Basin Environmental Consulting, LLC

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Effective Solutions

LJ approved 2/25/10

REMEDIATION SUMMARY

AND

SITE CLOSURE PROPOSAL

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-2336

Prepared For:

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

RECEIVED
Feb 25 2010
HOBBSOCD

Prepared By:
Basin Environmental Consulting, LLC

February 2010

Curt D. Stanley
Project Manager

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APPENDICES

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# 2009-251). 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 in 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.

4.0 PROPOSED ACTIONS

Plains proposes to backfill the excavation with the blended soil located on site. Following the backfill activities, the site will be contoured to match the surrounding topography. Following completion of restoration activities, the site will be seeded with vegetation specified by the NMSLO.

5.0 REPORTING

Upon review and approval of this proposal by the NMOCD, Plains is prepared to begin field activities and perform the final corrective actions summarized in this Remediation Summary and Site Closure Proposal. Upon completion of the field activities summarized in this proposal, Plains will submit a Site Closure Request to the NMOCD, documenting the results of confirmation soil samples, and final topography restoration activities.

6.0 QA/QC PROCEDURES

6.1 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

6.2 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.

6.3 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.

7.0 LIMITATIONS

Basin Environmental Consulting, LLC has prepared this Remediation Summary and Site Closure Proposal 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.

8.0 DISTRIBUTION:

Copy 1: Larry Johnson
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jhenry@paalp.com

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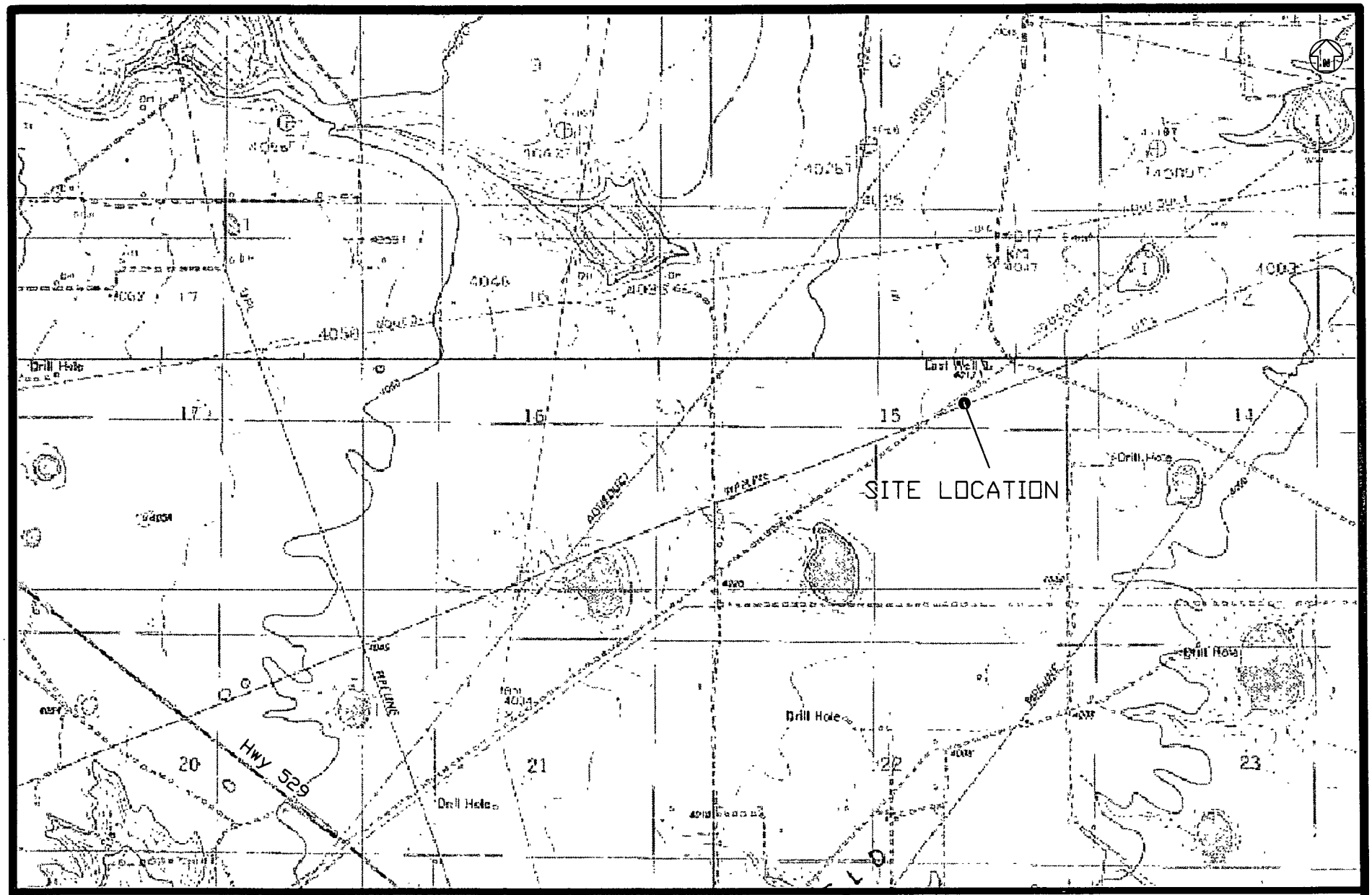
cdstanley@basin-consulting.com

Figures



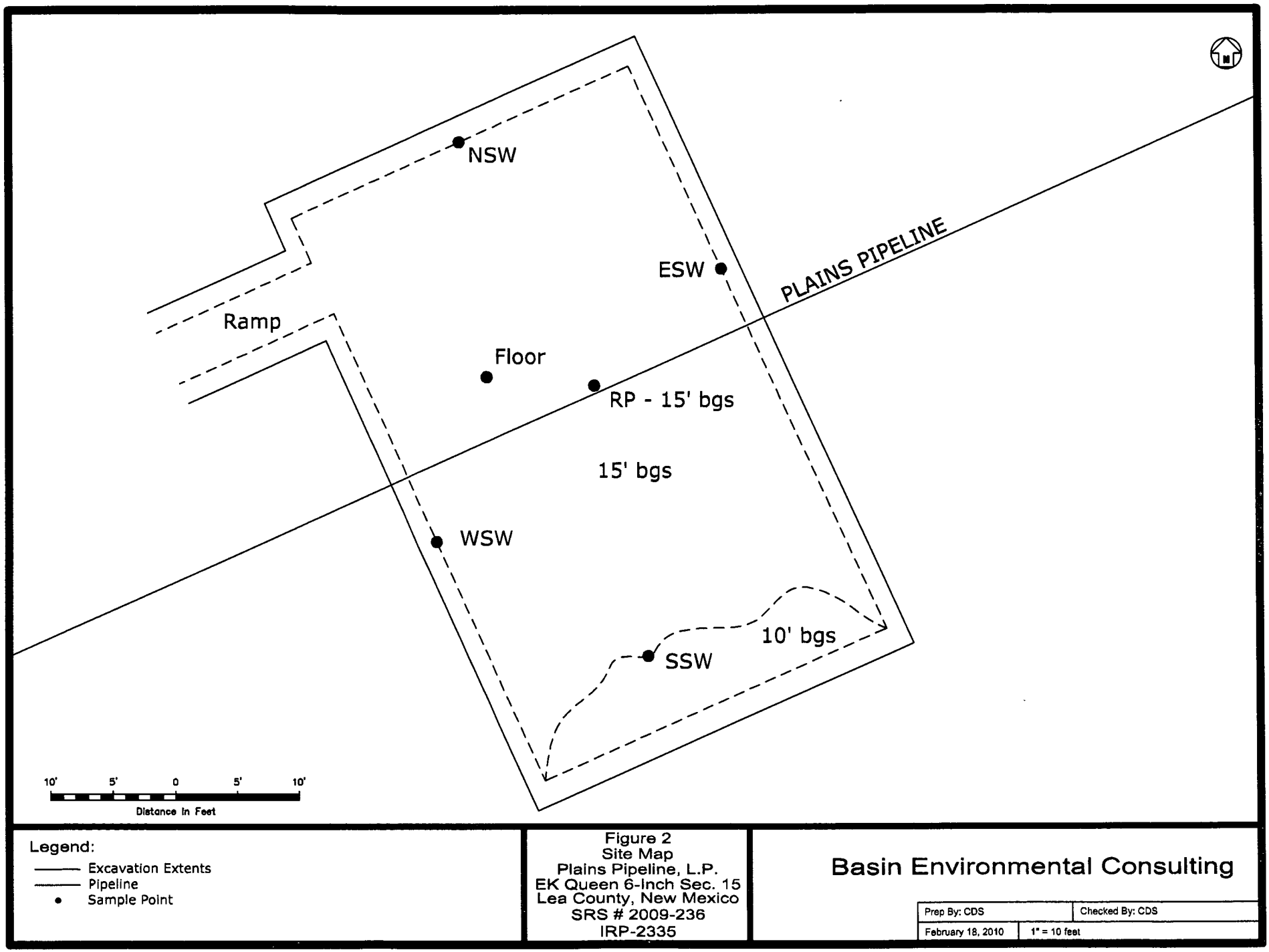
2000 1000 0 1000 2000

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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-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

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

XENCO Laboratories

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				

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.

XENCO Laboratories

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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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.

XENCO Laboratories

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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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.

Version 1.008

XENCO Laboratories

BS / BSD Recoveries

Project Name: EK Queen 6" Sec. 15

Work Order #: 350751
Analyst: BEV
Lab Batch ID: 780329
Sample: 542375-1-BKS
Units: mg/kg

Date Prepared: 11/04/2009
Batch #: 1

Project ID: 2009-236
Date Analyzed: 11/04/2009
Matrix: Solid

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

Version: 1.008

XENCO Laboratories

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 ApplicableN = 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: %

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

Version 1.008

Final Ver. 1.000

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: CURT STANLEY
Company Name: BASIN ENVIRONMENTAL
Company Address: 2800 PLAINS HWY
City/State/Zip: LOVINGTON, NM 88260
Telephone No: 575-441-2244 Fax No: 575-396-1429
Sampler Signature: CURT STANLEY/WALTERS e-mail: cdstanley@basin-consulting.com

Project Name: EK QUEEN 6 SECT. 15
Project #: 2009-236
Project Loc: LEA CO, NM
PO #: AAA - J HENRY
Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 350751

Analyze For:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TCLP: TPH 418.1 / 8015M	TPH TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	RP-15' Bgs			10/30/09	1430		1	X								Soil	X								X				

Special Instructions:

Relinquished by:	Date	Time	Received by	Date	Time
	11/3/09	1022			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Dunn	11-3-09	10:22

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?		N
Labels on container(s)		N
Custody seals on container(s)		N
Custody seals on cooler(s)		N
Sample Hand Delivered		N
by Sampler/Client Rep ?		N

by Courier? UPS DHL FedEx Lone Star
402 glass
Temperature Upon Receipt: 1.1 °C

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

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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-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)

XENCO Laboratories

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

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*	*Report Date:*	*12-NOV-09*
Work Order Number:	*351529*	*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

Analysis Requested											
	Lab Id:	351529-001		351529-002		351529-003		351529-004		351529-005	
	Field Id:	WSW		NSW		ESW		SSW		Floor	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	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	*Extracted:*	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	
	Analyzed:	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	
	Units/RL:	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	*Extracted:*										
	Analyzed:	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	
	Units/RL:	%	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	*Extracted:*	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	
	Analyzed:	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	
	Units/RL:	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

Brent Barron, II
Odessa Laboratory Manager

Final Ver. 1.000

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

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

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

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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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.

XENCO Laboratories

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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

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

XENCO Laboratories

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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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.

XENCO Laboratories

BS / BSD Recoveries

Project Name: EK Queen 6" Sec 15

Work Order #: 351529 **Project ID:** 2009-236

Analyst: ASA **Date Prepared:** 11/10/2009 **Date Analyzed:** 11/10/2009

Lab Batch ID: 781159 **Sample:** 542848-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	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

TPH by SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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	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

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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

TPH by SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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 ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

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: %

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

Lab Batch #: 780910

Date Analyzed: 11/09/2009 **Date Prepared:** 11/09/2009 **Analyst:** LATCOR

QC- Sample ID: 351529-004 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

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

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: CURT STANLEY
Company Name: BASIN ENVIRONMENTAL
Company Address: 2800 PLAINS HWY
City/State/Zip: LOVINGTON, NM 88260
Telephone No: 575-396-2244 Fax No:
Sampler Signature: Curtis for C. Reynolds e-mail:

Project Name: EK QUEEN 6" SEC 15
Project #: 2009-236
Project Loc: LEA CO, NM
PO #: PAA - S HENRY
Report Format: ☐ Standard ☐ TRRP ☐ NPDES

(lab use only)
ORDER #: 351529

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: 8015B	TOTAL: 8015M	TPH: 418.1	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	WSW			11/6/2009	1130		1	X								SOIL			X								X				X
02	NSW				1140		1	X								SOIL																
03	ESW				1200		1	X								SOIL																
04	SSW				1215		1	X								SOIL																
05	FLOOR				1230		1	X								SOIL																

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	11/6/09	1645			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Sam	Date: 11.6.09	Time: 16:45

Laboratory Comments:

VOCs Free of Headspace? Y N
Custody seals on container(s) Y N
Sample Hand Delivered by Sampler/Client Rep.? Y N
by Courier? UPS DHL FedEx Lone Star
UPS 9029455
Temperature Upon Receipt: 4.6 °C

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin Env. / Plains

Date/ Time: 11.6.09 16:45

Lab ID # : 351529

Initials: AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4.1o °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-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

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

XENCO Laboratories

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: EK Queen 6" Sec. 15

Project ID: 2009-236 | *Report Date:* 17-NOV-09
Work Order Number: 350994 | *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				

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.

XENCO Laboratories

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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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.

XENCO Laboratories

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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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

XENCO Laboratories

BS / BSD Recoveries

Project Name: EK Queen 6" Sec. 15

Work Order #: 350994 **Project ID:** 2009-236

Analyst: ASA **Date Prepared:** 11/16/2009 **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 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	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 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	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

XENCO Laboratories

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

BTEX by EPA 8021 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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

TPH by SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	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*(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

XENCO Laboratories

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: %

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

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: Camille Bryant
Company Name: Basin Environmenatal Consulting, LLC
Company Address: P.O. Box 381
City/State/Zip: Lovington, NM 88260
Telephone No: (575) 605-7210 Fax No: (505) 396-1429
Sampler Signature: C. D. Stanley e-mail: cjbryant@basin-consulting.com

Project Name: EK Queen 6 " Sec. 15
Project #: 2009-236
Project Loc: Lea County, NM
PO #: PAA- J. Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 350994

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW - Drinking Water SL - Sludge / GW - Groundwater S - Soil/Solid / NP - Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT 4 DAY
01	Stockpile Baseline			11/4/09	1320		1	X								SOIL	X												X

Special Instructions:

Laboratory Comments: ice & C.

Relinquished by: C. D. Stanley	11/5/09	0839	Received by:		
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jaime Valdez	11/05/09	8:39

Sample Containers intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) Y N
Custody seals intact on container(s) Y N
Sample Hand Delivered by Sampler/Client Rep.? Y N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 4.4 °C

will label as Sed

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Basin | Plains

Date/ Time: 11/05/09 8:35

Lab ID # : 350994

Initials: QMA

Sample Receipt Checklist

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

Please consider the environment before printing this email.

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 (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-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

XENCO Laboratories

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

XENCO Laboratories

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: E.K. Queen 6" Sec 15

Project ID: 2009-236 *Report Date:* 04-FEB-10
Work Order Number: 360731 *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				

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.

XENCO Laboratories

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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/10 16:09

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
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.

XENCO Laboratories

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

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY 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 **Project ID:** 2009-236

Analyst: ASA **Date Prepared:** 02/03/2010 **Date Analyzed:** 02/03/2010

Lab Batch ID: 792290 **Sample:** 549319-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	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

TPH by SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
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	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

XENCO Laboratories

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

XENCO Laboratories

Sample Duplicate Recovery

ACCREDITED IN ACCORDANCE WITH nelac

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

BTEX by EPA 8021	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
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 Analyzed: 02/02/2010 **Date Prepared:** 02/02/2010 **Analyst:** JLG

QC- Sample ID: 360722-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: CURT STANLEY
Company Name: BASIN ENVIRONMENTAL
Company Address: 2800 PLAINS HWY
City/State/Zip: LOVINGTON, NM 88260
Telephone No: 575-441-2244 Fax No: 575-396-1429
Sampler Signature:

Project Name: E.K. QUEEN 6" SEC 15
Project #: 2009-236
Project Loc: LEA CO, NM
PO #: PAA - J. HENLEY
Report Format: [X] Standard [ ] TRRP [ ] NPDES
e-mail:

(lab use only)
ORDER #: 360731

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH 418.1	8015M	8015B	TPH TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se (TCLP / TOTAL)	Volatiles	Semivolatiles	BTEX 8021B	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SP-1			2/1	1430		1	X								SOIL	X											X				X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
	2/2/10	1030			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jaime Fitch	Date 02-02-10	Time 1030

Laboratory Comments:

Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
Labels on container(s)? Y N
Custody seals on container(s) N/A Y N
Custody seals on cooler(s)? Y N
Sample Hand Delivered by Sampler/Client Rep.? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3.6 °C

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Final Ver. 1.000

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Plains/Basin Env.

Date/ Time: 02-02-10 @ 1030

Lab ID #: 360731

Initials: JMF

Sample Receipt Checklist

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

Variance Documentation

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

Regarding: _____

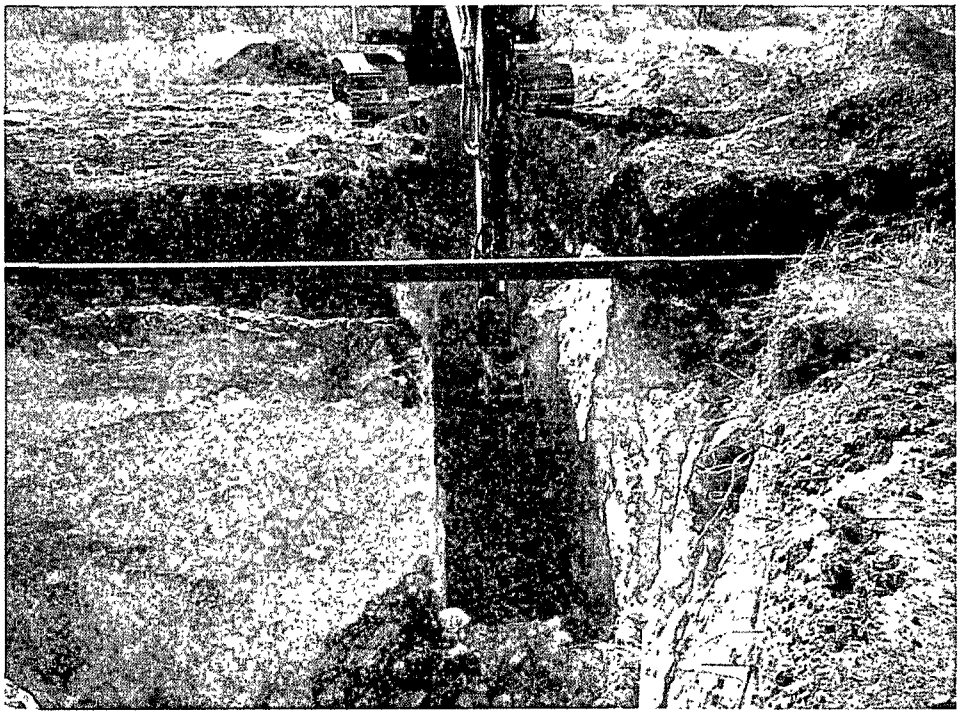
Corrective Action Taken:

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

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.

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

WTR 115'

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? ☐ Yes ☐ No ☒ **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? ☐ Yes ☒ **No**	If YES, Volume Impacting the Watercourse.	

RECEIVED
NOV 09 2009
HOBBSOCD

If a Watercourse was Impacted, Describe Fully.*

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: Jason Henry	OIL CONSERVATION DIVISION
Printed Name: **Jason Henry**	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: **Remediation Coordinator**	Approval Date: 11.9.09 Expiration Date: 2.1.10
E-mail Address: **jhenry@paalp.com**	Conditions of Approval: Submit Final C-141 By Attached ☐ IRP 09.11.2335
Date: 11-09-2009 Phone: **(575) 441-1099**	

* Attach Additional Sheets If Necessary