

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action
1RP-2336 SA

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Plains Pipeline, LP	Contact	Jason Henry
Address	2530 Hwy 214 - Denver City, Tx 79323	Telephone No.	(575) 441-1099
Facility Name	EK Queen 6-inch Sec. 15	Facility Type	Pipeline

Surface Owner	NMSLO	Mineral Owner		Lease No.	
---------------	-------	---------------	--	-----------	--

LOCATION OF RELEASE

API 30-025-12803

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	15	18S	34E					Lea

Latitude N 32.74821 Longitude W 103.5447

NATURE OF RELEASE

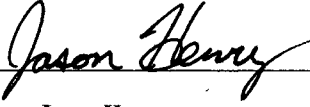

Type of Release	Crude Oil	Volume of Release	15 bbls	Volume Recovered	0 bbls
Source of Release	6" Steel Pipeline	Date and Hour of Occurrence	10/19/2009	Date and Hour of Discovery	10/19/2009 14:45
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	Larry Johnson on 11/09/2009 (release originally estimated 2 bbls, revised volume on 11/09/2009)		
By Whom?	Jason Henry	Date and Hour	11/09/2009 @ 1000		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse			
If a Watercourse was Impacted, Describe Fully.*					

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JUN 02 2010
HOBBSOCD

Describe Cause of Problem and Remedial Action Taken.* ☐ Internal corrosion of a 6-inch pipeline caused a release of crude oil. Throughput for the subject line is approximately 470 bbls/day and the operating pressure is 100 psi. The depth of the pipeline at the release point is approximately 2' bgs. The H2S concentration in the crude is less than 10 ppm and the gravity of the crude is 40.

Describe Area Affected and Cleanup Action Taken.*
The released crude resulted in a surface stain that measured approximately 5' x 5'. Please see the attached Basin Environmental Consulting Remediation Summary and Site Closure Request for details of remedial activities conducted at the site.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Jason Henry	Approved by District Supervisor:  ENVIRONMENTAL ENGINEER		
Title: Remediation Coordinator	Approval Date: 6-2-10	Expiration Date: _____	
E-mail Address: jhenry@paalp.com	Conditions of Approval:	Attached <input type="checkbox"/>	
Date: 06/02/2010 Phone: (575) 441-1099		1RP# 2336	

* Attach Additional Sheets If Necessary

N LWT 1015530863

Basin Environmental Consulting, LLC

2800 Plains Highway
P. O. Box 381
Lovington, New Mexico 88260
cdstanley@basin-consulting.com
Office: (575) 396-2378 Fax: (575) 396-1429



REMEDIATION SUMMARY AND SITE CLOSURE REQUEST

FINAL
CLOSURE
REPORT

**PLAINS PIPELINE, L.P. (231735)
EK Queen 6-Inch Sec. 15
Lea County, New Mexico
Plains SRS# 2009-236
UNIT "G" (SW/NE), Section 15, Township 18 South, Range 34 East
Latitude 32.74821° North, Longitude 103.5447° West
1RP-2335**

Prepared For:

Plains Pipeline, L.P.
333 Clay Street
Suite 1600
Houston, Texas 77002

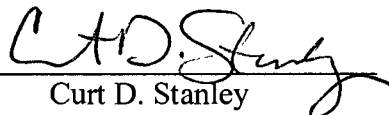
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JUN 02 2010

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Prepared By:
Basin Environmental Consulting, LLC

April 2010


Curt D. Stanley

Project Manager

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Appendix C – Release Notification and Corrective Action (Form C-141)

1.0 INTRODUCTION

Basin Environmental Consulting, LLC (Basin), on behalf of Plains Pipeline, L.P. (Plains), has prepared this Remediation Summary and Site Closure Request for the release site known as EK Queen 6-Inch Sec. 15 (SRS# 2009-236). The site is located in Unit Letter "G" (SW ¼ NE ¼), Section 15, Township 18 South, Range 34 East, in Lea County, New Mexico. The property is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). A Right-of-Entry permit (ROE-1871) was granted by the NMSLO, Santa Fe Office. The site latitude is 32.74821° North, and the longitude is 103.5447° West. The Site Location and Site and Sample Location Map are provided as Figure 1 and Figure 2, respectively.

The release volume was initially deemed to be approximately two (2) barrels and non-reportable under New Mexico Oil Conservation Division (NMOCD) rules. Following further investigation of the release, Plains opted to increase the estimated volume of the release and re-classify the release as a reportable quantity.

The Release Notification and Corrective Action (NMOCD Form C-141) indicated approximately fifteen (15) barrels of crude oil was released from the Plains pipeline and zero (0) barrels were recovered during the initial response activities, resulting in a net loss of fifteen (15) barrels of crude oil. The Release Notification and Corrective Action is provided as Appendix C.

The release occurred on October 19, 2009, on a six (6) inch steel pipeline and was the result of internal corrosion of the pipeline. Plains operations personnel mitigated the crude oil release by installing a temporary clamp on the pipeline. The impacted soil excavated during initial response activities was stockpiled on a 6-mil poly liner adjacent to the excavation. The initial visually stained area covered an area measuring approximately five (5) feet in width and five (5) feet in length. General site Photographs are provided as Appendix B.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database indicates average depth to groundwater is approximately 110 feet below ground surface (bgs) in the northwest quarter of the section. A reference map utilized by the New Mexico Oil Conservation Division (NMOCD) indicates groundwater should be encountered at approximately 115 feet bgs. The depth to groundwater at the EK Queen 6-Inch Sec 15 release site, results in a score of zero (0) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

The water well database, maintained by the NMOSE, indicated there is one (1) water well located less than 1,000 feet from the release. Field observations indicated the water well may be abandoned, as the casing is open to the atmosphere and no pump appears to be installed in the water well. The upgradient water well requires twenty (20) points be assigned to this site as a result of this criterion.

There is an earthen stock tank located within 1,000 feet of the site. Based on the NMOCD ranking system ten (10) points will be assigned to the site as a result of the criteria.

The NMOCD guidelines indicate EK Queen 6-Inch Sec 15 the release site has a ranking score of thirty (30). Based on this score, the soil remediation levels for a site with a ranking score of thirty (30) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 100 mg/Kg (ppm)

3.0 SUMMARY OF FIELD ACTIVITIES

On October 28 through October 30, 2009, delineation trenches were excavated to investigate the horizontal and vertical extent of impact at the release site. Following the trenching activities, a soil sample (RP – 15' bgs) was collected approximately fifteen (15) feet below the release point. The analytical results indicated total petroleum hydrocarbon (TPH) concentrations were less than the laboratory method detection limit (MDL) of 15.6 mg/Kg. A summary of Concentrations of BTEX and TPH in Soil is provided as Table 1 and laboratory analytical reports are provided as Appendix A.

On November 2 through November 6, 2009, impacted soil was excavated from the release site and stockpiled on a 6 mil poly liner adjacent to the excavation. On November 4, 2009, a five (5) point composite soil sample (Stockpile Baseline) was collected from the impacted soil stockpile to determine the final disposition of the stockpile. The analytical results indicated the benzene concentration was less than the laboratory MDL of 0.0010 mg/Kg, the benzene, toluene, ethylbenzene and xylene (BTEX) concentration was 0.1719 mg/Kg and the TPH concentration was 966 mg/Kg.

On November 6, 2009, four (4) excavation sidewall soil samples (WSW, NSW, ESW and SSW) were collected and submitted to the laboratory for benzene, BTEX and TPH analysis. The analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for each soil sample. In addition, an excavation floor soil sample (Floor) was collected and submitted to the laboratory for analysis. The analytical results indicated the benzene and BTEX concentration were less than the laboratory MDL and the TPH concentration was 48.2 mg/Kg.

On January 12, 2010, Plains and Basin representatives met with an NMOCD Hobbs District Office representative to present the results of the soil sampling event and request permission to backfill the excavation. The NMOCD representative requested Plains blend the soil stockpile and resample the soil prior to requesting permission to backfill. On January 13, 2009, the stockpile was blended and placed in a two (2) foot thick cell.

On February 1, 2010, a soil sample (SP-1) was collected from the cell and submitted to the laboratory for benzene, BTEX and TPH analysis. The analytical results indicated the benzene concentration was less than the laboratory MDL. The BTEX concentration was 0.0133 mg/Kg and the TPH concentration was 268 mg/Kg.

On February 25, 2010, Basin and Plains representatives presented the *Remediation Summary and Site Closure Proposal* (Proposal) to the NMOCD Hobbs District Office. The Proposal was

approved by the NMOCD on February 25, 2010 and excavation backfill activities commenced on March 3, 2010.

On March 9, 2010, excavation backfill activities were completed and the site was contoured to fit the surrounding topography. The site will be reseeded with vegetation specified by the NMSLO.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil samples were delivered to Xenco Laboratories, Inc. in Odessa, Texas for BTEX and/or TPH analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH-GRO/DRO concentrations in accordance with modified EPA Method 8015M GRO/DRO

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. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples and as approved by the NMOCD Hobbs District Office, Basin recommends Plains provide the NMOCD Hobbs District Office a copy of the Remediation Summary and Site Closure Request and request the NMOCD grant site closure to the EK Queen 6-Inch Sec. 15 release site.

6.0 LIMITATIONS

Basin Environmental Consulting, LLC has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Consulting, LLC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Consulting, LLC has not conducted an independent examination of the facts contained in

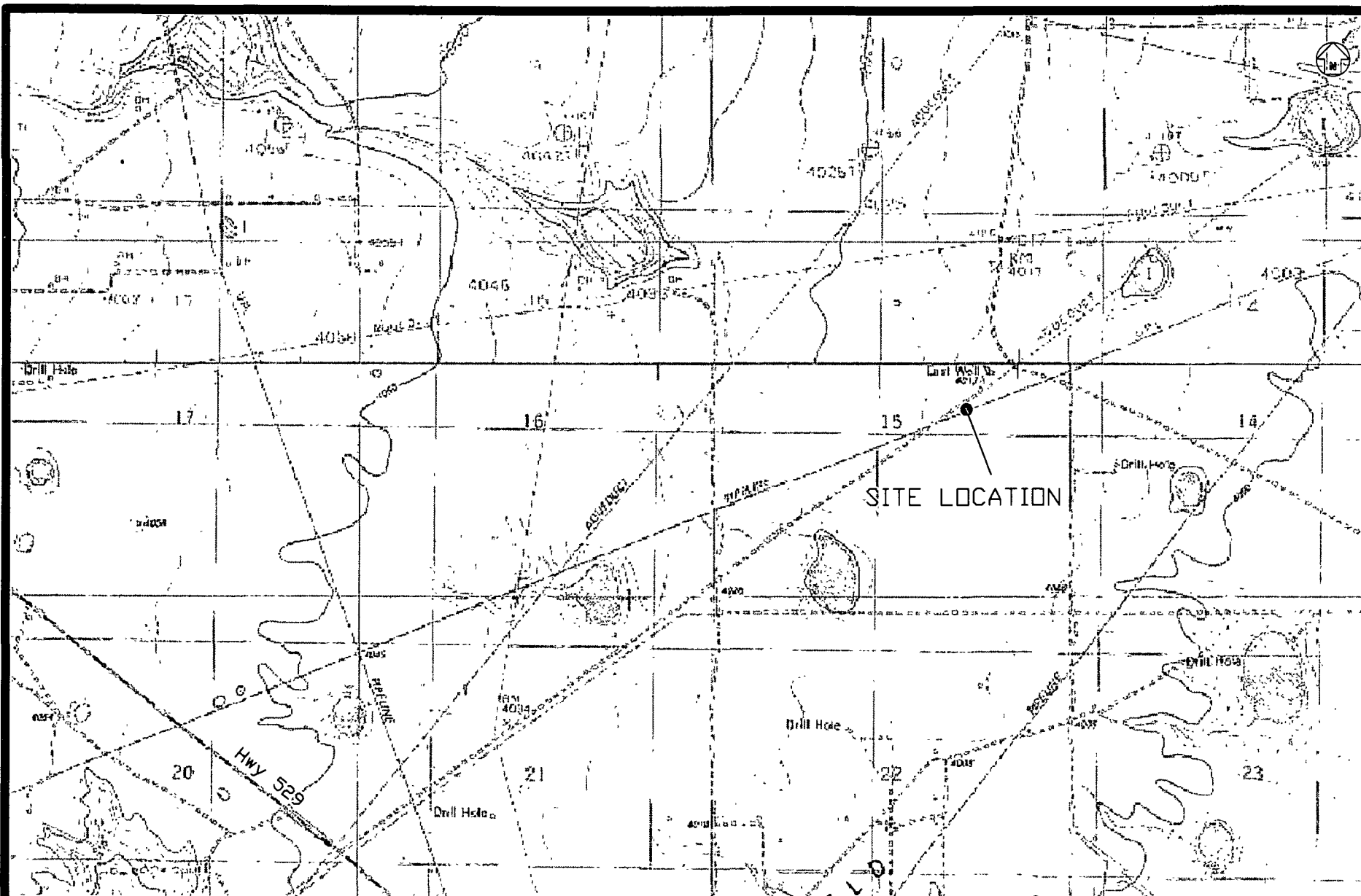
referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Consulting, LLC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Consulting, LLC also 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, L.P. 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 Consulting, LLC and/or Plains Pipeline, L.P.

7.0 DISTRIBUTION:

- Copy 1: Larry Johnson
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 French Drive
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larry.johnson@state.nm.us
- Copy 2: Brian Henington
New Mexico State Land Office
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Lovington, New Mexico 88260
cdstanley@basin-consulting.com

Figures



2000 1000 0 1000 2000
 Distance in Feet

Figure 1
 Site Location Map
 Plains Pipeline, L.P.
 EK Queen 6-Inch Sec. 15
 Lea County, New Mexico
 SRS # 2009-236
 1RP-2335

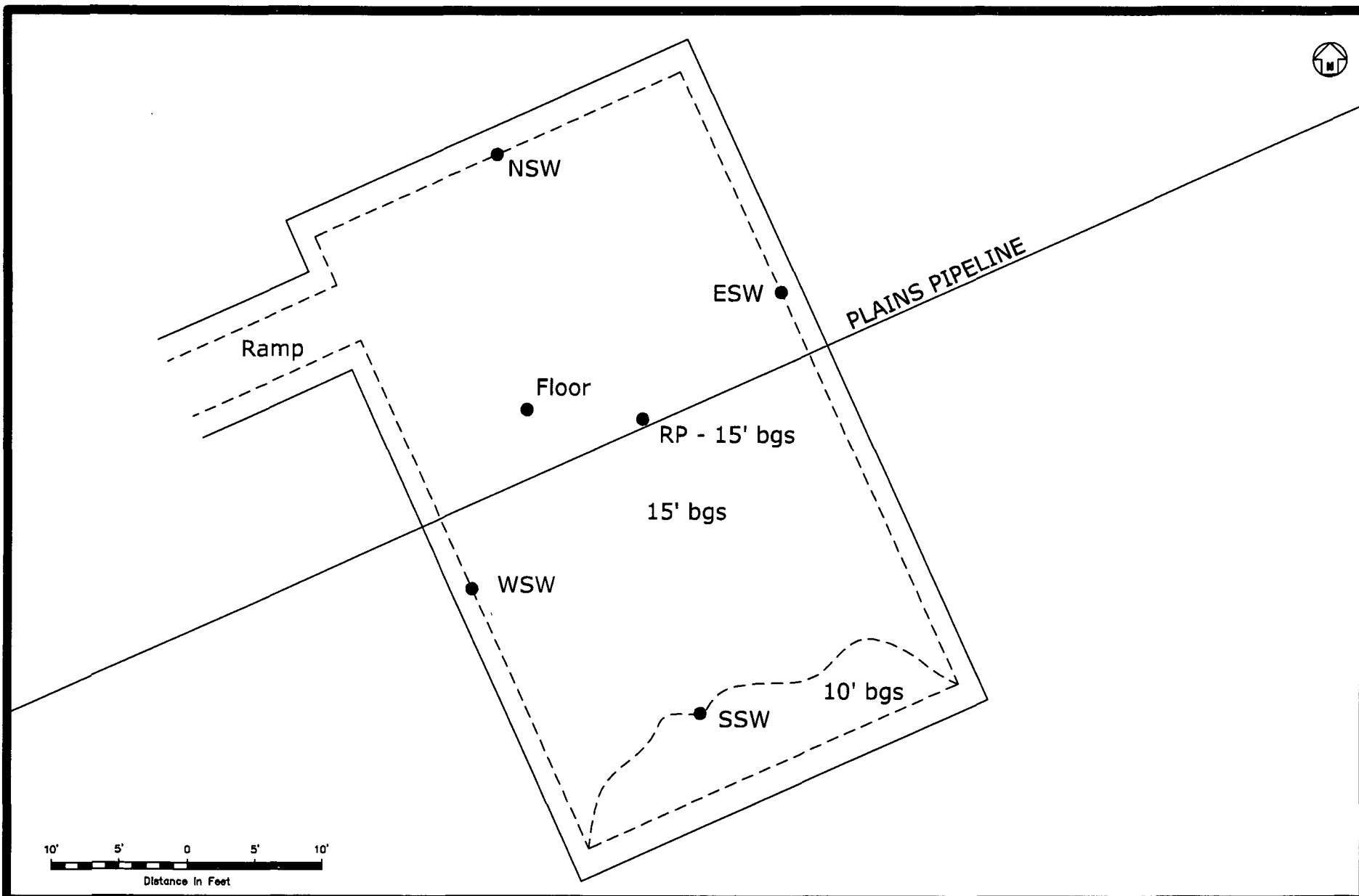
Basin Environmental Consulting

Prep By: CDS

Checked By: CDS

February 15, 2010

Scale 1"=3000'



Legend:

- Excavation Extents
- Pipeline
- Sample Point

Figure 2
Site Map
Plains Pipeline, L.P.
EK Queen 6-Inch Sec. 15
Lea County, New Mexico
SRS # 2009-236
IRP-2335

Basin Environmental Consulting

Prep By: CDS

Checked By: CDS

February 18, 2010

1" = 10 feet

Tables

Table 1

CONCENTRATIONS OF BTEX AND TPH IN SOIL
 PLAINS PIPELINE, LP
 EK QUEEN 6-INCH SEC 15
 LEA COUNTY, NEW MEXICO
 SRS # 2009-236
 NMOCD REF # 1RP-2335

SAMPLE DATE	SAMPLE LOCATION	SAMPLE DEPTH	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030						SW 848-8015M			
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL- BENZENE (mg/Kg)	M,P- XYLENE (mg/Kg)	O- XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C6-C12 (mg/Kg)	DRO C12-C28 (mg/Kg)	ORO C28-C35 (mg/Kg)	TOTAL TPH C6-C35 (mg/Kg)
10/30/09	RP - 15' bgs	15 feet	In-Situ	-	-	-	-	-	-	<15.6	<15.6	<15.6	<15.6
11/04/09	Stockpile Baseline	N/A	Stockpile	<0.0010	0.0031	0.0069	0.0646	0.0973	0.1719	189	777	<15.6	966
11/06/09	WSW	14.5 feet	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.2	<15.2	<15.2	<15.2
11/06/09	NSW	14.5 feet	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.4	<15.4	<15.4	<15.4
11/06/09	ESW	14.5 feet	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.5	<15.5	<15.5	<15.5
11/06/09	SSW	14.5 feet	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<15.0	<15.0	<15.0	<15.0
11/06/09	Floor	15 feet	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	<0.0010	<0.0021	<15.4	48.2	<15.4	48.2
02/01/10	SP-1	N/A	Stockpile	<0.0011	<0.0022	0.0086	<0.0022	0.0047	0.0133	21.1	228	19.2	268

Appendices

Appendix A

Laboratory Analytical Reports

Analytical Report 350751
for
PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6" Sec. 15

2009-236

06-NOV-09



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

South Carolina (96031001), Louisiana (04154), Georgia (917)



06-NOV-09

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

Reference: XENCO Report No: **350751**
EK Queen 6" Sec. 15
Project Address: Lea Co., NM

Jason Henry:

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 350751. 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. 350751 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 350751



PLAINS ALL AMERICAN EH&S, Midland, TX
EK Queen 6" Sec. 15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
RP-15' bgs	S	Oct-30-09 14:30		350751-001



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6" Sec. 15

Project ID: 2009-236

Work Order Number: 350751

Report Date: 06-NOV-09

Date Received: 11/03/2009

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-780156 Percent Moisture

None

Batch: LBA-780329 TPH by SW8015 Mod

None



Certificate of Analysis Summary 350751

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6" Sec. 15



Project Id: 2009-236

Contact: Jason Henry

Project Location: Lea Co., NM

Date Received in Lab: Tue Nov-03-09 10:22 am

Report Date: 06-NOV-09


Project Manager: Brent Barron, II

Analysis Requested	Lab Id: 350751-001 Field Id: RP-15' bgs Depth: Matrix: SOIL Sampled: Oct-30-09 14:30					
Percent Moisture	Extracted: Analyzed: Nov-03-09 17:00 Units/RL: % RL					
Percent Moisture	3.95 1.00					
TPH by SW8015 Mod	Extracted: Nov-04-09 10:45 Analyzed: Nov-04-09 18:20 Units/RL: mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons	ND 15.6					
C12-C28 Diesel Range Hydrocarbons	ND 15.6					
C28-C35 Oil Range Hydrocarbons	ND 15.6					
Total TPH	ND 15.6					

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 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 otherwise agreed to in writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Version: 1.008


Brent Barron, II
Odessa Laboratory 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 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
- * Outside XENCO's scope of NELAC Accreditation.

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4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
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
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: EK Queen 6" Sec. 15

Work Orders : 350751,

Project ID: 2009-236

Lab Batch #: 780329

Sample: 542375-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/04/09 13:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.8	105	70-135	
o-Terphenyl	43.4	49.9	87	70-135	

Lab Batch #: 780329

Sample: 542375-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/04/09 13:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	43.9	50.0	88	70-135	

Lab Batch #: 780329

Sample: 542375-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/04/09 14:08

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.5	100	86	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

Lab Batch #: 780329

Sample: 350751-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/04/09 18:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.9	99.6	83	70-135	
o-Terphenyl	44.7	49.8	90	70-135	

Lab Batch #: 780329

Sample: 350777-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/09 02:23

SURROGATE RECOVERY STUDY

TPH 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	42.3	50.0	85	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec. 15

Work Orders : 350751,

Project ID: 2009-236

Lab Batch #: 780329

Sample: 350777-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/05/09 02:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.6	107	70-135	
o-Terphenyl	44.5	49.8	89	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: EK Queen 6" Sec. 15

Work Order #: 350751

Analyst: BEV

Date Prepared: 11/04/2009

Project ID: 2009-236

Date Analyzed: 11/04/2009

Lab Batch ID: 780329

Sample: 542375-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	998	905	91	999	920	92	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	758	76	999	801	80	6	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: EK Queen 6" Sec. 15



Work Order #: 350751

Project ID: 2009-236

Lab Batch ID: 780329

QC- Sample ID: 350777-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/05/2009

Date Prepared: 11/04/2009

Analyst: BEV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1150	1080	94	1150	1110	97	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1150	1120	97	1150	1150	100	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: EK Queen 6" Sec. 15

Work Order #: 350751

Lab Batch #: 780156

Project ID: 2009-236

Date Analyzed: 11/03/2009

Date Prepared: 11/03/2009

Analyst: WRU

QC- Sample ID: 350659-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	3.85	3.61	6	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

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. / Plains

Date/ Time: 11-3-09 10:22

Lab ID #: 350751

Initials: AL

Sample Receipt Checklist

Client Initials

#1 Temperature of container/ cooler?	<u>Yes</u>	No	<u>1.1</u> °C	
#2 Shipping container in good condition?	<u>Yes</u>	No		
#3 Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>	
#4 Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5 Chain of Custody present?	<u>Yes</u>	No		
#6 Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7 Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8 Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11 Containers supplied by ELOT?	<u>Yes</u>	No		
#12 Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13 Samples properly preserved?	<u>Yes</u>	No	See Below	
#14 Sample bottles intact?	<u>Yes</u>	No		
#15 Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16 Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17 Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18 All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19 Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20 VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Andrea Lam

From: "Curt D. Stanley" <cdstanley@basin-consulting.com>
To: "Gracie Avalos" <gracie.avalos@xenco.com>; "Andrea Lam" <andrea.lam@xenco.com>
Sent: Tuesday, November 03, 2009 2:09 PM
Subject: EK Queen 6-Inch Sec 15 soil sample

Gracie / Andrea,

Please run the soil sample I brought in this morning (11/3/09). The project name is EK Queen 6-Inch Sec 15. The SRS number (needs to be added to the COC) is 2009-236. Please run for TPH (8015M) only. Do not run for BTEX as shown on the COC.

Thanks,
Curt Stanley

11/3/2009

Analytical Report 351529

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6" Sec 15

2009-236

12-NOV-09



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

South Carolina(96031001), Louisiana(04154), Georgia(917)



12-NOV-09

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

Reference: XENCO Report No: **351529**
EK Queen 6" Sec 15
Project Address: Lea Co., NM

Jason Henry:

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 351529. 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. 351529 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 351529



PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen 6" Sec 15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WSW	S	Nov-06-09 11:30		351529-001
NSW	S	Nov-06-09 11:40		351529-002
ESW	S	Nov-06-09 12:00		351529-003
SSW	S	Nov-06-09 12:15		351529-004
Floor	S	Nov-06-09 12:30		351529-005



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6" Sec 15

Project ID: 2009-236

Work Order Number: 351529

Report Date: 12-NOV-09

Date Received: 11/06/2009

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-780907 Percent Moisture

None

Batch: LBA-780910 Percent Moisture

None

Batch: LBA-781121 TPH by SW8015 Mod

SW8015MOD_NM

Batch 781121, o-Terphenyl recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 351529-005.

Batch: LBA-781159 BTEX by EPA 8021

SW8021BM

Batch 781159, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 351529-004, -003, -005, -001, -002.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits



Certificate of Analysis Summary 351529

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6" Sec 15



Project Id: 2009-236

Contact: Jason Henry

Project Location: Lea Co., NM

Date Received in Lab: Fri Nov-06-09 04:45 pm


Report Date: 12-NOV-09

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	351529-001	351529-002	351529-003	351529-004	351529-005	
	<i>Field Id:</i>	WSW	NSW	ESW	SSW	Floor	
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Nov-06-09 11:30	Nov-06-09 11:40	Nov-06-09 12:00	Nov-06-09 12:15	Nov-06-09 12:30	
BTEX by EPA 8021	<i>Extracted:</i>	Nov-10-09 15:30	Nov-10-09 15:30	Nov-10-09 15:30	Nov-10-09 15:30	Nov-10-09 15:30	
	<i>Analyzed:</i>	Nov-10-09 21:44	Nov-10-09 22:06	Nov-10-09 22:26	Nov-10-09 22:47	Nov-10-09 23:09	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	
Toluene		ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0020	ND 0.0021	
Ethylbenzene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	
m,p-Xylenes		ND 0.0020	ND 0.0020	ND 0.0021	ND 0.0020	ND 0.0021	
o-Xylene		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	
Xylenes, Total		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	
Total BTEX		ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	ND 0.0010	
Percent Moisture	<i>Extracted:</i>						
	<i>Analyzed:</i>	Nov-09-09 17:00	Nov-09-09 17:00	Nov-09-09 17:00	Nov-09-09 17:00	Nov-09-09 17:00	
	<i>Units/RL:</i>	% RL	% RL	% RL	% RL	% RL	
Percent Moisture		1.41 1.00	2.57 1.00	3.11 1.00	ND 1.00	2.81 1.00	
TPH by SW8015 Mod	<i>Extracted:</i>	Nov-09-09 12:30	Nov-09-09 12:30	Nov-09-09 12:30	Nov-09-09 12:30	Nov-09-09 12:30	
	<i>Analyzed:</i>	Nov-10-09 09:49	Nov-10-09 10:15	Nov-10-09 10:41	Nov-10-09 11:06	Nov-10-09 11:32	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 15.2	ND 15.4	ND 15.5	ND 15.0	ND 15.4	
C12-C28 Diesel Range Hydrocarbons		ND 15.2	ND 15.4	ND 15.5	ND 15.0	48.2 15.4	
C28-C35 Oil Range Hydrocarbons		ND 15.2	ND 15.4	ND 15.5	ND 15.0	ND 15.4	
Total TPH		ND 15.2	ND 15.4	ND 15.5	ND 15.0	48.2 15.4	

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 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 otherwise agreed to in writing.

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Brent Barron, II
Odessa Laboratory 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 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
- * 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
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 Lanc, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec 15

Work Orders : 351529,

Project ID: 2009-236

Lab Batch #: 781159

Sample: 542848-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 16:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 781159

Sample: 542848-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 16:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 781159

Sample: 542848-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 17:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 781159

Sample: 351529-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 21:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 781159

Sample: 351529-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 22:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec 15

Work Orders : 351529,

Project ID: 2009-236

Lab Batch #: 781159

Sample: 351529-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 22:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 781159

Sample: 351529-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 22:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 781159

Sample: 351529-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 23:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0317	0.0300	106	80-120	

Lab Batch #: 781159

Sample: 351048-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/09 00:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 781159

Sample: 351048-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/11/09 00:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec 15

Work Orders : 351529,

Project ID: 2009-236

Lab Batch #: 781121

Sample: 542825-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 08:30

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 781121

Sample: 542825-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 08:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	53.7	50.0	107	70-135	

Lab Batch #: 781121

Sample: 542825-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/10/09 09:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	57.4	50.0	115	70-135	

Lab Batch #: 781121

Sample: 351529-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 09:49

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.4	99.7	86	70-135	
o-Terphenyl	51.2	49.9	103	70-135	

Lab Batch #: 781121

Sample: 351529-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 10:15

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.5	99.8	85	70-135	
o-Terphenyl	51.1	49.9	102	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec 15

Work Orders : 351529,

Project ID: 2009-236

Lab Batch #: 781121

Sample: 351529-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 10:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	54.2	50.0	108	70-135	

Lab Batch #: 781121

Sample: 351529-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 11:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.3	100	87	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 781121

Sample: 351529-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 11:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	67.8	50.0	136	70-135	*

Lab Batch #: 781121

Sample: 351529-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 16:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	50.4	50.0	101	70-135	

Lab Batch #: 781121

Sample: 351529-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/10/09 17:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: EK Queen 6" Sec 15

Work Order #: 351529

Analyst: ASA

Date Prepared: 11/10/2009

Project ID: 2009-236

Date Analyzed: 11/10/2009

Lab Batch ID: 781159

Sample: 542848-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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
Analytes											
Benzene	ND	0.1000	0.0969	97	0.1	0.0989	99	2	70-130	35	
Toluene	ND	0.1000	0.0971	97	0.1	0.0989	99	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0962	96	0.1	0.0991	99	3	71-129	35	
m,p-Xylenes	ND	0.2000	0.2098	105	0.2	0.2164	108	3	70-135	35	
o-Xylene	ND	0.1000	0.1015	102	0.1	0.1049	105	3	71-133	35	

Analyst: BEV

Date Prepared: 11/09/2009

Date Analyzed: 11/10/2009

Lab Batch ID: 781121

Sample: 542825-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
C6-C12 Gasoline Range Hydrocarbons	ND	998	931	93	1000	954	95	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	884	89	1000	765	77	14	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: EK Queen 6" Sec 15

Work Order #: 351529

Project ID: 2009-236

Lab Batch ID: 781159

QC- Sample ID: 351048-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/11/2009

Date Prepared: 11/10/2009

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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	ND	0.1107	0.0517	47	0.1107	0.0586	53	13	70-130	35	X
Toluene	ND	0.1107	0.0544	49	0.1107	0.0619	56	13	70-130	35	X
Ethylbenzene	ND	0.1107	0.0540	49	0.1107	0.0619	56	14	71-129	35	X
m,p-Xylenes	ND	0.2214	0.1161	52	0.2214	0.1340	61	14	70-135	35	X
o-Xylene	ND	0.1107	0.0562	51	0.1107	0.0647	58	14	71-133	35	X

Lab Batch ID: 781121

QC- Sample ID: 351529-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/10/2009

Date Prepared: 11/09/2009

Analyst: BEV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1010	936	93	1010	956	95	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1010	958	95	1010	765	76	22	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: EK Queen 6" Sec 15

Work Order #: 351529

Lab Batch #: 780907

Project ID: 2009-236

Date Analyzed: 11/09/2009

Date Prepared: 11/09/2009

Analyst: LATCOR

QC- Sample ID: 351515-001 D

Batch #: 1

Matrix: Solid

Reporting Units: %

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

Lab Batch #: 780910

Date Prepared: 11/09/2009

Analyst: LATCOR

Date Analyzed: 11/09/2009

QC- Sample ID: 351529-004 D

Batch #: 1

Matrix: Soil

Reporting Units: %

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

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

The Environmental Lab of Texas

**12600 West I-20 East
Odessa, Texas 79765**

Fax: 432-563-1713

Company Name

Company Address:

City/State/Zip:

Telephone No:

Sampler Signature:

Fax No:

e-mail:

Project Name:

Project #:**Project Loc:**

PO #:

Report Format:

Standard

☐ TRRP

NPDES

[illegible]

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. / Agins

Date/ Time: 11.6.09 16:45

Lab ID #: 351529

Initials: AL

Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<u>(Yes)</u>	No	<u>4.10 °C</u>	
#2	Shipping container in good condition?	<u>(Yes)</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>(Not Present)</u>	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>(Yes)</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>(Yes)</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>(Yes)</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>(Yes)</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>(Yes)</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>(Yes)</u>	No		
#11	Containers supplied by ELOT?	<u>(Yes)</u>	No		
#12	Samples in proper container/ bottle?	<u>(Yes)</u>	No	See Below	
#13	Samples properly preserved?	<u>(Yes)</u>	No	See Below	
#14	Sample bottles intact?	<u>(Yes)</u>	No		
#15	Preservations documented on Chain of Custody?	<u>(Yes)</u>	No		
#16	Containers documented on Chain of Custody?	<u>(Yes)</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>(Yes)</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>(Yes)</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<u>(Not Applicable)</u>	
#20	VOC samples have zero headspace?	<u>(Yes)</u>	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken:

- Check all that Apply:
- ☐ See attached e-mail/ fax
 - ☐ Client understands and would like to proceed with analysis
 - ☐ Cooling process had begun shortly after sampling event

Analytical Report 350994
for
PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

EK Queen 6" Sec. 15

2009-236

17-NOV-09



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),

South Carolina(96031001), Louisiana(04154), Georgia(917)



17-NOV-09

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

Reference: XENCO Report No: **350994**
EK Queen 6" Sec. 15
Project Address: Lea County, NM

Jason Henry:

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 350994. 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. 350994 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 350994



PLAINS ALL AMERICAN EH&S, Midland, TX

EK Queen 6" Sec. 15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Stockpile Baseline	S	Nov-04-09 13:20		350994-001



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: EK Queen 6" Sec. 15

Project ID: 2009-236

Work Order Number: 350994

Report Date: 17-NOV-09

Date Received: 11/05/2009

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-780678 Percent Moisture

None

Batch: LBA-780695 TPH by SW8015 Mod

SW8015MOD_NM

Batch 780695, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike.

Samples affected are: 350994-001.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

Batch: LBA-781996 BTEX by EPA 8021

SW8021BM

Batch 781996, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 350994-001.

The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 781996, 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; Data confirmed by re-analysis

Samples affected are: 352148-001 S. 350994-001



Certificate of Analysis Summary 350994

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: EK Queen 6" Sec. 15



Project Id: 2009-236

Contact: Jason Henry

Project Location: Lea County, NM

Date Received in Lab: Thu Nov-05-09 08:39 am


Report Date: 17-NOV-09

Project Manager: Brent Barron, II

Analysis Requested	Lab Id: 350994-001 Field Id: Stockpile Baseline Depth: Matrix: SOIL Sampled: Nov-04-09 13:20					
BTEX by EPA 8021	Extracted: Nov-16-09 16:00 Analyzed: Nov-16-09 21:12 Units/RL: mg/kg RL					
Benzene	ND 0.0010					
Toluene	0.0031 0.0021					
Ethylbenzene	0.0069 0.0010					
m,p-Xylenes	0.0646 0.0021					
o-Xylene	0.0973 0.0010					
Xylenes, Total	0.1619 0.0010					
Total BTEX	0.1719 0.0010					
Percent Moisture	Extracted: Analyzed: Nov-05-09 17:00 Units/RL: % RL					
Percent Moisture	4.38 1.00					
TPH by SW8015 Mod	Extracted: Nov-06-09 10:45 Analyzed: Nov-06-09 17:17 Units/RL: mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons	189 15.6					
C12-C28 Diesel Range Hydrocarbons	777 15.6					
C28-C35 Oil Range Hydrocarbons	BRL 15.6					
Total TPH	966 15.6					

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 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 otherwise agreed to in writing.

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Brent Barron, II
Odessa Laboratory 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 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
- * Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec. 15

Work Orders : 350994,

Project ID: 2009-236

Lab Batch #: 781996

Sample: 543363-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/16/09 16:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 781996

Sample: 543363-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/16/09 17:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 781996

Sample: 543363-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/16/09 18:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 781996

Sample: 350994-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/16/09 21:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0256	0.0300	85	80-120	
4-Bromofluorobenzene	0.0394	0.0300	131	80-120	**

Lab Batch #: 781996

Sample: 352148-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/16/09 21:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0394	0.0300	131	80-120	**

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec. 15

Work Orders : 350994,

Project ID: 2009-236

Lab Batch #: 781996

Sample: 352148-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/16/09 22:15

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 780695

Sample: 542589-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/09 15:10

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	46.7	49.9	94	70-135	

Lab Batch #: 780695

Sample: 542589-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/09 15:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	114	99.6	114	70-135	
o-Terphenyl	45.0	49.8	90	70-135	

Lab Batch #: 780695

Sample: 542589-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/06/09 16:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	93.5	100	94	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 780695

Sample: 350994-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/06/09 17:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	99.5	99.5	100	70-135	
o-Terphenyl	52.0	49.8	104	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: EK Queen 6" Sec. 15

Work Orders : 350994,

Project ID: 2009-236

Lab Batch #: 780695

Sample: 351052-001 S / MS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/07/09 00:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.7	115	70-135	
o-Terphenyl	48.2	49.9	97	70-135	

Lab Batch #: 780695

Sample: 351052-001 SD / MSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/07/09 00:50

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.9	117	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: EK Queen 6" Sec. 15

Work Order #: 350994

Analyst: ASA

Date Prepared: 11/16/2009

Project ID: 2009-236

Date Analyzed: 11/16/2009

Lab Batch ID: 781996

Sample: 543363-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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
Analytes											
Benzene	ND	0.1000	0.0978	98	0.1	0.0958	96	2	70-130	35	
Toluene	ND	0.1000	0.0981	98	0.1	0.0959	96	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0969	97	0.1	0.0953	95	2	71-129	35	
m,p-Xylenes	ND	0.2000	0.2108	105	0.2	0.2074	104	2	70-135	35	
o-Xylene	ND	0.1000	0.1022	102	0.1	0.1021	102	0	71-133	35	

Analyst: BEV

Date Prepared: 11/06/2009

Date Analyzed: 11/06/2009

Lab Batch ID: 780695

Sample: 542589-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	967	97	996	976	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	984	99	996	928	93	6	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: EK Queen 6" Sec. 15

Work Order #: 350994

Project ID: 2009-236

Lab Batch ID: 781996

QC- Sample ID: 352148-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/16/2009

Date Prepared: 11/16/2009

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 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	ND	0.1048	0.0513	49	0.1048	0.0629	60	20	70-130	35	X
Toluene	ND	0.1048	0.0533	51	0.1048	0.0660	63	21	70-130	35	X
Ethylbenzene	ND	0.1048	0.0524	50	0.1048	0.0647	62	21	71-129	35	X
m,p-Xylenes	ND	0.2097	0.1097	52	0.2097	0.1373	65	22	70-135	35	X
o-Xylene	ND	0.1048	0.0572	55	0.1048	0.0664	63	15	71-133	35	X

Lab Batch ID: 780695

QC- Sample ID: 351052-001 S

Batch #: 1 Matrix: Solid

Date Analyzed: 11/07/2009

Date Prepared: 11/06/2009

Analyst: BEV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<25.0	997	996	100	999	1020	102	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	53.2	997	743	69	999	756	70	2	70-135	35	X

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: EK Queen 6" Sec. 15

Work Order #: 350994

Lab Batch #: 780678

Project ID: 2009-236

Date Analyzed: 11/05/2009

Date Prepared: 11/05/2009

Analyst: WRU

QC- Sample ID: 350993-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	5.40	5.24	3	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$

All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**12600 West I-20 East
Odessa, Texas 79765**

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

Project Manager: Camille Bryant

Project Name: EK Queen 6 " Sec. 15

Company Name **Basin Environmental Consulting, LLC**

Project #: 2009-236

Company Address: P.O. Box 381

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA- J. Henry

Telephone No: (575) 605-7210

Fax No: (505) 396-1429

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:

e-mail: cjbryant@basin-consulting.com

[illegible]

```
w/label as seen
```

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin / Plains

Date/ Time: 11/05/09 8:39

Lab ID #: 350994

Initials: gma

Sample Receipt Checklist

Client Initials

#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>4.6</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELOT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
☐ Client understands and would like to proceed with analysis
☐ Cooling process had begun shortly after sampling event

Jeanne Fitch

From: Curt D Stanley [cstanley@basinenv.com]
Sent: Wednesday, November 11, 2009 4:19 PM
To: Jeanne Fitch
Subject: Re: WO# 350994 EK Queen 6" Sec 15
Jeanne

Please run BTEX by 8021b on this sample.

Thanks,
Curt


----- Original Message -----

From: Jeanne Fitch
To: 'Camille J. Bryant', 'Curt D. Stanley'
Cc: jhenry@paalp.com
Sent: Tuesday, November 10, 2009 7:47 AM
Subject: Re: WO# 350994 EK Queen 6" Sec. 15

Thank You,

Jeanne Fitch

Environmental Lab of Texas
a Xenco Company
12600 West I-20 East
Odessa, TX 79765
(432) 563-1800 ext. 1701

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11/11/2009

Analytical Report 360731
for
PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

E.K. Queen 6" Sec 15
2009-236

04-FEB-10



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-08-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 (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)

Xenco-Boca Raton (EPA Lab Code: FL00449): Florida (E86240),

South Carolina (96031001), Louisiana (04154), Georgia (917)



04-FEB-10

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

Reference: XENCO Report No: **360731**
E.K. Queen 6" Sec 15
Project Address: Lea Co., NM

Jason Henry:

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 360731. 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. 360731 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

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Sample Cross Reference 360731



PLAINS ALL AMERICAN EH&S, Midland, TX
E.K. Queen 6" Sec 15

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1	S	Feb-01-10 14:30		360731-001



CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: E.K. Queen 6" Sec 15

Project ID: 2009-236

Work Order Number: 360731

Report Date: 04-FEB-10

Date Received: 02/02/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-792080 TPH by SW8015 Mod
SW8015MOD_NM

Batch 792080, C12-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 360731-001.

The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

SW8015MOD_NM

Batch 792080, C28-C35 Oil Range Hydrocarbons RPD was outside QC limits.

Samples affected are: 360731-001

Batch: LBA-792089 Percent Moisture

None

Batch: LBA-792290 BTEX by EPA 8021

SW8021BM

Batch 792290, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data not confirmed by re-analysis

Samples affected are: 360731-001.

SW8021BM

Batch 792290, Benzene, Toluene, Ethylbenzene, m,p-Xylenes , o-Xylene RPD is outside the QC limit. This is most likely due to sample non-homogeneity.

Samples affected are: 360731-001.



Certificate of Analysis Summary 360731

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: E.K. Queen 6" Sec 15



Project Id: 2009-236

Contact: Jason Henry

Project Location: Lea Co., NM

Date Received in Lab: Tue Feb-02-10 10:30 am

Report Date: 04-FEB-10

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	360731-001				
	Field Id:	SP-1				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Feb-01-10 14:30				
BTEX by EPA 8021	Extracted:	Feb-03-10 13:45				
	Analyzed:	Feb-03-10 16:09				
	Units/RL:	mg/kg RL				
Benzene		ND 0.0011				
Toluene		ND 0.0022				
Ethylbenzene		0.0086 0.0011				
m,p-Xylenes		ND 0.0022				
o-Xylene		0.0047 0.0011				
Xylenes, Total		0.0047 0.0011				
Total BTEX		0.0133 0.0011				
Percent Moisture	Extracted:					
	Analyzed:	Feb-02-10 17:00				
	Units/RL:	% RL				
Percent Moisture		10.4 1.00				
TPH by SW8015 Mod	Extracted:	Feb-02-10 10:45				
	Analyzed:	Feb-02-10 18:06				
	Units/RL:	mg/kg RL				
C6-C12 Gasoline Range Hydrocarbons		21.1 16.7				
C12-C28 Diesel Range Hydrocarbons		228 16.7				
C28-C35 Oil Range Hydrocarbons		19.2 16.7				
Total TPH		268 16.7				

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 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 otherwise agreed to in writing.

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Brent Barron, II
Odessa Laboratory Manager

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
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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: E.K. Queen 6" Sec 15

Work Orders : 360731,

Project ID: 2009-236

Lab Batch #: 792290

Sample: 549319-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/03/10 14:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 792290

Sample: 549319-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/03/10 14:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 792290

Sample: 549319-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/03/10 15:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 792290

Sample: 360731-001 / MD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/03/10 16:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0381	0.0300	127	80-120	*

Lab Batch #: 792290

Sample: 360365-001 D / MD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/03/10 18:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0252	0.0300	84	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Sec 15

Work Orders : 360731,

Project ID: 2009-236

Lab Batch #: 792080

Sample: 549231-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/02/10 14:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	94.7	99.8	95	70-135	
o-Terphenyl	45.2	49.9	91	70-135	

Lab Batch #: 792080

Sample: 549231-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/02/10 15:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.1	99.7	97	70-135	
o-Terphenyl	45.5	49.9	91	70-135	

Lab Batch #: 792080

Sample: 549231-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/02/10 15:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	49.2	50.0	98	70-135	

Lab Batch #: 792080

Sample: 360731-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/02/10 18:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	84.4	99.8	85	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 792080

Sample: 360731-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/03/10 11:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	96.8	100	97	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: E.K. Queen 6" Sec 15

Work Orders : 360731,

Project ID: 2009-236

Lab Batch #: 792080

Sample: 360731-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/03/10 12:12

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	99.6	97	70-135	
o-Terphenyl	44.5	49.8	89	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: E.K. Queen 6" Sec 15

Work Order #: 360731

Analyst: ASA

Date Prepared: 02/03/2010

Project ID: 2009-236

Date Analyzed: 02/03/2010

Lab Batch ID: 792290

Sample: 549319-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021	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
Analytes											
Benzene	ND	0.1000	0.1092	109	0.1	0.1051	105	4	70-130	35	
Toluene	ND	0.1000	0.1080	108	0.1	0.1040	104	4	70-130	35	
Ethylbenzene	ND	0.1000	0.1091	109	0.1	0.1045	105	4	71-129	35	
m,p-Xylenes	ND	0.2000	0.2141	107	0.2	0.2045	102	5	70-135	35	
o-Xylene	ND	0.1000	0.1054	105	0.1	0.1011	101	4	71-133	35	

Analyst: BEV

Date Prepared: 02/02/2010

Date Analyzed: 02/02/2010

Lab Batch ID: 792080

Sample: 549231-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
C6-C12 Gasoline Range Hydrocarbons	ND	998	808	81	997	845	85	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	998	805	81	997	835	84	4	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: E.K. Queen 6" Sec 15

Work Order #: 360731

Project ID: 2009-236

Lab Batch ID: 792080

QC- Sample ID: 360731-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/03/2010

Date Prepared: 02/02/2010

Analyst: BEV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	21.1	1120	956	83	1110	953	84	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	228	1120	873	58	1110	990	69	13	70-135	35	X

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not
ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



Project Name: E.K. Queen 6" Sec 15

Work Order #: 360731

Lab Batch #: 792290

Project ID: 2009-236

Date Analyzed: 02/03/2010

Date Prepared: 02/03/2010

Analyst: ASA

QC- Sample ID: 360365-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
BTEX by EPA 8021	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Benzene	ND	0.0013	NC	35	
Toluene	ND	0.0036	NC	35	
Ethylbenzene	ND	0.0022	NC	35	
m,p-Xylenes	ND	0.0030	NC	35	
o-Xylene	ND	0.0015	NC	35	

Lab Batch #: 792089

Date Prepared: 02/02/2010

Analyst: JLG

Date Analyzed: 02/02/2010

QC- Sample ID: 360722-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.18	8.10	1	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

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**12600 West I-20 East
Odessa, Texas 79765**

Phone: 432-563-1800

Fax: 432-563-1713

Project Manager:

Company Name

Company Address:

City/State/Zip:

Telephone No:

Sampler Signature:

Fax No:

e-mail:

Project Name:

Project #:**Project Loc:**

PO #:

Report Format:

TRRP

NPDES

[illegible]

Environmental Lab of Texas
Variance/ Corrective Action Report- Sample Log-In

Client: Plains/ Basin Env.
 Date/ Time: 02-02-10 @ 1030
 Lab ID #: 300731
 Initials: JMF

Sample Receipt Checklist

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	3.6 °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container/ label	<u>Yes</u>	No	Not Present	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELOT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<u>Yes</u>	No	Not Applicable	

Variance Documentation

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

Corrective Action Taken:

Check all that Apply:

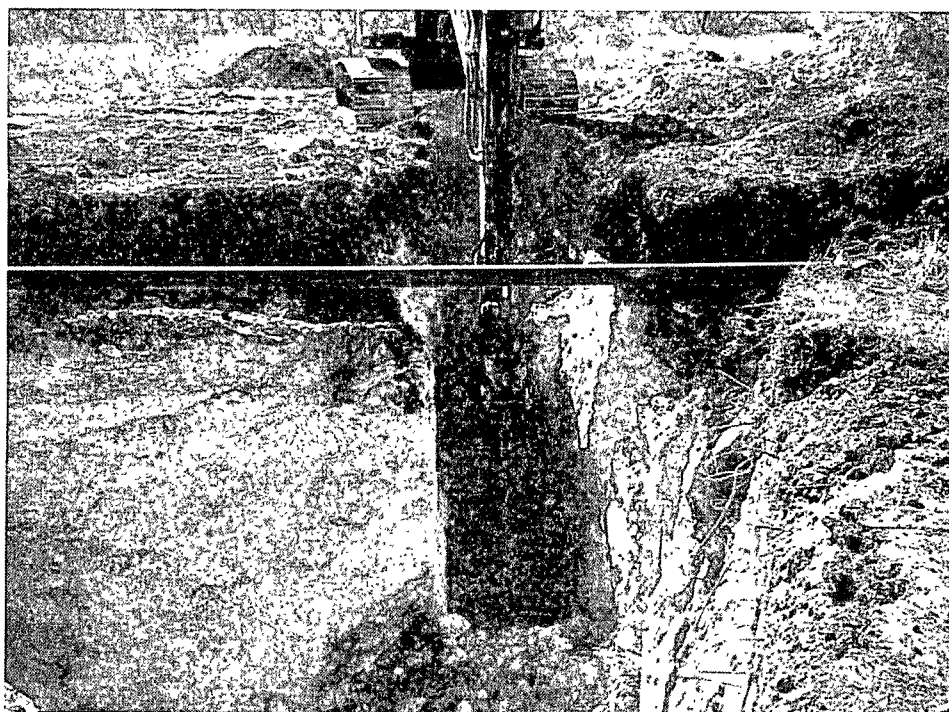
- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Appendix B

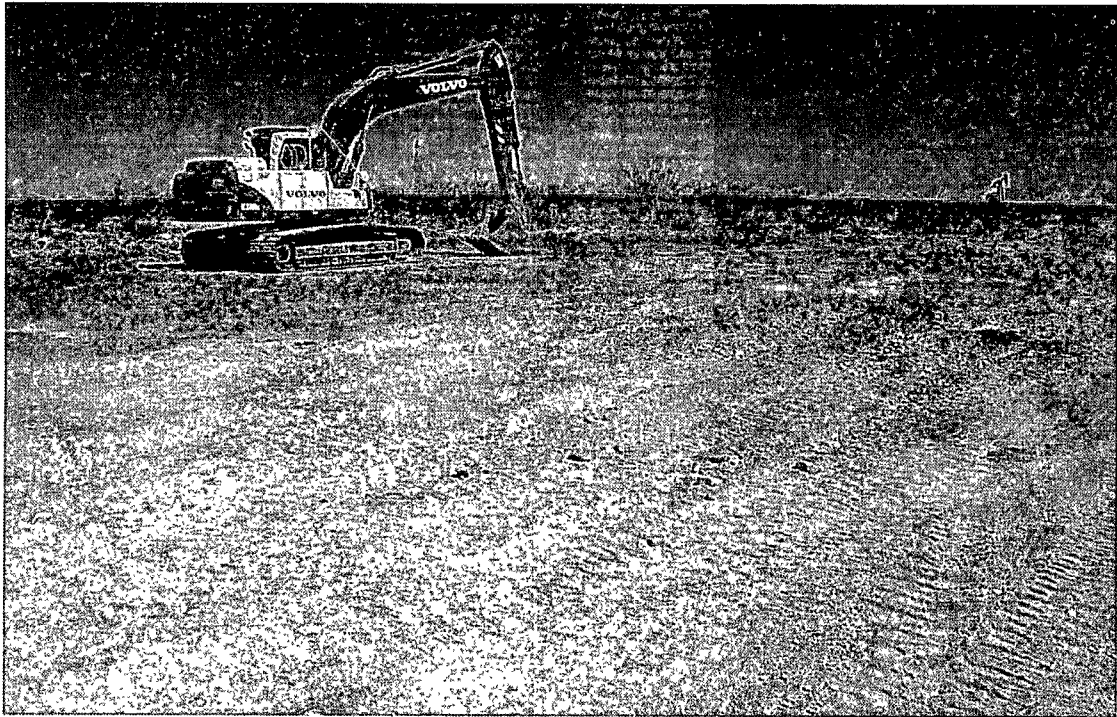
Photographs



EK Queen 6-Inch Sec. 15 excavation, looking north



EK Queen 6-Inch Sec. 15 excavation



EK Queen 6-Inch Remediation Activities Completed

Appendix C
Release Notification and Corrective Action
(Form C-141)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Plains Pipeline, LP	Contact	Jason Henry
Address	2530 Hwy 214 - Denver City, Tx 79323	Telephone No.	(575) 441-1099
Facility Name	EK Queen 6-inch Sec. 15	Facility Type	Pipeline

Surface Owner	NMSLO	Mineral Owner		Lease No.	
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	15	18S	34E					Lea

Latitude N 32.74821 Longitude W 103.5447

NATURE OF RELEASE

Type of Release	Crude Oil	Volume of Release	15 bbls	Volume Recovered	0 bbls
Source of Release	6" Steel Pipeline	Date and Hour of Occurrence	10/19/2009	Date and Hour of Discovery	10/19/2009 14:45
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	Larry Johnson on 11/09/2009 (release originally estimated 2 bbls, revised volume on 11/09/2009)		
By Whom?	Jason Henry	Date and Hour	11/09/2009 @ 1000		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse			

If a Watercourse was Impacted, Describe Fully.*

NOV 09 2009
HOBBS, NM

Describe Cause of Problem and Remedial Action Taken.*

Internal corrosion of a 6-inch pipeline caused a release of crude oil. Throughput for the subject line is approximately 470 bbls/day and the operating pressure is 100 psi. The depth of the pipeline at the release point is approximately 2' bgs. The H2S concentration in the crude is less than 10 ppm and the gravity of the crude is 40.

Describe Area Affected and Cleanup Action Taken.*

The released crude resulted in a surface stain that measured approximately 5' x 5'. The impacted area will be remediated per applicable guidelines.

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: <i>Jason Henry</i>	OIL CONSERVATION DIVISION	
Printed Name: Jason Henry	Approved by District Supervisor: <i>[Signature]</i> ENVIRONMENTAL ENGINEER	
Title: Remediation Coordinator	Approval Date: 11-9-09	Expiration Date: 2-1-10
E-mail Address: jhenry@paalp.com	Conditions of Approval:	
Date: 11-09-2009	Phone: (575) 441-1099	Submit Final C-141 By: <i>[Signature]</i> IRP 09.11.2335

* Attach Additional Sheets If Necessary