1R - 2162

Annual GW Mon. Report

Year: 2011

Basin Environmental Service Technologies, LLC

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

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2011 ANNUAL MONITORING REPORT
&
SOIL CLOSURE REQUEST

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

14-INCH VAC TO JAL LEGACY
Lea County, New Mexico
Plains SRS # 2009-092
UNIT LTR "F" (SE ¼ /NW ¼), Section 25, Township 25 South, Range 37 East
Latitude 32° 06' 10.7" North, Longitude 103° 07' 10.3" West
NMOCD Reference # 1RP-2162

Prepared For:

PLAINS

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

Prepared By:

Basin Environmental Service Technologies, LLC
P. O. Box 301
Lovington, New Mexico 88260

March 2012

Ben J. Arguijo
Project Manager

PLAINS
ALL AMERICAN

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APR 2 2012

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

March 29, 2012

Mr. Edward Hansen
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Plains All American – 2011 Annual Monitoring Reports
5 Sites in Lea County, New Mexico
1 Site in Eddy County, New Mexico

Dear Mr. Hansen:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

Lovington Gathering WTI	AP-96 (1R-838)	Section 06, T17S, R37E, Lea County
Red Byrd #1	1R-0085	Section 01, T20S, R36E, Lea County
DCP Plant to Lea Sta. 6" #2	1R-2136	Section 31, T20S, R37E, Lea County
DCP Plant to Lea Sta. 6" Sec.31	1R-2166	Section 31, T20S, R37E, Lea County
14" Vac to Jal Legacy	1R-2162	Section 25, T22S, R37E, Lea County
Ballard Grayburg 5-Inch	2R-0053	Section 10, T18S, R29E, Eddy County

Basin Environmental Service Technologies, LLC (Basin) prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed Basin personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely,

Jason Henry
Remediation Coordinator
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM
Enclosures

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INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Plains Pipeline, LP (Plains), is pleased to submit this *Annual Monitoring Report* in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1st of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2011 only. For reference, a "Site Location Map" is provided as Figure 1.

Groundwater monitoring was conducted during the first, third, and fourth quarters of 2011 to assess the levels and extent of dissolved phase constituents and Phase-Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor well(s), checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge.

SITE DESCRIPTION AND BACKGROUND INFORMATION

The legal description of the 14-Inch Vac to Jal release site is Unit Letter "F" (SE/NW), Section 25, Township 25 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32° 06' 10.7" North latitude and 103° 07' 10.3" West longitude.

On April 9, 2009, Plains discovered a crude oil release from a fourteen-inch (14") steel pipeline. The cause of the release was attributed to external corrosion of the pipeline. The release was reported to the New Mexico Oil Conservation Division (NMOCD) on April 9, 2009. During initial response activities, Plains installed a temporary clamp on the pipeline to mitigate the release. Approximately two hundred fifty barrels (250 bbls) of crude oil was released from the pipeline, with no recovery.

On April 9, 2009, following initial response activities, excavation of hydrocarbon-impacted soil commenced at the site. To facilitate remediation, the excavation was divided into two (2) sections: Main Excavation and West Excavation. Excavated soil was stockpiled on-site on a plastic liner to mitigate the potential leaching of contaminants into the vadose zone. Approximately 18,000 cubic yards (18,000 yd^3) of impacted soil was excavated and stockpiled on-site during excavation activities. Final dimensions of the Main Excavation were approximately four hundred feet (400') in length, approximately two hundred feet (200') in width, and five feet (5') to fourteen feet (14') in depth. Final dimensions of the West Excavation were approximately one hundred fifty feet (150') in length, approximately one hundred and five feet (105') in width, and approximately ten feet (10') in depth. Due to safety concerns associated with excavating and supporting two (2) fourteen-inch (14") diameter pipelines that bisect the release site, Plains requested and received NMOCD approval to leave the soil beneath and adjacent to the pipelines in-situ.

On July 2 and 3, 2009, three soil borings (SB-1, SB-2, and SB-3) were advanced at the release site to evaluate the vertical extent of soil impact. During the advancement of soil borings SB-1,

SB-2, and SB-3, groundwater was encountered at approximately sixty-four (64') below ground surface (bgs). On July 1, 2009, soil boring SB-1 was converted to monitor well MW-1.

On July 2, 2009, temporary casing was installed in soil borings SB-2 and SB-3 to allow a "preliminary" groundwater sample to be collected for analysis. Following collection of the preliminary groundwater sample, the temporary casing was removed from soil borings SB-2 and SB-3, and the soil borings were plugged with cement and bentonite, as required by the New Mexico Office of the State Engineer (NMOSE).

On December 10, 2009, two (2) soil borings (SB-4 and SB-5) were installed up-gradient of the excavation to evaluate the potential groundwater impact from an up-gradient, off-site source. During the advancement of soil borings SB-4 and SB-5, groundwater was encountered at approximately sixty-four (64') bgs. Temporary casing was installed in soil borings SB-4 and SB-5 to allow a "preliminary" groundwater sample to be collected for analysis. Following collection of the preliminary groundwater sample, the temporary casing was removed from soil borings SB-4 and SB-5, and the soil borings were plugged with cement and bentonite, as required by the NMOSE.

Currently, one (1) groundwater monitoring well (MW-1) is located at the 14-Inch Vac to Jal Legacy release site. Monitor well MW-1 is gauged and sampled on a quarterly schedule.

The 14-Inch Vac to Jal Legacy release site is located approximately one thousand, one hundred and forty-seven feet (1,147') to the south-southeast of a documented groundwater remediation site (Arco South Justis Unit F-230). Information regarding this site can be found in the NMOCD imaging system.

FIELD ACTIVITIES

The on-site monitor well was gauged and sampled on February 28 (1Q2011), September 7 (3Q2011), November 2, 2011 (4Q2011). During these quarterly sampling events, the monitoring well was purged of a minimum of three (3) well volumes of water or until the well was dry using a PVC bailer or electrical Grundfos pump. Groundwater was allowed to recharge, and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass and/or plastic containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

Locations of the groundwater monitoring well and the inferred groundwater elevation were constructed from measurements collected during the quarterly monitoring events and are depicted on Figures 2A through 2C. The groundwater elevation data is provided in Table 1, "Groundwater Elevation Data". An inferred groundwater gradient map cannot be constructed from the observed groundwater elevation data derived from the one (1) on-site monitor well. An inferred groundwater gradient map requires a minimum of three (3) monitor wells to calculate an accurate groundwater gradient direction and magnitude. Review of NMOSE records indicate a general southeast groundwater gradient in this area of Lea County, New Mexico. The corrected

groundwater elevation in monitor well MW-1 ranged from 3,442.15 to 3,442.24 feet above mean sea level on November 7 and February 28, 2011, respectively.

No PSH was detected in monitor well MW-1 during the 2011 reporting period.

LABORATORY RESULTS

Groundwater samples collected from the monitor wells during the quarterly sampling events (1Q2011, 3Q2011, and 4Q2011) were delivered to Xenco Laboratories in Odessa, Texas, for determination of Total Dissolved Solids (TDS), chloride, and/or benzene, toluene, ethylbenzene, and total xylenes (BTEX) constituent concentrations by EPA Methods SM2540C, E300, and SW846-8021b, respectively. A summary of laboratory analytical results is presented in Table 2, "2011 Concentrations of BTEX, Chloride & TDS in Groundwater". Laboratory analytical reports are provided as Appendix A. "Groundwater Concentration" maps are provided as Figures 3A through 3C.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code (NMAC).

Monitor well MW-1

Monitor well MW-1 is sampled on a quarterly schedule. Laboratory analytical results indicate benzene concentrations ranged from 0.0662 mg/L in 4Q2011 to 0.305 mg/L 3Q2011. Toluene concentrations ranged from 0.069 mg/L in 4Q2011 to 0.18 mg/L in 3Q2011. Ethylbenzene concentrations ranged from 0.0034 mg/L in 1Q2011 to 0.0152 mg/L in 3Q2011. Total xylene concentrations ranged from 0.0095 mg/L in 1Q2011 to 0.0295 mg/L in 3Q2011. Chloride concentrations ranged from 7,880 mg/L in 4Q2011 to 9,590 mg/L in 3Q2011. TDS concentrations ranged from 15,500 mg/L in 4Q2011 to 17,300 mg/L in 3Q2011. Benzene, chloride, and TDS concentrations exceeded NMOCD regulatory standards during each quarterly sampling event. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate NMOCD regulatory standard during each quarterly sampling event.

SUMMARY

Currently, there is one (1) groundwater monitoring well (MW-1) on-site. Based on the depth of the soil impact at this site, the NMOCD requested four (4) quarterly groundwater sampling events to be conducted at monitor well MW-1. This report presents the results of monitoring activities for the 2011 monitoring period. No PSH was detected in monitor well MW-1 during the 2011 reporting period.

Review of NMOSE records indicate a general groundwater gradient to the southeast.

Laboratory analytical results indicated benzene, chloride, and TDS concentrations exceeded NMOCD regulatory standards in all samples from monitor well MW-1 submitted during the

reporting period. Toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in all submitted groundwater samples.

ANTICIPATED ACTIONS

In February 2012, Plains requested and received NMOCD approval to reduce the sampling frequency at monitor well MW-1 from quarterly to semi-annually. Monitor well MW-1 will be monitored and sampled semi-annually beginning in the second quarter of 2012. Results from the 2012 sampling events will be reported in the 2012 *Annual Monitoring Report*, which will be submitted to the NMOCD by April 1, 2013.

SOIL CLOSURE REQUEST

Pursuant to correspondence from an NMOCD representative dated August 16, 2011, the 14-Inch Vac to Jal Legacy release site was seeded with an NMOCD-approved seed mixture (BLM #3) on August 25, 2011. Photographs of the seeding activities are provided in Appendix C.

The activities conducted at the site met the objectives set forth in the *Remediation Summary and Proposed Soil Closure Strategy* dated May 2010. Basin recommends Plains request the NMOCD grant soil closure status to the 14" Vac to Jal Legacy release site.

LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Annual Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin 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 Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

DISTRIBUTION

Copy 1: Edward J. Hansen
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
edwardj.hansen@state.nm.us

Copy 2: Geoff Leking
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240
GeoffreyR.Leking@state.nm.us

Copy 3: Jeff Dann
Plains Marketing, LP
333 Clay Street
Suite 1600
Houston, Texas 77002
jpdann@paalp.com

Copy 4: Jason Henry
Plains Marketing, LP
2530 State Highway 214
Denver City, Texas
jhenry@paalp.com

Copy 5: Basin Environmental Service Technologies, LLC
P. O. Box 301
Lovington, New Mexico 88260

Figures

1,000500 0 1,000 2,000

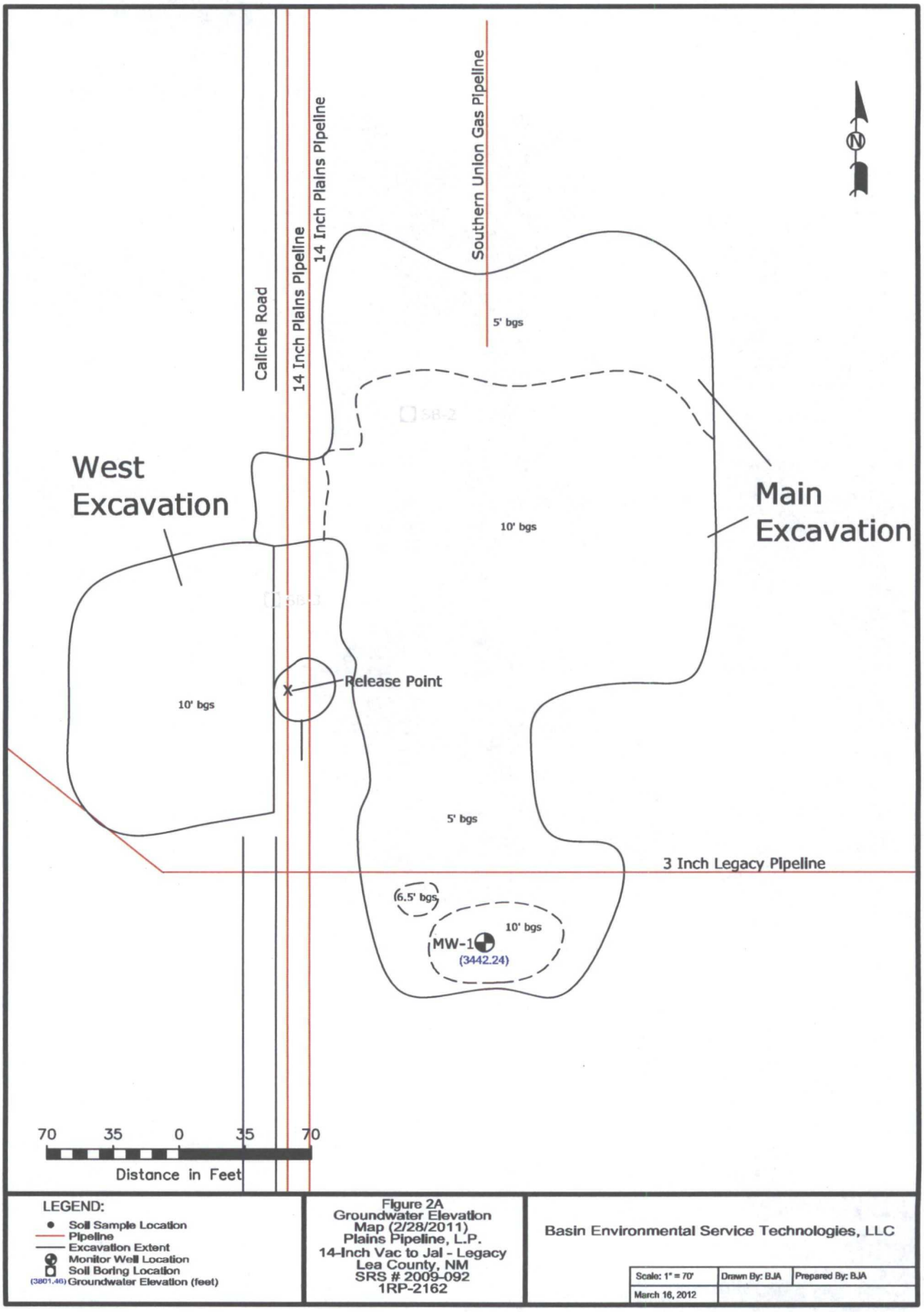
Distance in Feet

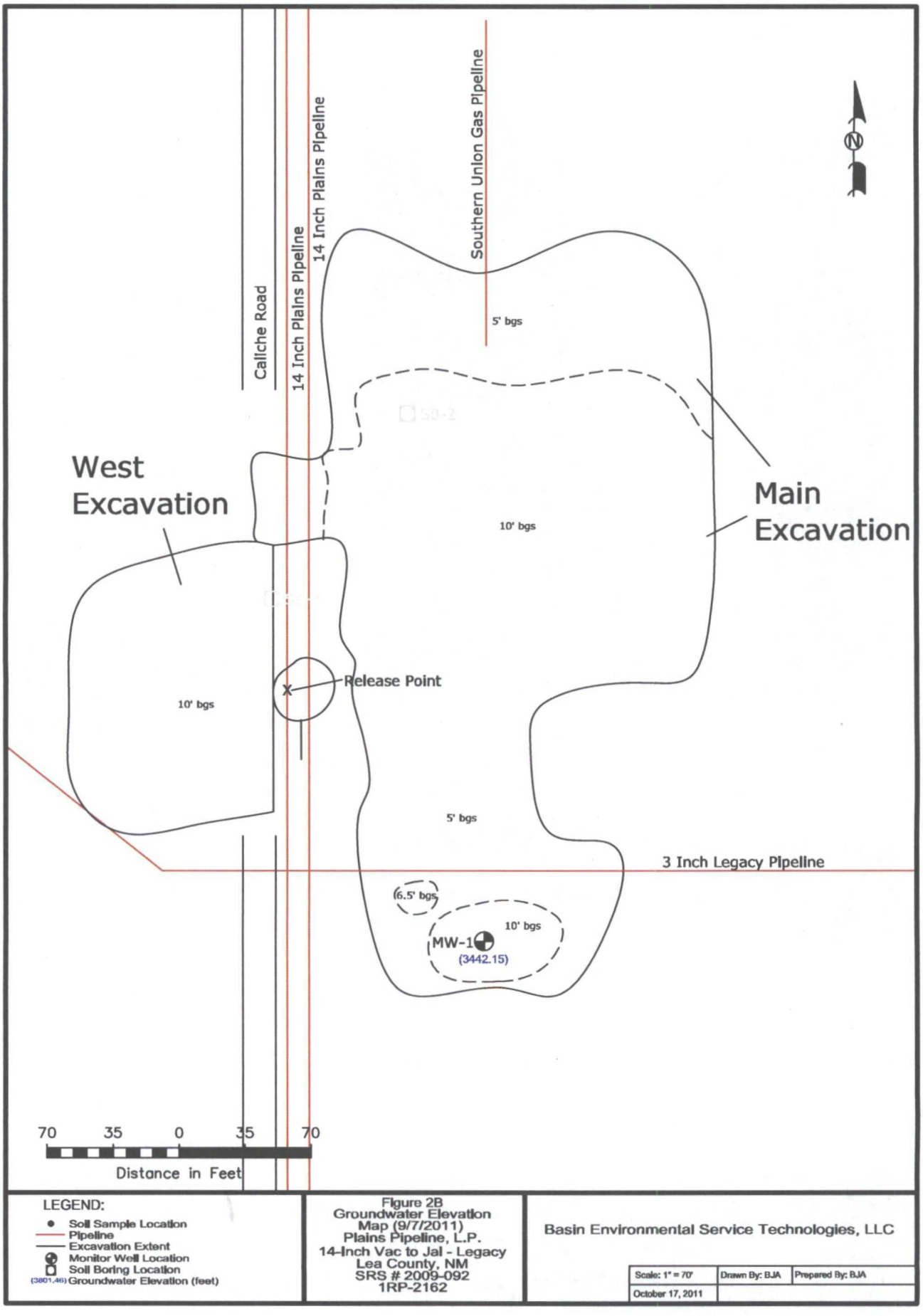
Figure 1
Site Location Map
Plains Marketing, LP
14" Vac to Jal Legacy
Lea County, New Mexico
SRS #: 2009-092
NMOCD Ref. #: 1RP-2162

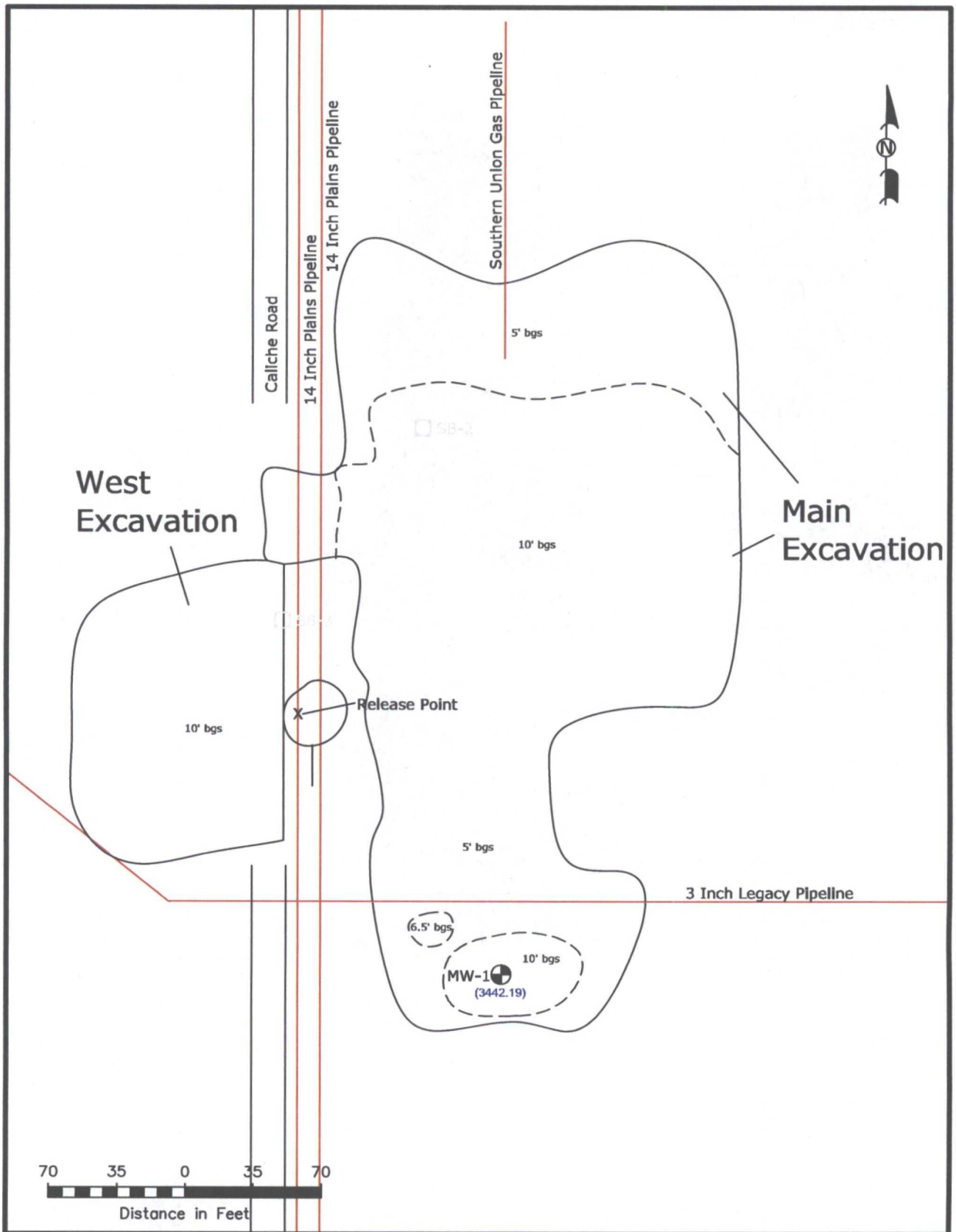
Basin Environmental Service Technologies
Effective Solutions

Basin Environmental Service Technologies, LLC
3100 Plains Hwy.
Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
March 16, 2012	Scale: 1" = 2000'


Southern Union Gas Pipeline
14 Inch Plains Pipeline
14 Inch Plains Pipeline
Caliche Road
N
5' bgs
SB-2
West Excavation
Main Excavation
10' bgs
SB-1
Release Point
10' bgs
5' bgs
3 Inch Legacy Pipeline
6.5' bgs
10' bgs
MW-1
(3442.24)
70 35 0 35 70
Distance in Feet
LEGEND:
Soil Sample Location
Pipeline
Excavation Extent
Monitor Well Location
Soil Boring Location
(3801.46) Groundwater Elevation (feet)
Figure 2A
Groundwater Elevation Map (2/28/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162
Basin Environmental Service Technologies, LLC
Scale: 1" = 70'
Drawn By: BJA
Prepared By: BJA
March 16, 2012


Caliche Road
14 Inch Plains Pipeline
14 Inch Plains Pipeline
Southern Union Gas Pipeline
N
5' bgs
SB-2
West Excavation
Main Excavation
10' bgs
Release Point
10' bgs
5' bgs
3 Inch Legacy Pipeline
6.5' bgs
10' bgs
MW-1
(3442.15)
70 35 0 35 70
Distance in Feet
LEGEND:
Soil Sample Location
Pipeline
Excavation Extent
Monitor Well Location
Soil Boring Location
(3801.46) Groundwater Elevation (feet)
Figure 2B
Groundwater Elevation Map (9/7/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162
Basin Environmental Service Technologies, LLC
Scale: 1" = 70'
Drawn By: BJA
Prepared By: BJA
October 17, 2011



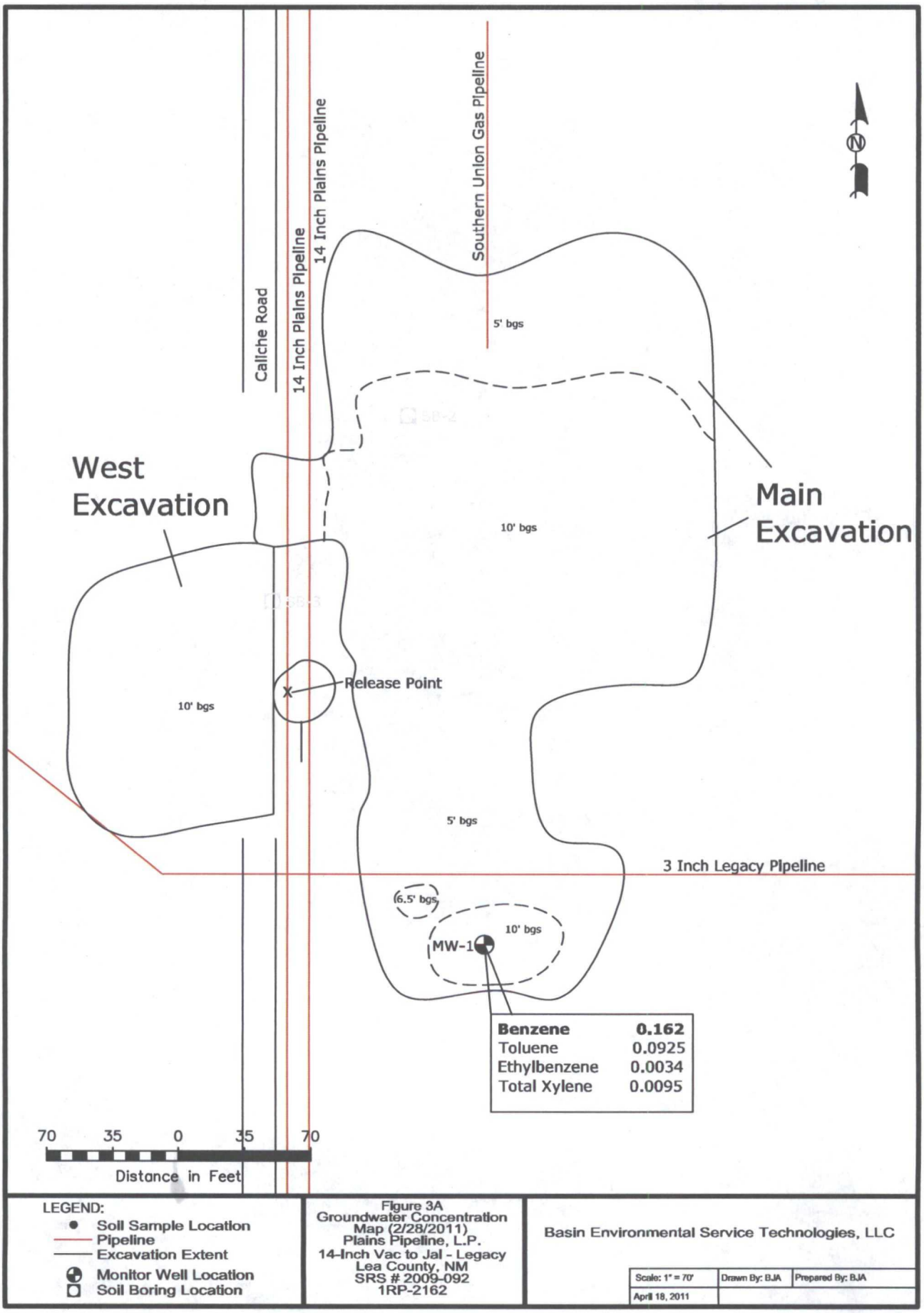
LEGEND:

- Soil Sample Location
- Pipeline
- Excavation Extent
- Monitor Well Location
- Soil Boring Location
- (3801.46) Groundwater Elevation (feet)

Figure 2C
Groundwater Elevation Map (11/2/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162

Basin Environmental Service Technologies, LLC

Scale: 1" = 70'	Drawn By: BJA	Prepared By: BJA
January 17, 2012		


Southern Union Gas Pipeline
14 Inch Plains Pipeline
14 Inch Plains Pipeline
Caliche Road
N
5' bgs
West Excavation
Main Excavation
10' bgs
Release Point
10' bgs
5' bgs
3 Inch Legacy Pipeline
6.5' bgs
10' bgs
MW-1
Benzene 0.162
Toluene 0.0925
Ethylbenzene 0.0034
Total Xylene 0.0095
70 35 0 35 70
Distance in Feet
LEGEND:
Soil Sample Location
Pipeline
Excavation Extent
Monitor Well Location
Soil Boring Location
Figure 3A
Groundwater Concentration Map (2/28/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162
Basin Environmental Service Technologies, LLC
Scale: 1" = 70'
Drawn By: BJA
Prepared By: BJA
April 18, 2011

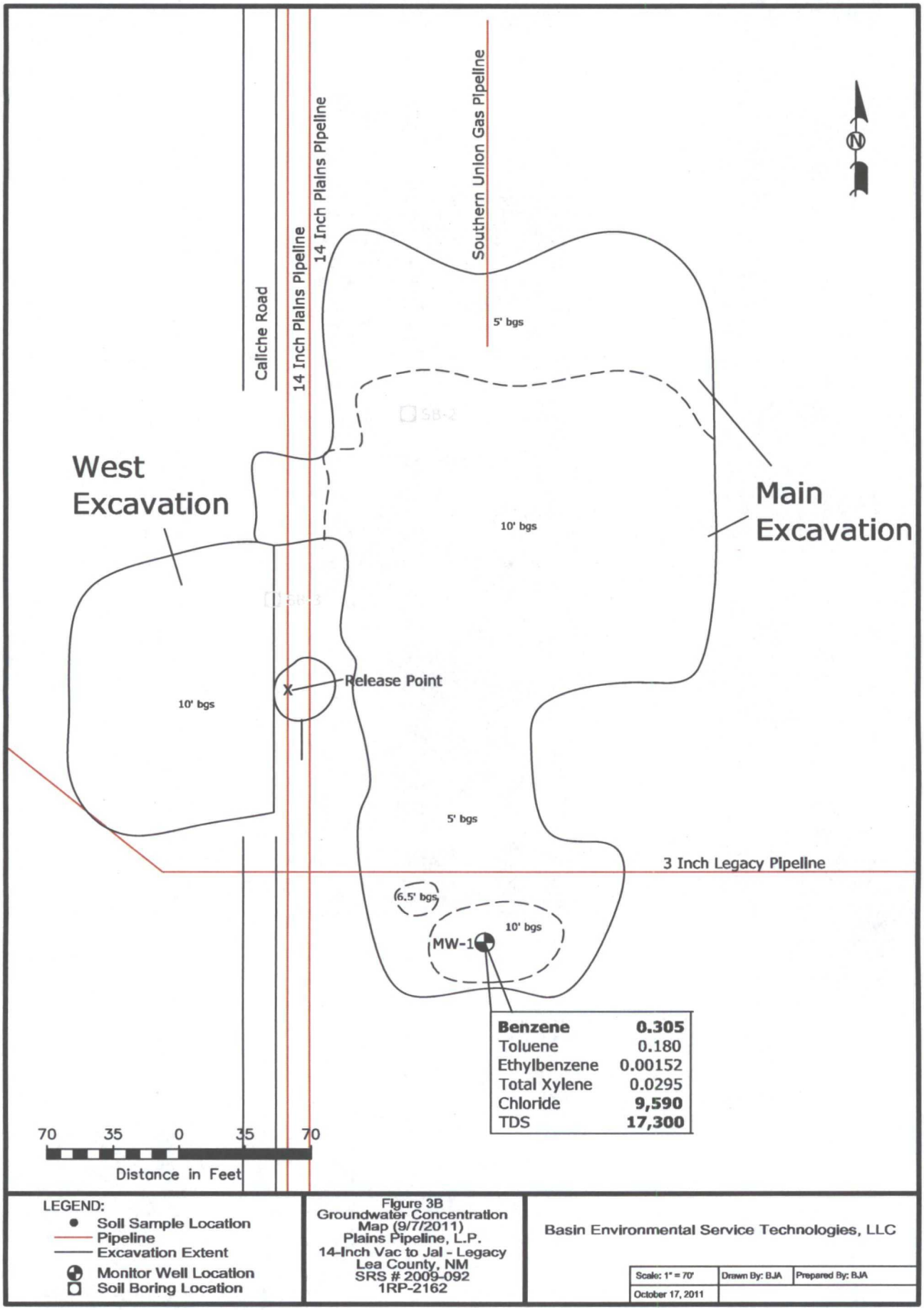
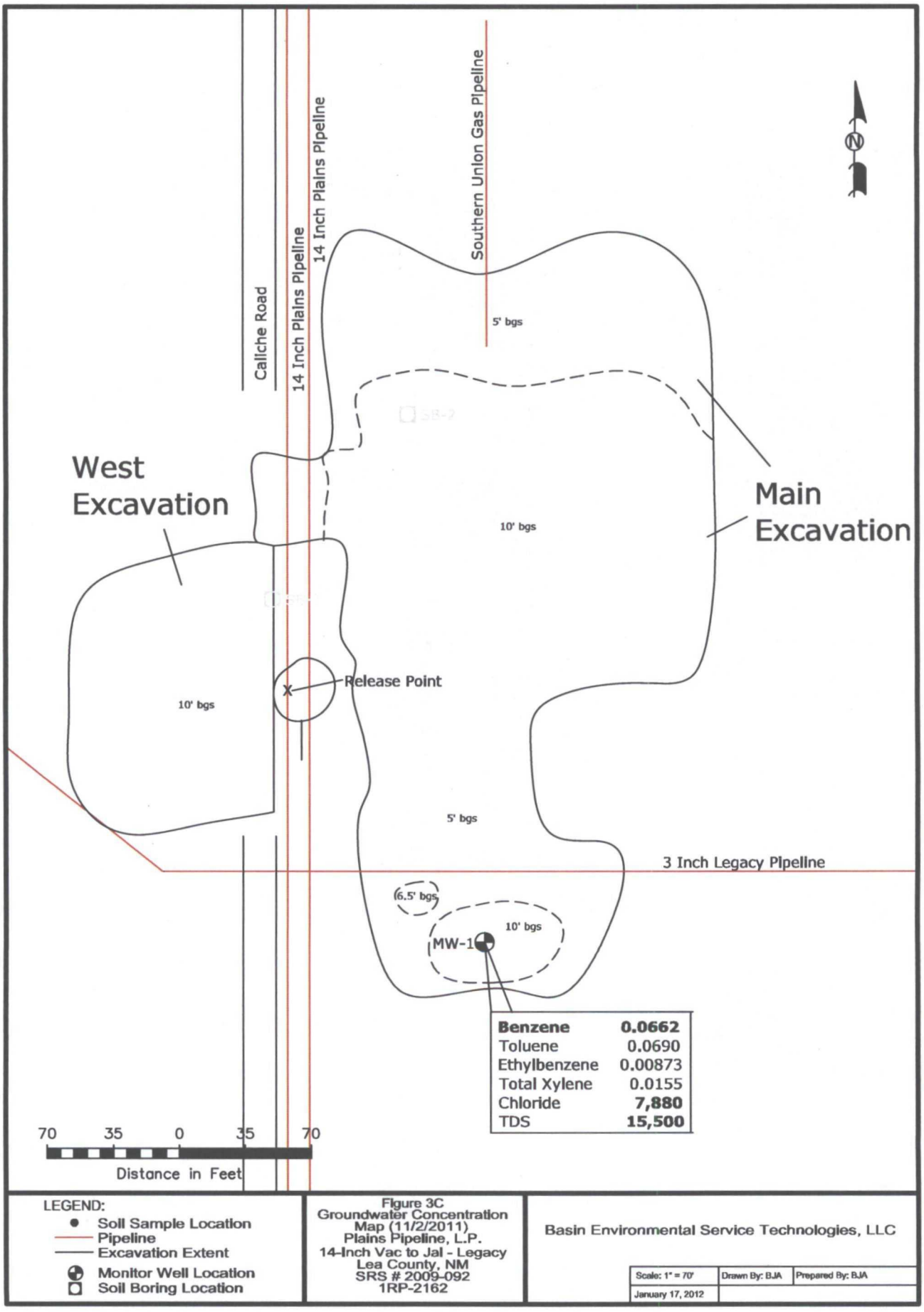


Figure 3B
Groundwater Concentration Map (9/7/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162

Basin Environmental Service Technologies, LLC

Scale: 1" = 70'	Drawn By: BJA	Prepared By: BJA
October 17, 2011		


Caliche Road
14 Inch Plains Pipeline
14 Inch Plains Pipeline
Southern Union Gas Pipeline
N
5' bgs
West Excavation
Main Excavation
10' bgs
Release Point
10' bgs
5' bgs
3 Inch Legacy Pipeline
6.5' bgs
10' bgs
MW-1
Benzene 0.0662
Toluene 0.0690
Ethylbenzene 0.00873
Total Xylene 0.0155
Chloride 7,880
TDS 15,500
70 35 0 35 70
Distance in Feet
LEGEND:
Soil Sample Location
Pipeline
Excavation Extent
Monitor Well Location
Soil Boring Location
Figure 3C
Groundwater Concentration Map (11/2/2011)
Plains Pipeline, L.P.
14-Inch Vac to Jal - Legacy
Lea County, NM
SRS # 2009-092
1RP-2162
Basin Environmental Service Technologies, LLC
Scale: 1" = 70'
Drawn By: BJA
Prepared By: BJA
January 17, 2012

Tables

TABLE 1

GROUNDWATER ELEVATION DATA

PLAINS PIPELINE, L.P.
14" VAC TO JAL LEGACY
LEA COUNTY, NEW MEXICO
PLAINS SRS NO: 2009-092
NMOCD REFERENCE NO: 1RP-2162

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	TOTAL DEPTH	CORRECTED GROUNDWATER ELEVATION
MW-1	2/28/2011	3,502.90	-	60.66	0.00	-	3,442.24
	9/7/2011	3,502.90	-	60.75	0.00	-	3,442.15
	11/2/2011	3,502.90	-	60.71	0.00	-	3,442.19

TABLE 2

CONCENTRATIONS OF BTEX, CHLORIDE & TDS IN GROUNDWATER

PLAINS PIPELINE, L.P.
14-INCH VAC TO JAL LEGACY
LEA COUNTY, NEW MEXICO
PLAINS SRS NO. 2009-092
NMOCD REFERENCE NO: 1R-2162

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8021B, 5030						E300	SM2540C
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P-XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL BTEX (mg/L)	CHLORIDES (mg/L)	TDS (mg/L)
MW-1	2/28/2011	**0.162**	0.0925	0.0034	0.006	0.0035	0.267	-	-
	9/7/2012	**0.305**	0.18	0.0152	0.0202	0.0093	0.53	**9,590**	**17,300**
	11/2/2011	**0.0662**	0.069	0.0087	0.0105	0.0050	0.159	**7,880**	**15,500**
NMOCD CRITERIA		**0.01**	**0.75**	**0.75**	**TOTAL XYLENES 0.62**			**250**	**10,000**

- = Not analyzed.

Appendices

Appendix A

Laboratory Analytical Reports

Analytical Report 408104

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

14" Vac to Jal Legacy

2009-092

04-MAR-11

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

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

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

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

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

XENCO Laboratories

04-MAR-11

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

Reference: XENCO Report No: **408104**
14" Vac to Jal Legacy
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 408104. 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. 408104 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America

XENCO Laboratories

Sample Cross Reference 408104

PLAINS ALL AMERICAN EH&S, Midland, TX

14" Vac to Jal Legacy

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Feb-28-11 11:30		408104-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: 14" Vac to Jal Legacy

Project ID:	*2009-092*	*Report Date:*	*04-MAR-11*
Work Order Number:	*408104*	*Date Received:*	*02/28/2011*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-846044 BTEX by EPA 8021
SW8021BM

Batch 846044, m_p-Xylenes recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 408104-001.
The Laboratory Control Sample for m_p-Xylenes is within laboratory Control Limits

Certificate of Analysis Summary 408104

PLAINS ALL AMERICA - EH&S, Midland, TX

Project Name: 14" Vac to Jal Legacy

Project Id: 2009-092
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Mon Feb-28-11 02:00 pm
Report Date: 04-MAR-11
Project Manager: Brent Barron, II

Analysis Requested								
	Lab Id:	408104-001						
	Field Id:	MW-1						
	Depth:							
	Matrix:	WATER						
	Sampled:	Feb-28-11 11:30						
BTEX by EPA 8021	***Extracted:***	Mar-02-11 15:15						
	Analyzed:	Mar-03-11 13:27						
	Units/RL:	mg/L	RL					
Benzene		0.162	0.0010					
Toluene		0.0925	0.0020					
Ethylbenzene		0.00338	0.0010					
m_p-Xylenes		0.00600	0.0020					
o-Xylene		0.00349	0.0010					
Xylenes, Total		0.00949	0.0010					
Total BTEX		0.267	0.0010					

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

Brent Barron, II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

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Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

rk Orders : 408104, **Project ID:** 2009-092

Lab Batch #: 846044 **Sample:** 597016-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 07:41

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 846044 **Sample:** 597016-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 08:04

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 846044 **Sample:** 597016-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 09:14

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 846044 **Sample:** 408314-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 10:23

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 846044 **Sample:** 408314-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 10:45

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0309	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

'I results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

Work Orders : 408104,

Project ID: 2009-092

Lab Batch #: 846044 **Sample:** 408104-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 03/03/11 13:27

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	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

BS / BSD Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: 14" Vac to Jal Legacy

Work Order #: 408104 **Project ID:** 2009-092

Analyst: ASA **Date Prepared:** 03/02/2011 **Date Analyzed:** 03/03/2011

Lab Batch ID: 846044 **Sample:** 597016-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

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	<0.00100	0.100	0.106	106	0.100	0.104	104	2	70-125	25	
Toluene	<0.00200	0.100	0.104	104	0.100	0.103	103	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.103	103	0.100	0.102	102	1	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.214	107	0.200	0.211	106	1	70-131	25	
o-Xylene	<0.00100	0.100	0.104	104	0.100	0.102	102	2	71-133	25	

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

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Form 3 - MS / MSD Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order # : 408104 **Project ID:** 2009-092

Lab Batch ID: 846044 **QC- Sample ID:** 408314-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 03/03/2011 **Date Prepared:** 03/02/2011 **Analyst:** ASA

Reporting Units: mg/L

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	<0.00100	0.100	0.104	104	0.100	0.106	106	2	70-125	25	
Toluene	<0.00200	0.100	0.101	101	0.100	0.102	102	1	70-125	25	
Ethylbenzene	<0.00100	0.100	0.0985	99	0.100	0.101	101	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.115	58	0.200	0.111	56	4	70-131	25	X
o-Xylene	<0.00100	0.100	0.0903	90	0.100	0.0845	85	7	71-133	25	

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

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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: Ben Arguijo
Company Name: Basin Environmental Consulting, LLC
Company Address: P. O. Box 301
City/State/Zip: Lovington, NM 88260
Telephone No: 575.396.2378 Fax No: (575) 396-1429
Sampler Signature: [signature] e-mail: pm@basinenv.com

Project Name: 14" Vac to Jal Legacy
Project #: 2009-092
Project Loc: Lea County, NM
PO #: PAA - Jason Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 408104

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 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			2/28/2011	11:30		3	X		X						GW									X					X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	2-28-11	2:00			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Lisa Hunsaker	Date 2-28-11	Time 2:00

Laboratory Comments:

Sample Containers Intact? Y N
VOCs Free of Headspace? Y N/A
Labels on container(s) Y N
Custody seals on container(s) Y N/A
Custody seals on cooler(s) Y N/A
Sample Hand Delivered by Sampler/Client Rep. ? Y N
by Courier? ~~Federal Exp~~ UPS DHL FedEx Lone Star
Temperature Upon Receipt: ~~Amb~~ VOAS 6 °C

Page 11 of 12

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XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Environmental
Date/Time: 2-28-11 2:00
Lab ID # : 408104
Initials: AM

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Analytical Report 427280

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

14" Vac to Jal Legacy

2009-092

22-SEP-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

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

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

22-SEP-11

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

Reference: XENCO Report No: **427280**
14" Vac to Jal Legacy
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 427280. 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. 427280 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America

Sample Cross Reference 427280

PLAINS ALL AMERICAN EH&S, Midland, TX

14" Vac to Jal Legacy

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	09-07-11 13:40		427280-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: 14" Vac to Jal Legacy

Project ID:	*2009-092*	*Report Date:*	*22-SEP-11*
Work Order Number:	*427280*	*Date Received:*	*09/08/2011*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 427280

PLAINS ALL AMERICA... EH&S, Midland, TX

Project Name: 14" Vac to Jal Legacy

Project Id: 2009-092
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Thu Sep-08-11 01:30 pm
Report Date: 22-SEP-11
Project Manager: Brent Barron II

Analysis Requested							
	Lab Id:	427280-001					
	Field Id:	MW-1					
	Depth:						
	Matrix:	WATER					
	Sampled:	Sep-07-11 13:40					
BTEX by EPA 8021	*Extracted:*	Sep-09-11 17:15					
	Analyzed:	Sep-10-11 14:20					
	Units/RL:	mg/L	RL				
Benzene		0.305	0.00100				
Toluene		0.180	0.00200				
Ethylbenzene		0.0152	0.00100				
m_p-Xylenes		0.0202	0.00200				
o-Xylene		0.00934	0.00100				
Xylenes, Total		0.0295	0.00100				
Total BTEX		0.530	0.00100				
Inorganic Anions by EPA 300/300.1 SUB: E871002	*Extracted:*	Sep-21-11 08:11					
	Analyzed:	Sep-21-11 08:11					
	Units/RL:	mg/L	RL				
Chloride		9590	4.00				
TDS by SM2540C SUB: E871002	*Extracted:*						
	Analyzed:	Sep-14-11 15:36					
	Units/RL:	mg/L	RL				
Total dissolved solids		17300	5.00				

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

Brent Barron II
Odessa Laboratory Manager

Final 1.000

XENCO Laboratories

Flagging Criteria

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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 quantiation limit and above the detection limit.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

ork Orders : 427280,

Project ID: 2009-092

Lab Batch #: 869745 **Sample:** 427280-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 14:20

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 869745 **Sample:** 611243-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 13:57

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	0.0261	0.0300	87	80-120	

Lab Batch #: 869745 **Sample:** 611243-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 12:26

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 869745 **Sample:** 611243-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 12:49

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 869745 **Sample:** 427280-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 17:24

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	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.

Final 1.000

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

Work Orders : 427280,

Project ID: 2009-092

Lab Batch #: 869745 **Sample:** 427280-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/11 17:47

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	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

Blank Spike Recovery

Project Name: 14" Vac to Jal Legacy

Work Order #: 427280 **Project ID:** 2009-092

Lab Batch #: 870471 **Sample:** 611627-1-BKS **Matrix:** Water

Date Analyzed: 09/21/2011 **Date Prepared:** 09/21/2011 **Analyst:** MAB

Reporting Units: mg/L **Batch #:** 1

Inorganic Anions by EPA 300/300.1 Analytes	BLANK /BLANK SPIKE RECOVERY STUDY					
	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	<0.200	50.0	52.2	104	90-110	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
Below Reporting Limit

Final 1.000

XENCO Laboratories

BS / BSD Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order #: 427280 **Project ID:** 2009-092

Analyst: ASA **Date Prepared:** 09/09/2011 **Date Analyzed:** 09/10/2011

Lab Batch ID: 869745 **Sample:** 611243-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

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	<0.00100	0.100	0.104	104	0.100	0.109	109	5	70-125	25	
Toluene	<0.00200	0.100	0.0933	93	0.100	0.0990	99	6	70-125	25	
Ethylbenzene	<0.00100	0.100	0.103	103	0.100	0.110	110	7	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.202	101	0.200	0.219	110	8	70-131	25	
o-Xylene	<0.00100	0.100	0.0952	95	0.100	0.104	104	9	71-133	25	

Analyst: MAB **Date Prepared:** 09/14/2011 **Date Analyzed:** 09/14/2011

Lab Batch ID: 869955 **Sample:** 869955-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

TDS by SM2540C	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**
Total dissolved solids	<5.00	1000	1050	105	1000	1020	102	3	80-120	30	

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 - M MSD Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order # : 427280 **Project ID:** 2009-092

Lab Batch ID: 869745 **QC- Sample ID:** 427280-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09/10/2011 **Date Prepared:** 09/09/2011 **Analyst:** ASA

Reporting Units: mg/L

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	0.305	0.100	0.396	91	0.100	0.407	102	3	70-125	25	
Toluene	0.180	0.100	0.260	80	0.100	0.269	89	3	70-125	25	
Ethylbenzene	0.0152	0.100	0.109	94	0.100	0.116	101	6	71-129	25	
m_p-Xylenes	0.0202	0.200	0.204	92	0.200	0.220	100	8	70-131	25	
o-Xylene	0.00934	0.100	0.0950	86	0.100	0.103	94	8	71-133	25	

Lab Batch ID: 870471 **QC- Sample ID:** 427553-001 S **Batch #:** 1 **Matrix:** Waste Water

Date Analyzed: 09/21/2011 **Date Prepared:** 09/21/2011 **Analyst:** MAB

Reporting Units: mg/L

Inorganic Anions by EPA 300/300.1 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
Chloride	41.6	100	150	108	100	150	108	0	80-120	20	

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

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

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

Final 1.000

XENCO Laboratories

Sample Duplicate Recovery

Project Name: 14" Vac to Jal Legacy

Work Order #: 427280

Lab Batch #: 869955 **Project ID:** 2009-092

Date Analyzed: 09/14/2011 15:38 **Date Prepared:** 09/14/2011 **Analyst:** MAB

QC- Sample ID: 427280-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
TDS by SM2540C Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	17300	17400	1	30	

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

Xe..o Laboratories

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: Ben Arguijo

Project Name: 14" Vac to Jal Legacy

Company Name: Basin Environmental Consulting, LLC

Project #: 2009-092

Company Address: P. O. Box 301

Project Loc: Lea County, NM

City/State/Zip: Lovington, NM 88260

PO #: PAA - Jason Henry

Telephone No: 575.396.2378

Fax No: (575) 396-1429

Report Format: [X] Standard [ ] TRRP [ ] NPDES

Sampler Signature: Dakotah ward

e-mail: pm@basinenv.com

(lab use only)
ORDER #: 427280

Analyze For: TCLP: / TOTAL: X

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice 250ml poly	HNO_3	HCl 40ml VOA	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW = Drinking Water SL = Sludge GW = Groundwater S = Soil/Soil NP = Non-Potable Specify other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270	Chlorides	TDS	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
001	MW-1			9/7/2011	1340		4	X		X						GW									X				X	X		X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Dakotah ward	9/8/11	1330			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Andrea Elam	9.8.11	13:30

Laboratory Comments:

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 on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 2.6 °C

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Plains

Date/Time: 9/8/11 13:30

Lab ID # : 427280

Initials: LG

Sample Receipt Checklist

1. Samples on ice?					Blue	(Water)	No		
2. Shipping container in good condition?					(Yes)	No	None		
3. Custody seals intact on shipping container (cooler) and bottles?					(Yes)	No	N/A		
4. Chain of Custody present?					(Yes)	No			
5. Sample instructions complete on chain of custody?					(Yes)	No			
6. Any missing / extra samples?					Yes	(No)			
7. Chain of custody signed when relinquished / received?					(Yes)	No			
8. Chain of custody agrees with sample label(s)?					(Yes)	No			
9. Container labels legible and intact?					(Yes)	No			
10. Sample matrix / properties agree with chain of custody?					(Yes)	No			
11. Samples in proper container / bottle?					(Yes)	No			
12. Samples properly preserved?					(Yes)	No	N/A		
13. Sample container intact?					(Yes)	No			
14. Sufficient sample amount for indicated test(s)?					(Yes)	No			
15. All samples received within sufficient hold time?					(Yes)	No			
16. Subcontract of sample(s)?					Yes	No	(N/A)		
17. VOC sample have zero head space?					(Yes)	No	N/A		
18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	2.6 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

_____

Corrective Action Taken: _____

_____

_____

_____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Initial and Backup Temperature confirm out of temperature conditions

☐ Client understands and would like to proceed with analysis

Analytical Report 430734

for

PLAINS ALL AMERICAN EH&S

Project Manager: Jason Henry

14" Vac to Jal Legacy

2009-092

11-NOV-11

Collected By: Client

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

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

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

11-NOV-11

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

Reference: XENCO Report No: **430734**
14" Vac to Jal Legacy
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 430734. 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. 430734 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY
Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America

XENCO Laboratories

Sample Cross Reference 430734

PLAINS ALL AMERICAN EH&S, Midland, TX

14" Vac to Jal Legacy

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	11-02-11 10:20		430734-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: 14" Vac to Jal Legacy

Project ID:	*2009-092*	*Report Date:*	*11-NOV-11*
Work Order Number:	*430734*	*Date Received:*	*11/02/2011*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 430734

PLAINS ALL AMERICA EH&S, Midland, TX

Project Name: 14" Vac to Jal Legacy

Project Id: 2009-092
Contact: Jason Henry
Project Location: Lea County, NM

Date Received in Lab: Wed Nov-02-11 01:30 pm
Report Date: 11-NOV-11
Project Manager: Brent Barron II

Analysis Requested							
	Lab Id:	430734-001					
	Field Id:	MW-1					
	Depth:						
	Matrix:	WATER					
	Sampled:	Nov-02-11 10:20					
BTEX by EPA 8021	*Extracted:*	Nov-10-11 12:55					
	Analyzed:	Nov-10-11 15:30					
	Units/RL:	mg/L	RL				
Benzene		0.0662	0.00100				
Toluene		0.0690	0.00200				
Ethylbenzene		0.00873	0.00100				
m_p-Xylenes		0.0105	0.00200				
o-Xylene		0.00503	0.00100				
Xylenes, Total		0.0155	0.00100				
Total BTEX		0.159	0.00100				
Inorganic Anions In Water by E300	*Extracted:*						
	Analyzed:	Nov-07-11 20:39					
	Units/RL:	mg/L	RL				
Chloride		7880	250				
TDS by SM2540C SUB: TX104704215	*Extracted:*						
	Analyzed:	Nov-04-11 07:45					
	Units/RL:	mg/L	RL				
Total dissolved solids		15500	5.00				

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

Brent Barron II
Odessa Laboratory Manager

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 affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation. ^ NELAC or State program does not offer Accreditation at this time.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

rk Orders : 430734, **Project ID:** 2009-092

Lab Batch #: 874502 **Sample:** 430734-001 / SMP **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 15:30

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 874502 **Sample:** 613959-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 15:08

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 874502 **Sample:** 613959-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 13:36

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 874502 **Sample:** 613959-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 13:59

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 874502 **Sample:** 430734-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 19:18

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: 14" Vac to Jal Legacy

Work Orders : 430734,

Project ID: 2009-092

Lab Batch #: 874502 **Sample:** 430734-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/10/11 19:42

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BS[illegible]ecoveries

Project Name: 14" Vac to Jal Legacy

Work Order #: 430734 **Project ID:** 2009-092

Analyst: ASA **Date Prepared:** 11/10/2011 **Date Analyzed:** 11/10/2011

Lab Batch ID: 874502 **Sample:** 613959-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

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	<0.00100	0.100	0.0945	95	0.100	0.0962	96	2	70-125	25	
Toluene	<0.00200	0.100	0.0993	99	0.100	0.101	101	2	70-125	25	
Ethylbenzene	<0.00100	0.100	0.107	107	0.100	0.110	110	3	71-129	25	
m_p-Xylenes	<0.00200	0.200	0.218	109	0.200	0.223	112	2	70-131	25	
o-Xylene	<0.00100	0.100	0.107	107	0.100	0.110	110	3	71-133	25	

Analyst: BRB **Date Prepared:** 11/07/2011 **Date Analyzed:** 11/07/2011

Lab Batch ID: 874197 **Sample:** 874197-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions In Water by E300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.500	10.0	11.2	112	10.0	11.1	111	1	80-120	20	

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order #: 430734
Analyst: MAB
Lab Batch ID: 874000
Sample: 874000-1-BKS
Date Prepared: 11/04/2011
Batch #: 1
Project ID: 2009-092
Date Analyzed: 11/04/2011
Matrix: Water
Units: mg/L

TDS by SM2540C	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
Total dissolved solids	<5.00	1000	1010	101	1000	1010	101	0	80-120	30	

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 Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order #: 430734

Lab Batch #: 874197 **Project ID:** 2009-092

Date Analyzed: 11/07/2011 **Date Prepared:** 11/07/2011 **Analyst:** BRB

QC- Sample ID: 430882-002 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions by EPA 300 **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**%R [D]**	**Control Limits %R**	**Flag**
Chloride	196	200	410	107	80-120	

Lab Batch #: 874197

Date Analyzed: 11/07/2011 **Date Prepared:** 11/07/2011 **Analyst:** BRB

QC- Sample ID: 430996-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions by EPA 300 **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**%R [D]**	**Control Limits %R**	**Flag**
Chloride	21.0	100	130	109	80-120	

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

P Below Reporting Limit

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: 14" Vac to Jal Legacy

Work Order # : 430734 **Project ID:** 2009-092

Lab Batch ID: 874502 **QC- Sample ID:** 430734-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 11/10/2011 **Date Prepared:** 11/10/2011 **Analyst:** ASA

Reporting Units: mg/L

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021 **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	0.0662	0.100	0.146	80	0.100	0.153	87	5	70-125	25	
Toluene	0.0690	0.100	0.152	83	0.100	0.159	90	5	70-125	25	
Ethylbenzene	0.00873	0.100	0.101	92	0.100	0.106	97	5	71-129	25	
m_p-Xylenes	0.0105	0.200	0.196	93	0.200	0.205	97	4	70-131	25	
o-Xylene	0.00503	0.100	0.0982	93	0.100	0.102	97	4	71-133	25	

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: 14" Vac to Jal Legacy

Work Order #: 430734

Lab Batch #: 874197 **Project ID:** 2009-092

Date Analyzed: 11/07/2011 20:39 **Date Prepared:** 11/07/2011 **Analyst:** BRB

QC- Sample ID: 430996-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

Inorganic Anions In Water by E300	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	21.0	22.0	5	20	

Lab Batch #: 874000

Date Analyzed: 11/04/2011 07:45 **Date Prepared:** 11/04/2011 **Analyst:** MAB

QC- Sample ID: 430398-001 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	398	352	12	30	

Lab Batch #: 874000

Date Analyzed: 11/04/2011 07:45 **Date Prepared:** 11/04/2011 **Analyst:** MAB

QC- Sample ID: 430748-004 D **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

TDS by SM2540C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Total dissolved solids	430	454	5	30	

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

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: Ben Arguijo
Company Name: Basin Environmental Service Technologies, LLC
Company Address: P. O. Box 301
City/State/Zip: Lovington, NM 88260
Telephone No: (575)396-2378 Fax No: (575)396-1429
Sampler Signature: Dakotah Ward e-mail: bjarguijo@basinenv.com

Project Name: 14" Vac to Jal Legacy
Project #: 2009-092
Project Loc: Lea County, NM
PO #: PAA - Jason Henry
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 430734

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW = Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260 (TOTAL: X)	RCI	N.O.R.M.	PAH 8270	Chlorides	TDS	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MW-1			11/2/2011	1020		4	X		X						GW									X				X	X		X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Dakotah Ward	11/2/11	1330			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Andrea Ele	11.2.11	13:30

Laboratory Comments:

Sample Containers Intact?	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 by Sampler/Client Rep. ?	N
by Courier? UPS DHL FedEx Lone Star	
Temperature Upon Receipt: 4.0 °C	

Final 1.000

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

Prelogin / Nonconformance Report - Sample Log-In

Client: Basin Env. / Plains

Date/Time: 11-2-11 13:30

Lab ID # : 430734

Initials: AE

Sample Receipt Checklist

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

18. Cooler 1 No.		Cooler 2 No.		Cooler 3 No.		Cooler 4 No.		Cooler 5 No.	
lbs	4.0 °C	lbs	°C	lbs	°C	lbs	°C	lbs	°C

Nonconformance Documentation

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

Regarding: _____

Corrective Action Taken: _____

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

Appendix B

Release Notification &

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

RECEIVED
APR 20 2009
HOBBSOCD

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	14 – inch Vac to Jal Legacy	Facility Type	Pipeline

Surface Owner Legacy Petroleum	Mineral Owner	Lease No.

LOCATION OF RELEASE

NEAREST WELL API # 30-025-11759-00-00

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	25	25S	37E					Lea

Latitude N 32°6' 10.7" **Longitude** W 103° 7' 10.3"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 250 bbls	Volume Recovered 0 bbls
Source of Release 14" Steel Pipeline	Date and Hour of Occurrence 04/09/2009	Date and Hour of Discovery 04/09/2009 10:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson	
By Whom? Jason Henry	Date and Hour 04/09/2009 @ 14:20	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

WATER @ 55'

Describe Cause of Problem and Remedial Action Taken.*

During the purging of the 14-inch Sweet Vac to Jal Line, a release of crude oil occurred due to external corrosion. Throughput for the subject line is 0 bbls/day because the line is inactive and was being purged at the time of the release. 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 38.

Describe Area Affected and Cleanup Action Taken.*

The released crude resulted in a surface stain that measured approximately 300' x 300'. 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

Printed Name: Jason Henry

Title: Remediation Coordinator

E-mail Address: jhenry@paalp.com

Date: 04/20/2009 Phone: (575) 441-1099

OIL CONSERVATION DIVISION

Approved by ~~District Supervisor:~~ ENV ENGR Jeffrey Lehring

Approval Date: 04/21/09 Expiration Date: 06/22/09

Conditions of Approval: DELINEATE TO CLEANUP. SUBMIT FINAL C-141 BY 06/22/09. Attached ☐

* Attach Additional Sheets If Necessary

IRP - 2162 (09.4)

fGRL0912457808

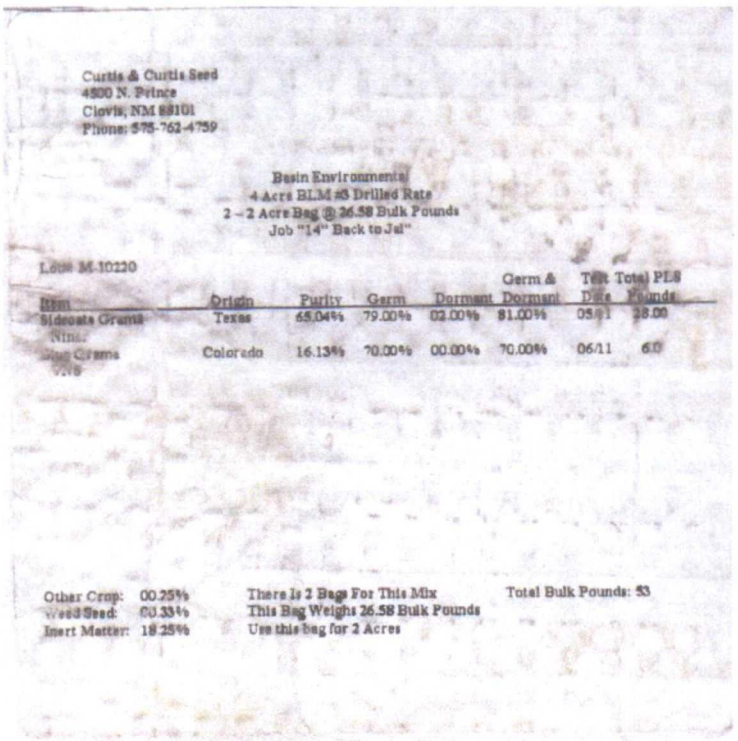
Appendix C

Photographs

14-Inch Vac to Jal Legacy Release Site

14-Inch Vac to Jal Legacy - Following Seeding (looking North)

14-Inch Vac to Jal Legacy - Following Seeding (looking East-northeast)



Curtis & Curtis Seed
4500 N. Prince
Clovis, NM 88101
Phone: 575-762-4759

Basin Environmental
4 Acre BLM #3 Drilled Rate
2 - 2 Acre Bag @ 26.58 Bulk Pounds
Job "14" Back to Jal"

Lot# M-10220

Item	Origin	Purity	Germ	Dormant	Germ & Dormant	Tst Date	Total PLS Pounds
Sideoats Grama	Texas	65.04%	79.00%	02.00%	81.00%	05/11	28.00
Blue Grama	Colorado	16.13%	70.00%	00.00%	70.00%	06/11	6.0

Other Crop: 00.25%
Weed Seed: 00.33%
Inert Matter: 18.25%

There Is 2 Bags For This Mix
This Bag Weighs 26.58 Bulk Pounds
Use this bag for 2 Acres

Total Bulk Pounds: 53

14-Inch Vac to Jal Legacy - Seed Tag