i properties agree with chain of custody:	Yes	No		
11. Samples in proper container / pottle?	Yes	No		
12. Samples pro are pre- erve.	Yes	Nio	N/A	
13. Sample container ins all	Yes	Nc		
14. Sufficient same a straight ndicated testion	Yes	No		
15. All samples	Yes	No		
16. Subcentract of Jampie, s)?	Yes	No	N/A	
17. VOC sample have zero her uspace?	Yes	No	(N/A)	
18. Cooler 1 No. Cooler 3 di	Cooler 4 N	0.	Cooler 5 No.	
105 2.6°C . °C	C Ibs	°C	lbs	°

Contact	* ···· * ***	Contrated int	1. · · · · · · · · · · · · · · · · · · ·	Date/Time:	
Regarates			· · · · · · · · · · · · · · · · · · ·		
		processing and the second s			
Corrective Action Tal	ken:				
					·····
Check all mat app		weess has because of a		d out of temperature	
		. Deckup Temporature com		conditions	
	CONT	-rstands and would like a	med with analysis		

Analytical Report 451637

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Jal Tank Farm Tank 1214

SRS# 2008-253

09-NOV-12

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-10-6-TX), Arizona (AZ0765), 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), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ00989): Arizona (AZ0758)



09-NOV-12

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S** 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 451637 Jal Tank Farm Tank 1214 Project Address: Lea County, NM

Ben Arguijo:

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 451637. 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. 451637 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. Val Ctr

Nicholas Straccione Project Manager

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Sample Cross Reference 451637



PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Tank Farm Tank 1214

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Side 1	S	10-26-12 13:30		451637-001
South Side 2	S	10-26-12 13:40		451637-002
West Side	S	10-26-12 13:50		451637-003
East Side	S	10-26-12 14:00		451637-004

CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Jal Tank Farm Tank 1214



Project ID: SRS# 2008-253 Work Order Number: 451637 Report Date: 09-NOV-12 Date Received: 10/31/2012

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-900484 BTEX by EPA 8021B SW8021BM

Batch 900484, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 451637-003, -004, -001, -002. The Laboratory Control Sample for Toluene, Ethylbenzene, m_p-Xylenes, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 900484, o-Xylene RPD was outside QC limits. Samples affected are: 451637-003, -004, -001, -002



Project Id: SRS# 2008-253 Contact: Ben Arguijo Project Location: Lea County, NM

Certificate of Analysis Summary 451637 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Jal Tank Farm Tank 1214



Date Received in Lab: Wed Oct-31-12 01:52 pm Report Date: 09-NOV-12

					Project Manager: Nicholas Straccione	ione
	Lab Id:	451637-001	451637-002	451637-003		
Auchicic Domoctod	Field Id:	South Side 1	South Side 2	West Side	East Side	
naicanhay sistinut	Depth:					
	Matrix:	TIOS	SOIL	SOIL	SOIL	
	Sampled:	Oct-26-12 13:30	Oct-26-12 13:40	Oct-26-12 13:50	Oct-26-12 14:00	
BTEX by EPA 8021B	Extracted:	Nov-08-12 09:00	Nov-08-12 09:00	Nov-08-12 09:00	Nov-08-12 09:00	
	Analyzed:	Nov-08-12 10:32	Nov-08-12 10:49	Nov-08-12 11:22	Nov-08-12 11:39	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		ND 0.00118	ND 0.00110	ND 0.00102	ND 0.00102	
Toluene		ND 0.00236	ND 0.00219	ND 0.00205	ND 0.00203	
Ethylbenzene		ND 0.00118	ND 0.00110	ND 0.00102	ND 0.00102	
m_p-Xylenes		ND 0.00236	ND 0.00219	ND 0.00205	ND 0.00203	
o-Xylene		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Total Xylenes		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Total BTEX		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Percent Moisture	Extracted:					
	Analyzed:	Oct-31-12 15:30	Oct-31-12 15:30	Oct-31-12 15:30	Oct-31-12 15:30	
	Units/RL:	% RL	% BL	% RL	% RL	
Percent Moisture		16.0 1.00	8.34 1.00	2.39 1.00	ND 1.00	
TPH By SW8015 Mod	Extracted:	Oct-31-12 14:30	Oct-31-12 14:30	Oct-31-12 14:30	Nov-02-12 08:20	
	Analyzed:	Nov-01-12 06:47	Nov-01-12 07:23	Nov-01-12 07:53	Nov-02-12 12:49	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 17.8	ND 16.3	ND 15.3	ND 15.1	
C12-C28 Diesel Range Hydrocarbons		22.0 17.8	93.8 16.3	53.6 15.3	50.1 15.1	
C28-C35 Oil Range Hydrocarbons		ND 17.8	ND 16.3	ND 15.3	ND 15.1	
Total TPH		22.0 17.8	93.8 16.3	53.6 15.3	50.1 15.1	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and maken no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless oftenvies agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Nul Ch

Final 1.001

Nicholas Straccione 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.

3725 E. Atlanta Ave, Phoenix, AZ 85040

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477

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(602) 437-0330



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637 Lab Batch #: 899966	, Sample: 451637-001 / SMP	Project ID: SRS# 2008-253 Batch: 1 Matrix:Soil				
Units: mg/kg	Date Analyzed: 11/01/12 06:47	SU	RROGATE R	ECOVERY S	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.01	Analytes	00.5			70.125	
1-Chlorooctane o-Terphenyl		92.5	99.6 49.8	93	70-135	
Lab Batch #: 899966	Sample: 451637-002 / SMP	Batc		·Soil		
	Date Analyzed: 11/01/12 07:23		RROGATE R		STUDY	
Units: mg/kg	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane	Analytes	96.3	99.9	96	70-135	
o-Terphenyl		46.1	50.0	92	70-135	
Lab Batch #: 899966	Sample: 451637-003 / SMP	Bate	h: 1 Matrix	:Soil	II	
Units: mg/kg	Date Analyzed: 11/01/12 07:53	SURROGATE RECOVERY STUDY				
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.3	99.8	98	70-135	
o-Terphenyl		46.8	49.9	94	70-135	
Lab Batch #: 900090	Sample: 451637-004 / SMP	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/02/12 12:49	SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		97.6	99.6	98	70-135	
o-Terphenyl		44.6	49.8	90	70-135	
Lab Batch #: 900484	Sample: 451637-001 / SMP	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/12 10:32	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	Anatyws	0.0305	0.0300	102	80-120	
						1

* 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



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637 Lab Batch #: 900484	, Sample: 451637-002 / SMP	Batch		D: SRS# 2008	- determine	
Units: mg/kg	Date Analyzed: 11/08/12 10:49	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Límits %R	Flag
	Analytes			[D]		
1,4-Difluorobenzene		0.0255	0.0300	85	80-120	
4-Bromofluorobenzene		0.0247	0.0300	82	80-120	
Lab Batch #: 900484	Sample: 451637-003 / SMP	Batch				
Units: mg/kg	Date Analyzed: 11/08/12 11:22	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0281	0.0300	94	80-120	
4-Bromofluorobenzene		0.0258	0.0300	86	80-120	
Lab Batch #: 900484	Sample: 451637-004 / SMP	Batcl	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/08/12 11:39		RROGATE R		STUDY	
BTEX by EPA 8021B Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Analyces	0.0290	0.0300	97	80-120	_
4-Bromofluorobenzene		0.0304	0.0300	101	80-120	
Lab Batch #: 899966	Sample: 629344-1-BLK / BL	K Batcl	h: 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 10/31/12 18:24	BLK Batch: 1 Matrix:Solid SURROGATE RECOVERY STUDY				
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
	Analytes					
1-Chlorooctane		91.5	99.8 49.9	92 87	70-135 70-135	
o-Terphenyl		43.6			10-135	
Lab Batch #: 900090	Sample: 629449-1-BLK / BL			H HILL SOLUCION		_
Units: mg/kg	Date Analyzed: 11/02/12 11:19	SU.	RROGATE R	ECOVERY	STUDY	
		Amount	True	Recovery	Control Limits	Flag
	By SW8015 Mod	Found [A]	Amount [B]	%R	%R	
	By SW8015 Mod Analytes					

* 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



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637 Lab Batch #: 900484	Sample: 629687-1-BLK / B	LK Batcl		D: SRS# 2008 :Solid	5433	
Units: mg/kg	Date Analyzed: 11/08/12 11:05	SU	RROGATE R	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Amarytes	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene		0.0253	0.0300	84	80-120	
Lab Batch #: 899966	Sample: 629344-1-BKS / B	KS Batc	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 10/31/12 17:27		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		94.6	100	95	70-135	
o-Terphenyl		49.9	50.0	100	70-135	
Lab Batch #: 900090	Sample: 629449-1-BKS / BI	KS Batch	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 11/02/12 10:20	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.4	99.9	98	70-135	
o-Terphenyl		51.1	50.0	102	70-135	
Lab Batch #: 900484	Sample: 629687-1-BKS / BI	KS Batch	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 11/08/12 09:42	SURROGATE RECOVERY STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0293	0.0300	98	80-120	
4-Bromofluorobenzene		0.0335	0.0300	112	80-120	
Lab Batch #: 899966	Sample: 629344-1-BSD / B	SD Batch	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 10/31/12 17:56	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		99.0	100	99	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



Project Name: Jal Tank Farm Tank 1214

Lab Batch #: 900090	Sample: 629449-1-BSD / BSI		E HE HE			
Units: mg/kg	Date Analyzed: 11/02/12 10:49	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		_
1-Chlorooctane		95.6	99.9	96	70-135	
o-Terphenyl	1	51.6	50.0	103	70-135	_
Lab Batch #: 900484	Sample: 629687-1-BSD / BSI					
Units: mg/kg	Date Analyzed: 11/08/12 09:59	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1.4-Difluorobenzene	Analytes	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	
Lab Batch #: 899966	Sample: 451637-002 S / MS	Batc	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/01/12 09:56	SURROGATE RECOVERY STUDY				
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		99.9	100	100	70-135	
o-Terphenyl		53.8	50.1	107	70-135	
Lab Batch #: 900090	Sample: 451783-001 S / MS	Batc	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/02/12 11:49	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.2	100	98	70-135	
o-Terphenyl		50.2	50.1	100	70-135	
Lab Batch #: 900484	Sample: 451637-001 S / MS	Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/12 12:28	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene	-	0.0268	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 / BAll results are based on MDL and validated for QC purposes.



Project Name: Jal Tank Farm Tank 1214

Vork Orders : 451637 Lab Batch #: 899966	, Sample: 451637-002 SD / M	MSD Bate		D: SRS# 200 :Soil	8-233	
Units: mg/kg	Date Analyzed: 11/01/12 10:24	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		101	99.7	101	70-135	
o-Terphenyl		52.8	49.9	106	70-135	
Lab Batch #: 900090	Sample: 451783-001 SD / M	ASD Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/02/12 12:19	SURROGATE RECOVERY STUDY				
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		101	100	101	70-135	
o-Terphenyl		50.9	50.1	102	70-135	
Lab Batch #: 900484	Sample: 451637-001 SD / M	MSD Batc	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/12 12:45	SURROGATE RECOVERY STUDY				
BTE	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0343	0.0300	114	80-120	
4-Bromofluorobenzene		0.0311	0.0300	104	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

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BS / BSD Recoveries



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637 Analyst: KEB Lab Batch ID: 900484 Sample: 629687-1-BKS Units: mg/kg

Date Prepared: 11/08/2012

Batch #: 1

Project ID: SRS# 2008-253 Date Analyzed: 11/08/2012 Matrix: Solid

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BTEX by EPA 8021B	A 8021B	Blank Sample Result [A]	Spike Added IBI	Blank Spike Result ICI	Blank Spike %R	Spike Added	Blank Spike Duplicate Result IFI	Blk. Spk Dup. %R IGI	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			E	5		2		E				
Benzene		<0.00100	0.100	0.101	101	0.100	0.0878	88	14	70-130	35	
Toluene		<0.00200	0.100	0.104	104	0.100	0.0886	89	16	70-130	35	
Ethylbenzene		<0.00100	0.100	0.100	100	0.100	0.0866	87	14	71-129	35	
m_p-Xylenes		<0.00200	0.200	0.213	107	0.201	0.183	16	15	70-135	35	
o-Xylene		<0.00100	0.100	0.104	104	0.100	0.0866	87	18	71-133	35	
Analyst: KEB		Da	ate Prepare	Date Prepared: 10/31/2012	5			Date An		0/31/2012		
Lab Batch ID: 899966	Sample: 629344-1-BKS	KS	Batch #:	#: 1				-	Matrix: S	Solid		

Lab Batch ID: 899966	Sample: 629344-1-BKS	KS	Batch #:	1#: 1					Matrix: S	Solid			
Units: mg/kg			BLAN	K /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE		RECOVE	RECOVERY STUDY	Y		
TPH By SW8015 Mod	5 Mod	Blank Sample Result	Spike Added	Blank Spike Result	Blank Spike	Spike Added	Blank Spike Duolicate	Blk. Spk Dup. %B	RPD %	Control Limits	Control Limits %RPD	Flag	
Analytes		2	[B]	[C]	[D]	[3]	Result [F]	[6]	2				
C6-C12 Gasoline Range Hydrocarbons	bons	<15.0	1000	960	96	1000	1020	102	6	70-135	35		
C12-C28 Diesel Range Hydrocarbons	ons	<15.0	1000	973	16	1000	666	100	3	70-135	35		

 $\label{eq:constraint} \begin{array}{l} \mbox{Relative Percent Difference RPD} = 200^{\bullet} |(C-F)/(C+F)| \\ \mbox{Blank Spike Recovery [D]} = 100^{\bullet} (C)/[B] \\ \mbox{Blank Spike Duplicate Recovery [G]} = 100^{\bullet} (F)/[E] \\ \mbox{All results are based on MDL and Validated for QC Purposes} \end{array}$



BS / BSD Recoveries



Project Name: Jal Tank Farm Tank 1214

 Work Order #: 451637
 451637

 Analyst: KEB
 Analyst: KEB

 Lab Batch ID: 900090
 Sample: 629449-1-BKS

 Units: mg/kg
 Units: mg/kg

 TPH By SW8015 Mod
 Blat

Date Prepared: 11/02/2012

Batch #: 1

Project ID: SRS# 2008-253 Date Analyzed: 11/02/2012 Matrix: Solid

Units: mg/kg		BLANI	K/BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE	ICATE I	RECOVE	RECOVERY STUDY	Х	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[0]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	666	870	87	666	863	86	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	666	922	92	666	924	92	0	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

XENCO Laboratories

Form 3 - MS / MSD Recoveries



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637

Lab Batch ID: 900484 Date Analyzed: 11/08/2012 Reporting Units: mg/kg

 QC- Sample ID:
 451637-001 S
 Batch #:
 1

 Date Prepared:
 11/08/2012
 Analyst:
 KEB

: 1 Matrix: Soil KFR

Project ID: SRS# 2008-253

Reporting Units: mg/kg		M	ATRIX SPIKI	/ MATH	IIX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E RECO	VERY S	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	<0.00118	0.118	8680.0	76	0.119	0.122	103	30	70-130	35	
Toluene	<0.00236	0.118	0.0813	69	0.119	0.115	97	34	70-130	35	x
Ethylbenzene	<0.00118	0.118	0.0687	58	0.119	0.0982	83	35	71-129	35	×
m_p-Xylenes	<0.00236	0.236	0.142	60	0.238	0.202	85	35	70-135	35	×
o-Xylene	<0.00118	0.118	0.0717	61	0.119	0.103	87	36	71-133	35	XF
Lab Batch ID: 899966 Q	QC- Sample ID: 451637-002 S	451637.	-002 S	Bat	Batch #:	1 Matrix:	Soil				

Date Analyzed: 11/01/2012	Date Prepared: 10/31/2012	10/31/20	012	Ans	Analyst: 1	KEB					
Reporting Units: mg/kg		M	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E/MATI	RIX SPII	KE DUPLICA	TE RECO	DVERY S	STUDY		Γ
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
C6-C12 Gasoline Range Hydrocarbons	<16.4	1090	1140	105	1090	1140	105	0	70-135	35	Γ
C12-C28 Diesel Range Hydrocarbons	93.8	1090	1200	101	1090	1200	101	0	70-135	35	
Lab Batch ID: 900090 Date Analyzed: 11/02/2012	QC- Sample ID: 451783-001 S Date Prepared: 11/02/2012	451783-	001 S 012	Bat Ans	Batch #: Analyst:	1 Matrib KEB	Matrix: Soil				
Reporting Units: mg/kg		W	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E/MATI	RIX SPII	KE DUPLICA	TE RECO	OVERY S	STUDY		
TPH By SW8015 Mod	Parent		Spiked Sample Spiked	Spiked		Duplicate	Spiked		Control Control	Control	

Limits %RPD 35 35 70-135 70-135 Limits %R RPD % 3 -Dup. %R 80 87 Spike Spiked Sample Added Result [F] [E] 912 904 1040 1040 Sample %R [D] 85 86 Result 881 668 Spike Added [B] 1040 1040 Sample Result <15.6 <15.6 [4] I PH By SW8UIS MOD C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons Analytes

Flag

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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit Final 1.001



Sample Duplicate Recovery



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637

Project ID: SRS# 2008-253 Lab Batch #: 899921 Date Analyzed: 10/31/2012 15:30 Date Prepared: 10/31/2012 Analyst: WRU QC- Sample ID: 451636-001 D Batch #: 1 Matrix: Soil **Reporting Units: %** SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Sample Control **Percent Moisture** Duplicate RPD Limits Result Flag %RPD Result [A] [B] Analyte Percent Moisture <1.00 <1.00 0 20 U

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

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XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 10/31/2012 01:52:00 PM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 451637	Temperature Measuring device used :
Sample Recei	pt Checklist Comments
#1 *Temperature of cooler(s)?	9.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody	? Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch	bubble)? Yes

- #21 <2 for all samples preserved with HNO3,HCL, H2SO4?
- #22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH? Yes

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date:		

Yes

Checklist reviewed by:

Date:

Analytical Report 451637

for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Jal Tank Farm Tank 1214

SRS# 2008-253

03-DEC-12

Collected By: Client





12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-10-6-TX), Arizona (AZ0765), 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), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Lakeland: Florida (E84098) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ00989): Arizona (AZ0758)





03-DEC-12

Project Manager: **Ben Arguijo PLAINS ALL AMERICAN EH&S** 1301 S. COUNTY ROAD 1150 Midland, TX 79706

Reference: XENCO Report No: 451637 Jal Tank Farm Tank 1214 Project Address: Lea County, NM

Ben Arguijo:

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 451637. 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. 451637 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, Nul Ctr

Nicholas Straccione Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 451637



PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Tank Farm Tank 1214

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Side 1	S	10-26-12 13:30		451637-001
South Side 2	S	10-26-12 13:40		451637-002
West Side	S	10-26-12 13:50		451637-003
East Side	S	10-26-12 14:00		451637-004

CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Jal Tank Farm Tank 1214



Project ID: SRS# 2008-253 Work Order Number: 451637 Report Date: 03-DEC-12 Date Received: 10/31/2012

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-900484 BTEX by EPA 8021B SW8021BM

Batch 900484, Ethylbenzene, Toluene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 451637-003, -004, -001, -002. The Laboratory Control Sample for Toluene, Ethylbenzene, m_p-Xylenes, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 900484, o-Xylene RPD was outside QC limits. Samples affected are: 451637-003, -004, -001, -002



Project Id: SRS# 2008-253 Contact. Ben Armiio Proi

Certificate of Analysis Summary 451637 PLAINS ALL AMERICAN EH&S, Midland, TX Project Name: Jal Tank Farm Tank 1214



Project 1d: SK2# 2005-202				Pat	Data Bacaivad in I ah: Wad Oct-31-12 01:52 nm	ma
Contact: Ben Arguijo				Dat		mrd
roject Location: Lea County, NM						
					Project Manager: Nicholas Straccione	
	Lab Id:	451637-001	451637-002	451637-003	451637-004	
Analysis Requested	Field Id: Denth:	South Side 1	South Side 2	West Side	East Side	
	Matrix:	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Oct-26-12 13:30	Oct-26-12 13:40	Oct-26-12 13:50	Oct-26-12 14:00	
BTEX by EPA 8021B	Extracted:	Nov-08-12 09:00	Nov-08-12 09:00	Nov-08-12 09:00	Nov-08-12 09:00	
	Analyzed:	Nov-08-12 10:32	Nov-08-12 10:49	Nov-08-12 11:22	Nov-08-12 11:39	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		ND 0.00118	ND 0.00110	ND 0.00102	ND 0.00102	
Toluene		ND 0.00236	ND 0.00219	ND 0.00205	ND 0.00203	
Ethylbenzene		ND 0.00118	ND 0.00110	ND 0.00102	ND 0.00102	
m_p-Xylenes		ND 0.00236	ND 0.00219	ND 0.00205	ND 0.00203	
o-Xylene		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Total Xylenes		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Total BTEX		ND 0.00118	0.00205 0.00110	ND 0.00102	ND 0.00102	
Inorganic Anions by EPA 300/300.1	Extracted:		Dec-02-12 08:22			
SUB: TX104704215	Analyzed:		Dec-02-12 08:22			
	Units/RL:		mg/kg RL			
Chloride			3.83 K 1.08			
Percent Moisture	Extracted:					
	Analyzed:	Oct-31-12 15:30	Oct-31-12 15:30	Oct-31-12 15:30	Oct-31-12 15:30	
	Units/RL:	% RL	% RL	% RL	% RL	
Percent Moisture		16.0 1.00	8.34 1.00	2.39 1.00	ND 1.00	
TPH By SW8015 Mod	Extracted:	Oct-31-12 14:30	Oct-31-12 14:30	Oct-31-12 14:30	Nov-02-12 08:20	
	Analyzed:	Nov-01-12 06:47	Nov-01-12 07:23	Nov-01-12 07:53	Nov-02-12 12:49	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 17.8	ND 16.3	ND 15.3	ND 15.1	
C12-C28 Diesel Range Hydrocarbons		22.0 17.8	93.8 16.3	53.6 15.3	50.1 15.1	
C28-C35 Oil Range Hydrocarbons		ND 17.8	ND 16.3	ND 15.3	ND 15.1	
Total TPH		22.0 17.8	93.8 16.3	53.6 15.3	50.1 15.1	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical toport represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hreeby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Nicholas Straccione Project Manager

Nul C

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

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

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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Pł



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637 Lab Batch #: 899966	Sample: 451637-001 / SMP	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/01/12 06:47	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chlorentere	Analytes	02.5	00.6		70.125	
1-Chlorooctane o-Terphenyl		92.5	99.6 49.8	93	70-135	
Lab Batch #: 899966	Sample: 451637-002 / SMP	Bate		Soil		
Units: mg/kg	Date Analyzed: 11/01/12 07:23		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Analytes	06.2	00.0		70-135	
o-Terphenyl		96.3 46.1	99.9 50.0	96	70-135	
					70-135	_
Lab Batch #: 899966 Units: mg/kg	Sample: 451637-003 / SMP Date Analyzed: 11/01/12 07:53	Bate	h: 1 Matrix		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	-	98.3	99.8	98	70-135	
o-Terphenyl		46.8	49.9	94	70-135	
Lab Batch #: 900090	Sample: 451637-004 / SMP	Bate	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/02/12 12:49	SU	RROGATE R	ECOVERY S	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		97.6	99.6	98	70-135	
o-Terphenyl		44.6	49.8	90	70-135	
Lab Batch #: 900484	Sample: 451637-001 / SMP	Bate	h: 1 Matrix	c: Soil		
Units: mg/kg	Date Analyzed: 11/08/12 10:32	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0307	0.0300	102	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



Project Name: Jal Tank Farm Tank 1214

		Project II	D: SRS# 200	8-253	
Sample: 451637-002 / SMP			1 Construction		
Date Analyzed: 11/08/12 10:49	SUI	RROGATE RI	ECOVERY	STUDY	
	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
	0.0255	0.0300	85	80-120	
	0.0247	0.0300	82	80-120	
Sample: 451637-003 / SMP	Batch	a: 1 Matrix:	Soil		
Date Analyzed: 11/08/12 11:22	SU	RROGATE RI	COVERY	STUDY	
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	0.0281	0.0300	94	80-120	
	0.0258	0.0300	86	80-120	
Sample: 451637-004 / SMP	Batch	a: 1 Matrix	Soil	1	
Date Analyzed: 11/08/12 11:39		Then the second s	COVERY	STUDY	
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	0.0290	0.0300	97	80-120	
	0.0304	0.0300	101	80-120	
Sample: 629344-1-BLK / BI	K Batch	a: 1 Matrix:	Solid		
Date Analyzed: 10/31/12 18:24		RROGATE RI	COVERY	STUDY	
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
	91.5	90.8	02	70-135	
	91.5 43.6	99.8 49.9	92 87	70-135 70-135	
	43.6	49.9	87		
Sample: 629449-1-BLK / BI	43.6 .K Batch	49.9	87 Solid	70-135	
Sample: 629449-1-BLK / BL Date Analyzed: 11/02/12 11:19 Sy SW8015 Mod	43.6 .K Batch	49.9 n: 1 Matrix:	87 Solid	70-135	Flags
Sample: 629449-1-BLK / BI Date Analyzed: 11/02/12 11:19	43.6 .K Batch SU Amount Found	49.9 n: 1 Matrix: RROGATE RI True Amount	87 Solid COVERY Recovery %R	70-135 STUDY Control Limits	Flags
	Sample: 451637-002 / SMP Date Analyzed: 11/08/12 10:49 Analytes Sample: 451637-003 / SMP Date Analyzed: 11/08/12 11:22 by EPA 8021B Analytes Sample: 451637-004 / SMP Date Analyzed: 11/08/12 11:39 by EPA 8021B Analytes Sample: 629344-1-BLK / BI Date Analyzed: 10/31/12 18:24 by SW8015 Mod	Sample: 451637-002 / SMP Batcl Date Analyzed: 11/08/12 10:49 SU iby EPA 8021B Amount Found [A] Amount Found [A] Analytes 0.0255 0.0247 Sample: 451637-003 / SMP Date Analyzed: 11/08/12 11:22 SU iby EPA 8021B Amount Found [A] Batcl Date Analyzed: 11/08/12 11:22 SU iby EPA 8021B Amount Found [A] Found [A] Analytes 0.0281 0.0258 Sample: 451637-004 / SMP Batcl Date Analyzed: 11/08/12 11:39 SU iby EPA 8021B Amount Found [A] Found [A] Analytes 0.0290 0.0304 iby EPA 8021B Amount Found [A] SU Analytes 0.0290 0.0304 Sample: 629344-1-BLK / BLK Batcl Date Analyzed: 10/31/12 18:24 SU iy SW8015 Mod Amount Found Found	Sample: 451637-002 / SMP Batch: 1 Matrix: Date Analyzed: 11/08/12 10:49 SURROGATE RI Sup EPA 8021B Amount [A] True Amount [A] True Amount [B] Analytes 0.0255 0.0300 Sample: 451637-003 / SMP Batch: 1 Matrix: Date Analyzed: 11/08/12 11:22 SURROGATE RI Sup EPA 8021B Amount [A] True Amount [A] True Amount [B] Analytes 0.0281 0.0300 Sample: 451637-004 / SMP Batch: 1 Matrix: Date Analyzed: 11/08/12 11:39 SURROGATE RI Sup EPA 8021B Amount [A] True Amount [B] 1 Matrix: Date Analyzed: 11/08/12 11:39 SURROGATE RI Sup EPA 8021B Amount Found [A] True Amount [B] 1 Analytes 0.0290 0.0300 0.0300 Sample: 629344-1-BLK / BLK Batch: 1 Matrix: Date Analyzed: 10/	Sample: 451637-002 / SMPBatch:1Matrix: SoilDate Analyzed: 11/08/12 10:49SURROGATE RECOVERY 3(by EPA 8021BAmount Found [A]True Amount [B]Recovery %R %R [D]Analytes0.02550.0300850.02470.030082Sample: 451637-003 / SMP Date Analyzed: 11/08/12 11:22Batch:1Matrix: SoilDate Analyzed: 11/08/12 11:22SURROGATE RECOVERY 3(Analytes1Matrix: SoilDate Analyzed: 11/08/12 11:22SURROGATE RECOVERY 3(by EPA 8021BAmount Found [A]True Amount [B]Recovery %R %R [D]0.02810.0300940.02580.030086Sample: 451637-004 / SMP Date Analyzed: 11/08/12 11:39Batch:1Matrix: SoilDate Analyzed: 11/08/12 11:39SURROGATE RECOVERY 3(by EPA 8021BAmount Found [A]True Amount Found Amount [B]Recovery %R %R [D]Analytes0.02900.0300970.03040.0300101Sample: 629344-1-BLK / BLK Found [A]Batch:1Matrix: SolidDate Analyzed: 10/31/12 18:24SURROGATE RECOVERY 3Sy SW8015 ModAmount Found IA]True Amount Found Amount Found Amount Found IB]Recovery %R	Sample:451637-002 / SMPBatch:1Matrix: SoilDate Analyzed:11/08/12 10:49SURROGATE RECOVERY STUDYby EPA 8021BAmount Found [A]True [B]Recovery %R [D]Control Limits %RAnalytes0.02550.03008580-1200.02550.03008280-120Sample:451637-003 / SMP Batch:Batch:1Matrix: SoilDate Analyzed:11/08/12 11:22SURROGATE RECOVERY STUDYby EPA 8021BAmount Found [A]True [B]Recovery %R [D]Control Limits %RAnalytes0.02810.03009480-120Sample:451637-004 / SMP [A]Batch:1Matrix: SoilDate Analyzed:11/08/12 11:22SURROGATE RECOVERY STUDYby EPA 8021BAmount Found [A]True [B]Recovery %R [D]Control Limits %RDate Analyzed:11/08/12 11:39SURROGATE RECOVERY STUDYby EPA 8021BAmount Found [A]True Amount [B]Control %R [D]by EPA 8021BAmount Found [A]True Amount [B]Recovery %R [D]Control Limits %R [D]by EPA 8021BAmount Found [A]True Amount [B]Recovery %R [D]Control Limits %R [D]ch analyzed:11/08/12 11:39SURROGATE RECOVERY STUDYSample:629344-1-BLK / BLK [A]Batch:1Matrix: SolidDate Analyzed:10/31/12 18:

* 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



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637	Sample: 629687-1-BLK / BI	.K. Batc	and the second second	D: SRS# 2008		
Units: mg/kg	Date Analyzed: 11/08/12 11:05	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
	Analytes					
1,4-Difluorobenzene 4-Bromofluorobenzene		0.0252	0.0300	84	80-120	
		0.0253	0.0300	84	80-120	
Lab Batch #: 899966	Sample: 629344-1-BKS / BK					
Units: mg/kg	Date Analyzed: 10/31/12 17:27	su	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		94.6	100	95	70-135	
o-Terphenyl		49.9	50.0	100	70-135	
Lab Batch #: 900090	Sample: 629449-1-BKS / BK	CS Bate	h: 1 Matrix	- Solid		
Units: mg/kg	Date Analyzed: 11/02/12 10:20		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.4	99.9	98	70-135	
o-Terphenyl		51.1	50.0	102	70-135	
Lab Batch #: 900484	Sample: 629687-1-BKS / Bk	CS Bate	h: 1 Matrix	: Solid		
Units: mg/kg	Date Analyzed: 11/08/12 09:42		RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0293	0.0300	98	80-120	
4-Bromofluorobenzene		0.0335	0.0300	112	80-120	
Lab Batch #: 899966	Sample: 629344-1-BSD / BS	SD Bate	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 10/31/12 17:56	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		99.0	100	99	70-135	
o-Terphenyl		51.4	50.1	103	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



Project Name: Jal Tank Farm Tank 1214

Lab Batch #: 900090	Sample: 629449-1-BSD / BS	SD Bate	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 11/02/12 10:49	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
1-Chlorooctane o-Terphenyl		95.6	99.9	96	70-135 70-135	
		51.6	50.0	103	/0-135	
Lab Batch #: 900484	Sample: 629687-1-BSD / BS					
Units: mg/kg	Date Analyzed: 11/08/12 09:59	SU	RROGATE R	ECOVERYS	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0288	0.0300	96	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	_
Lab Batch #: 899966	Sample: 451637-002 S / MS	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/01/12 09:56		RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		99.9	100	100	70-135	
o-Terphenyl		53.8	50.1	107	70-135	
Lab Batch #: 900090	Sample: 451783-001 S / MS	Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/02/12 11:49	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		98.2	100	98	70-135	
o-Terphenyl		50.2	50.1	100	70-135	
Lab Batch #: 900484	Sample: 451637-001 S / MS	Batc	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 11/08/12 12:28	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1,4-Difluorobenzene		0.0268	0.0300	89	80-120	
4-Bromofluorobenzene		0.0268	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



Project Name: Jal Tank Farm Tank 1214

ork Orders : 451637	Sample: 451637-002 SD / N	ASD Bate		D: SRS# 2008 c: Soil	8-253	
Units: mg/kg	Date Analyzed: 11/01/12 10:24	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		101	99.7	101	70-135	
o-Terphenyl		52.8	49.9	106	70-135	
Lab Batch #: 900090	Sample: 451783-001 SD / N	ASD Bate	h: 1 Matrix	: Soil		
Units: mg/kg	Date Analyzed: 11/02/12 12:19	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	Timury cos	101	100	101	70-135	
o-Terphenyl		50.9	50.1	102	70-135	
Lab Batch #: 900484	Sample: 451637-001 SD / M	ASD Bate	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/08/12 12:45	SU	RROGATE R	ECOVERY	STUDY	
BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0343	0.0300	114	80-120	
4-Bromofluorobenzene		0.0311	0.0300	104	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



BS / BSD Recoveries



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637 Analyst: KEB Lab Batch ID: 900484 Sample: 629687-1-BKS

Date Prepared: 11/08/2012

Batch #: 1

Project ID: SRS# 2008-253 Date Analyzed: 11/08/2012 Matrix: Solid

Units: mg/kg		BLAN	K /BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE 1	RECOVE	RY STUD	Y	\square
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	<0.00100	0.100	0.101	101	0.100	0.0878	88	14	70-130	35	
Toluene	<0.00200	0.100	0.104	104	0.100	0.0886	89	16	70-130	35	
Ethylbenzene	<0.00100	0.100	0.100	100	0.100	0.0866	87	14	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.201	0.183	91	15	70-135	35	
o-Xylene	<0.00100	0.100	0.104	104	0.100	0.0866	87	18	71-133	35	

/02/2012 Date Analyzed: 12/02/2012	Matrix: Solid	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	Blank Blank Spike Blank Blk. Spk Control Control Spike Spike Added Spike Dup. RPD Limits Limits Flag Result %R Duplicate %R % RPD	[D] [E] Result [F] [G]	104 104 100 103 103 1 80-120 20
Date Prepared: 12/02/2012	Batch #: 1	BLANK /BI	Spike B Added S	[8]	100
Dat	KS		Blank Sample Result [A]		<1.00
Analyst: JOL	Lab Batch ID: 901997 Sample: 630651-1-BKS	Units: mg/kg	Inorganic Anions by EPA 300/300.1	Analytes	Chloride

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 Page 12 of 18

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BS / BSD Recoveries



Project Name: Jal Tank Farm Tank 1214

Sample: 629344-1-BKS Work Order #: 451637 Lab Batch ID: 899966 Analyst: KEB

Date Prepared: 10/31/2012 Batch #: 1

Project ID: SRS# 2008-253 Date Analyzed: 10/31/2012 Matrix: Solid

Units: mg/kg		BLANK	/BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE F	LECOVE	RY STUD	Y	\square
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
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	960	96	1000	1020	102	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	973	67	1000	666	100	3	70-135	35	
Analyst: KEB Lah Batch ID: 000000 Samule: 679440-1-BKS		te Prepared: Ratch #:	Date Prepared: 11/02/2012 Ratch #: 1	2			Date An	nalyzed: 11/02 Matrix: Solid	Date Analyzed: 11/02/2012 Matrix: Solid		
		BLANK	/BLANK S	PIKE / B	LANK S	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	ICATE F	RECOVE	RY STUD	Y	

Units: mg/kg		BLAN	3LANK / BLANK SPIKE / BLANK SPIKE DUPLICATE	PIKE / B	LANKS.	PIKE DUPL		KECOVE	KECOVERY STUDY	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[6]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	666	870	87	666	863	86	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	666	922	92	666	924	92	0	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

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Form 3 - MS Recoveries



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637 Lab Batch #: 901997 Date Analyzed: 12/02/2012 QC- Sample ID: 453288-001 S	Date Prepared: 12/02/2012 Batch #: 1	А	nalyst: J		8-253
Reporting Units: mg/kg		MATRIX SPIKE	Matrix: S RECO		DY
Inorganic Anions by EPA 300 Analytes	Parent Sample Spik Result Addo [A] [B]		%R [D]	Control Limits %R	Flag
Chloride	21.5 512	532	100	80-120	-

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

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Form 3 - MS / MSD Recoveries



Date Analyzed: 11/08/2012 Lab Batch ID: 900484 Work Order #: 451637

QC- Sample ID: 451637-001 S Date Prepared: 11/08/2012

Matrix: Soil -KEB

Analyst: Batch #:

Project ID: SRS# 2008-253

Reporting Units: mg/kg		M	ATRIX SPIKI	/ MATF	UX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	E RECO	VERY S	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	<0.00118	0.118	0.0898	76	0.119	0.122	103	30	70-130	35	
Toluene	<0.00236	0.118	0.0813	69	0.119	0.115	97	34	70-130	35	x
Ethylbenzene	<0.00118	0.118	0.0687	58	0.119	0.0982	83	35	71-129	35	x
m_p-Xylenes	<0.00236	0.236	0.142	60	0.238	0.202	85	35	70-135	35	X
o-Xylene	<0.00118	0.118	0.0717	61	0.119	0.103	87	36	71-133	35	XF
Lab Batch ID: 899966 Q	QC- Sample ID: 451637-002 S	451637.	002 S	Bat	Batch #:	1 Matrix: Soil	Soil				

Date Analyzed: 11/01/2012	Date Prepared: 10/31/2012	10/31/20	012	Ani	Analyst: KEB	KEB					
Reporting Units: mg/kg		M	ATRIX SPIKI	E / MATI	RIX SPI	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	FE RECO	OVERY S	TUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<16.4	1090	1140	105	1090	1140	105	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	93.8	1090	1200	101	1090	1200	101	0	70-135	35	
Lab Batch ID: 900090 Date Analyzed: 11/02/2012	QC- Sample ID: 451783-001 S Date Prepared: 11/02/2012	451783-001 11/02/2012	001 S 012	Bai	Batch #: Analyst:	1 Matrix: Soil KEB	: Soil				
Reporting Units: mg/kg			ATRIX SPIKI	E / MATI	RIX SPI	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	FE RECO	OVERY S	YUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	

35

70-135 70-135

35

3 -

88 87

912 904

1040 1040

86 85

899

1040 1040

<15.6 <15.6

881

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

C6-C12 Gasoline Range Hydrocarbons C12-C28 Diesel Range Hydrocarbons 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 ApplicableN = Sec Narrative, EQL = Estimated Quantitation Limit

Final 1.002

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Sample Duplicate Recovery



Project Name: Jal Tank Farm Tank 1214

Work Order #: 451637

Project ID: SRS# 2008-253 Lab Batch #: 899921 Date Analyzed: 10/31/2012 15:30 Date Prepared: 10/31/2012 Analyst: WRU Batch #: 1 Matrix: Soil QC- Sample ID: 451636-001 D **Reporting Units: %** SAMPLE / SAMPLE DUPLICATE RECOVERY **Percent Moisture** Parent Sample Sample Control Duplicate RPD Limits Result Flag %RPD Result [A] [B] Analyte <1.00 <1.00 0 20 U Percent Moisture

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

12600 West I-20 East Phone: 432-563-1800 Ddessa, Texas 79765 Project Name: Jal Tank Farm Tank 1214	Project #: SRS# 2008-253	Project Loc: Lea County, NM	PO #: PAA-J. Henry	29 Report Format: X Standard	pm@basinenv.com	Analyze For:		Preservetion & # of Containers Matrix 8	HCI HCG MaOH MaOH MaPasson Mater SL=Sudge Callons (Ce, Mg, Ma, K) Metalis: As Ag Ba Cd Cr Pb Hg Motalis: As Ag Ba Cd Cr Pb Hg Callons (Ce, Mg, Ma, K) Metalis: As Ag Ba Cd Cr Pb Hg Metalis: As Ag Ag Ba Cd Cr Pb Hg Metalis: As Ag		Soli X	Soll	Soil			Laboretory Comments: Sample: Comments: More Sample: Comments: More Sample: Comments: More Sample: Comments: More Sample: Sam	Date Time Lafeetsoncontainent(s) (A 24,17 2,175 0.0astody #eals on containen(s)	Date, Time Sample Hand Delivere by Sampler/Client P DP(5D)(B) (D:2000 by Sampler/Client P	C C ALL TIME Temperature Upon Receipt
12600 W Odessa,				Fax No: (575) 396-1429	e-mail: pm@bas			Preser	Time Sampled Feld Filtered For a Containers	1:30	2 1: 40 1 X	rz 1:50 1 X	Z 2:00 1 X				Al	The Bully	DUIN JU POUN
	ce Technologies, LLC				/				Beginning Depth Ending Depth bate Sampled		10/20/2012	10/26/2012	2102/02/01				Time Received by: 2:45 Ministral	12,15 Received b	Time Received b
Project Manager: Ben Arguijo	Basin Environmental Service Technologies, LLC	P.O. Box 301	Lovington, NM 88260	(575)396-2378	Sampler Signature: () AD Low		, ,		FIELD CODE		2						d	X	Date



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S	Acceptable Temperature Range: 0 - 6 degC							
Date/ Time Received: 10/31/2012 01:52:00 PM	Air and Metal samples Acceptable Range: Ambient							
Work Order #: 451637	Temperature Measuring device used :							
Sample Rece	pt Checklist Comments							
#1 *Temperature of cooler(s)?	9.7							
#2 *Shipping container in good condition?	Yes							
#3 *Samples received on ice?	Yes							
#4 *Custody Seals intact on shipping container/ cooler?	Yes							
#5 Custody Seals intact on sample bottles?	Yes							
#6 *Custody Seals Signed and dated?	Yes							
#7 *Chain of Custody present?	Yes							
#8 Sample instructions complete on Chain of Custody?	Yes							
#9 Any missing/extra samples?	No							
#10 Chain of Custody signed when relinquished/ received?	Yes							
#11 Chain of Custody agrees with sample label(s)?	Yes							
#12 Container label(s) legible and intact?	Yes							
#13 Sample matrix/ properties agree with Chain of Custody	? Yes							
#14 Samples in proper container/ bottle?	Yes							
#15 Samples properly preserved?	Yes							
#16 Sample container(s) intact?	Yes							
#17 Sufficient sample amount for indicated test(s)?	Yes							
#18 All samples received within hold time?	Yes							
#19 Subcontract of sample(s)?	Yes							
#20 VOC samples have zero headspace (less than 1/4 inch	bubble)? Yes							
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes							
#22 >10 for all samples preserved with NaAsO2+NaOH, Zn	Ac+NaOH? Yes							

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Date:			

Checklist reviewed by:

Date: