District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☑ Final Report

Name of Company: Plains Pipeline, LP	Contact: Camille Bryant
Address: 2530 State Hwy. 214, Denver City, TX 79323	Telephone No.: (575)441-1099
Facility Name: Jal Station 2-Inch Sump Line	Facility Type: 2-Inch Sump Line

Surface Owner: Plains Pipeline, LP	Mineral Owner:	API No.

LOCATION OF RELEASE

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

Latitude N 32.078268 **Longitude** W 103.179757

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 5 bbls	Volume Recovered: 3 bbls
Source of Release: 2-Inch Sump Line	Date and Hour of Occurrence: 11/25/2014 @ 07:00	Date and Hour of Discovery: 11/25/2014 @ 07:15
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? Verbal notification to Tomas Oberding.	
By Whom? Camille Bryant	Date and Hour 11/25/2014 2 11:00	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By OCD District 1 at 9:18 am, Jul 22, 2015

Describe Cause of Problem and Remedial Action Taken.*
Internal corrosion of a 2-inch 90 resulted in a release of crude oil.

APPROVED
By OCD District 1 at 9:19 am, Jul 22, 2015

Describe Area Affected and Cleanup Action Taken.*
The released crude oil impacted an area measuring approximately 50' x 60' inside the facility. The impacted area was remediated per NMOCD recommended guidelines to the extent practicable. Soil samples collected from the floor and sidewalls of the excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and chloride were below the recommended remediation action levels (RRAL's) established for the site by the NMOCD. Soil exhibiting TPH concentrations above the RRAL will be remediated upon deactivation/decommission of the currently active station. Please reference the attached "Remediation Summary & Risk-Based Site Closure Request" for remediation details.

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

Signature: Camille Bryant

Printed Name: Camille Bryant

Title: Remediation Coordinator

E-mail Address: cjbryant@paalp.com

Date: Phone: (575)441-1099

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

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

Effective Solutions

REMEDIATION SUMMARY &

RISK-BASED SITE CLOSURE REQUEST

PLAINS ALL AMERICAN PIPELINE, LP
JAL STATION 2-INCH SUMP LINE
Plains SRS #2014-314
Lea County, New Mexico
Unit Letter "A" (NE/NE), Section 5, Township 26 South, Range 37 East
Latitude 32.078268° North, Longitude 103.179757° West
NMOCD Reference #1RP-3468

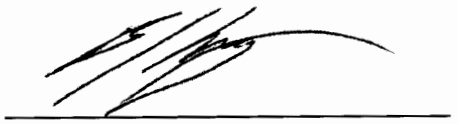
Prepared For:

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

Prepared By:

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

April 2015



Ben J. Arguijo
Project Manager

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains All American Pipeline, LP (Plains), has prepared this *Remediation Summary & Risk-Based Site Closure Request* for the release site known as Jal Station 2-Inch Sump Line. The legal description of the site is Unit Letter "A" (NE/NE), Section 5, Township 26 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates are 32.078268° North latitude and 103.179757° West longitude. The property affected by the release is owned by Plains. A "Site Location Map" is provided as Figure 1.

On November 25, 2014, Plains discovered a release had occurred at its Jal Station tank farm. Internal corrosion of a two-inch (2") sump line resulted in a release of crude oil. During initial response activities, the sump line was repaired, and a vacuum truck was utilized to recover free-standing fluid.

The release was immediately reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office. The "Release Notification and Corrective Action" (Form C-141) indicated approximately five barrels (5 bbls) of crude oil were released, and approximately three barrels (3 bbls) were recovered, resulting in a net loss of two barrels (2 bbls). The release impacted an area inside the Jal Station facility measuring approximately three thousand square feet (3,000 ft^2).

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

2.0 NMOCD SITE CLASSIFICATION

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

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

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

NMOCD guidelines indicate the Jal Station 2-Inch Sump Line release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

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

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On December 20, 2014, following initial response activities, remediation activities commenced at the site. A photo-ionization detector (PID) was used to field-screen the extent of impacted soil and to guide the excavation. The horizontal and vertical extents of the excavation were limited by the presence of several large-diameter pipelines, numerous appurtenances, and electrical lines in and around the release site. From December 10 through December 23, 2014, excavated soil was stockpiled on-site, pending final disposition.

On December 16, 2015, the stockpiled material was treated with a water/fertilizer mix, blended, and aerated to facilitate bioremediation.

On January 5, 2015, seven (7) soil samples (N. Wall #1, N. Wall #2, S. Wall #1, S. Wall #2, E. Wall #1, W. Wall #1, and Floor #1) were collected from the floor and sidewalls of the excavation and submitted to Xenco Laboratories, Inc., in Odessa, Texas, for analysis of BTEX, TPH, and chloride concentrations in accordance with Environmental Protection Agency (EPA) Methods SW 846-8021b, SW 846-8015M, and 300.1, respectively. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Soil sample locations are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical reports are provided as Appendix B.

Laboratory analytical results indicated benzene concentrations were less than the laboratory method detection limit (MDL) in all submitted soil samples. Total BTEX concentrations ranged from less than the laboratory MDL in samples N. Wall #1, S. Wall #1, and W. Wall #1 to 0.100 mg/kg in sample Floor #1. TPH concentrations ranged from 106 mg/kg in sample N. Wall #1 to 10,600 mg/kg in sample Floor #1.

Based on laboratory analytical results, on January 9 and January 27 through January 30, 2015, additional impacted soil was excavated, blended with the stockpiled material on-site, and aerated. The stockpile was left undisturbed for several days to facilitate bioremediation.

On January 30, 2015, a composite sample (Stockpile) was collected from the stockpiled material and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated the TPH concentration was 8,867 mg/kg.

On February 13, 2015, the stockpiled material was aerated to facilitate bioremediation.

On February 16, 2015, representatives of Plains and Basin Environmental met with a representative of the NMOCD Hobbs District Office to devise a strategy to advance the site to an NMOCD-approved closure. Due to safety and environmental concerns associated with the large-

diameter pipelines adjacent to and bisecting the excavation, as well as the potential for the release having commingled with existing historical contamination, permission was requested to leave soil represented by sample Floor #1 in-situ. Permission was also requested to use blow sand from the nearby extant dune field as backfill material. The requests were approved by the NMOCD representative, provided that additional vertical delineation in the floor of the excavation demonstrated a downward trend in TPH concentrations.

On March 9, 2015, the excavation was treated with a Micro-Blaze® solution and left undisturbed for several days to facilitate bioremediation.

On March 16, 2015, the area represented by sample Floor #1 was advanced to approximately five and one-half feet (5.5') bgs. One (1) soil sample (Floor #1b) was collected from the floor of the excavation and submitted to the laboratory for analysis of BTEX and TPH concentrations. Laboratory analytical results indicated the benzene concentration was less than the laboratory MDL, and the total BTEX concentration was 0.235 mg/kg. The TPH concentration was 5,690 mg/kg.

On March 27, 2015, representatives of Plains, Basin Environmental, and the NMOCD Hobbs District Office conducted a conference call to discuss remediation activities at the site. Since laboratory analytical results indicated a downward trend in TPH concentrations had been established, permission was requested to leave soil represented by sample Floor #1b in-situ and to backfill the excavation. A twenty (20) mil, impermeable, polyethylene liner would be installed in the deepest section of the excavation (approximately 5.5' bgs) to inhibit vertical migration of contaminants to groundwater and help mitigate potential releases. The requests were approved by the NMOCD representative.

With NMOCD approval, from April 6 through April 10, 2015, the excavation was backfilled with non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, a twenty (20) mil, polyethylene liner was installed in the excavation at approximately four and one-half feet (4.5') bgs. A cushion of sand was installed approximately one foot (1') both above and below the liner to protect the liner from damage during installation and backfilling activities. The final dimensions of the excavation were approximately eighty feet (80') in length, eighteen feet (18') to forty feet (40') in width, and six inches (6") to five and one-half feet (5.5') in depth.

From April 6 through April 10, 2015, approximately two hundred eighty cubic yards (280 yd^3) of impacted soil was transported to Lazy Ace Landfarm, LLC (NMOCD Permit #WM-01-041), for disposal.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

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

The soil samples were analyzed as follows:

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

4.2 Decontamination of Equipment

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

4.3 Laboratory Protocol

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

5.0 SITE CLOSURE REQUEST

Soil samples collected from the floor and sidewalls of the Jal Station 2-Inch Sump Line excavation were analyzed by an NMOCD-approved laboratory, and concentrations of benzene, BTEX, and chloride were below the regulatory remediation action levels established for the site by the NMOCD.

The release site was excavated to the extent practicable. A twenty (20) mil, impermeable, polyethylene liner was installed on the floor of the excavation prior to backfilling. This engineered control will help mitigate potential releases and server to inhibit vertical migration of contaminants to groundwater. In-situ soil exhibiting TPH concentrations above the regulatory remediation action level established for the site by the NMOCD will be remediated upon decommission and/or abandonment of the Jal Station tank farm.

Basin Environmental recommends Plains provide the NMOCD Hobbs District Office a copy of this *Remediation Summary & Risk-Based Site Closure Request* and request the NMOCD grant site closure to the Jal Station 2-Inch Sump Line release site.

6.0 LIMITATIONS

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

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

7.0 DISTRIBUTION:

Copy 1: Tomas Oberding
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 French Drive
Hobbs, NM 88240
tomas.oberding@state.nm.us

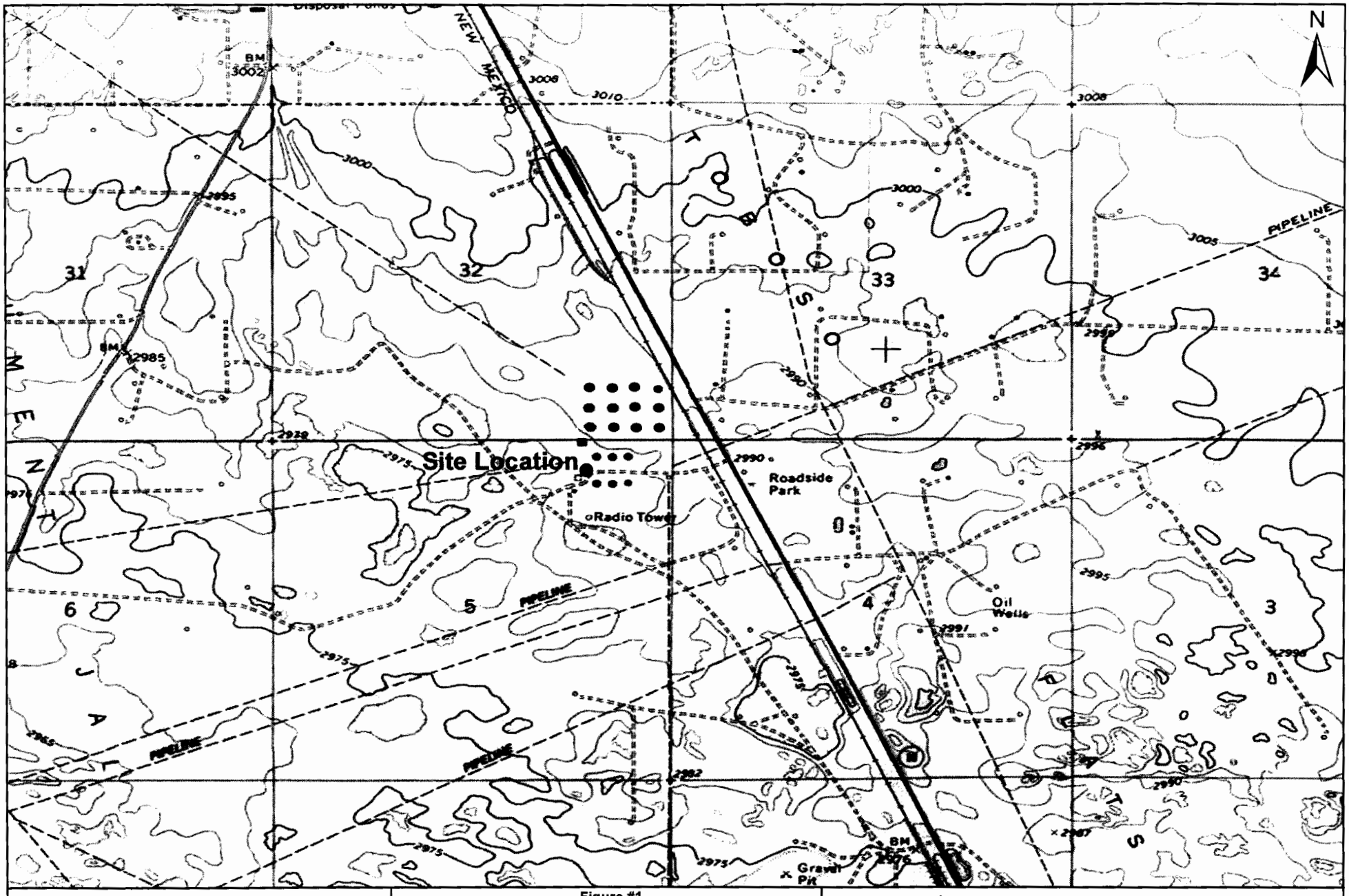
Copy 2: Kellie Jones
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 French Drive
Hobbs, NM 88240
kellie.jones@state.nm.us

Copy 3: Jeff Dann
Plains All American Pipeline, LP
333 Clay Street, Suite 1600
Houston, TX 77002
jpdann@paalp.com

Copy 4: Camille Bryant
Plains All American Pipeline, LP
2530 State Highway 214
Denver City, TX 79323
cjbryant@paalp.com

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

Figures



1,000 500 0 1,000 2,000

Distance in Feet

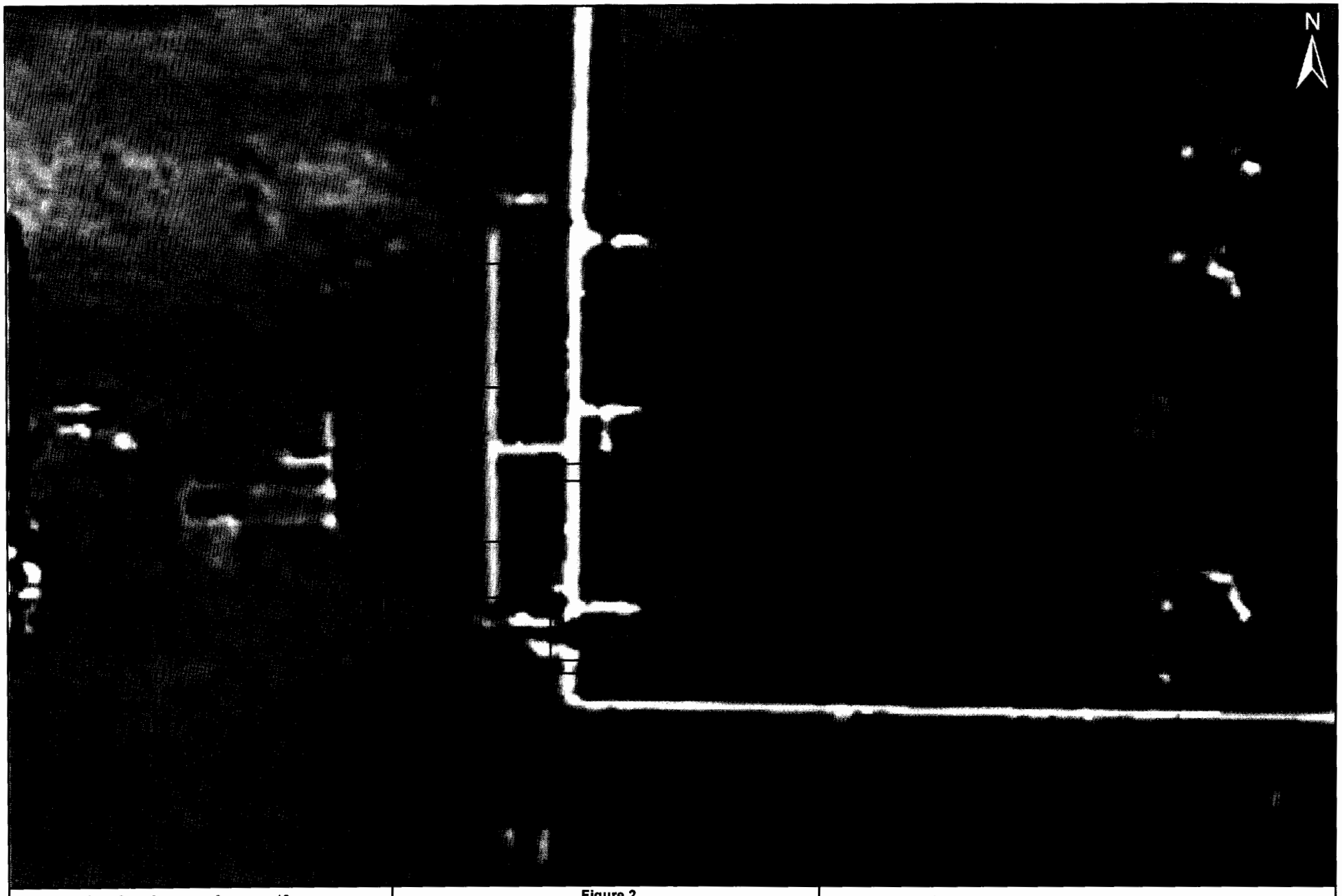
Figure #1
Site Location Map
Plains All American Pipeline, LP
Jal Station 2-Inch Sump Line
Lea County, New Mexico
Plains SRS #: 2014-314
NMOCD Reference #: 1RP-3468

Basin Environmental Service Technologies

Effective Solutions

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

Drawn By: BJA	Checked By: BRB
January 21, 2015	Scale: 1" = 2,000'



6 3 0 6 12

Distance in Feet

Legend

☐ Excavation Extent ● Sample Location

Figure 2
Site & Sample Location Map
Plains All American Pipeline, LP
Jal Station 2-Inch Sump Line
Lea County, New Mexico
Plains SRS #: 2014-314
NMOCD Reference #: 1RP-3468

Basin Environmental Service Technologies
Effective Solutions

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

Drawn By: BJA	Checked By: BRB
March 27, 2015	Scale: 1" = 12'

Tables

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

PLAINS PIPELINE, LP
JAL STATION 2-INCH SUMP LINE
LEA COUNTY, NEW MEXICO
PLAINS SRS #: 2014-314
NMOCD REFERENCE #: 1RP-3468

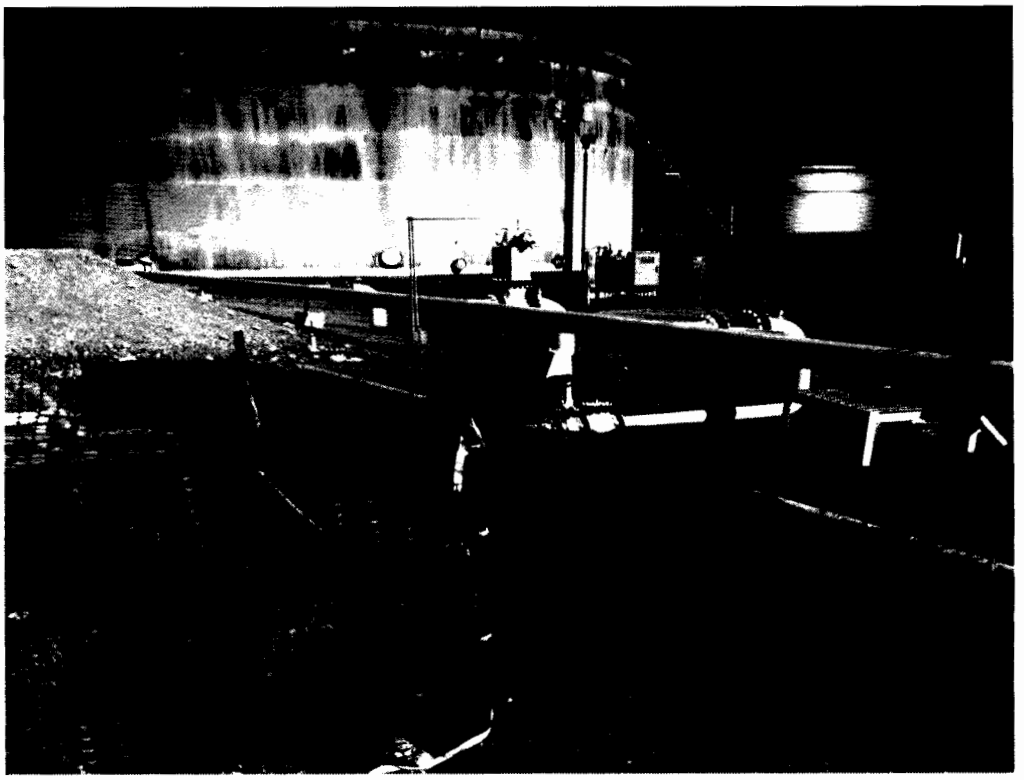
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030							METHOD: 8015M			TOTAL TPH C_6-C_{35} (mg/Kg)	300.1
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M.P. - XYLENES (mg/Kg)	O-XYLENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C_6-C_{12} (mg/Kg)	DRO C_{12}-C_{28} (mg/Kg)	ORO C_{28}-C_{35} (mg/Kg)		CHLORIDE (mg/Kg)
N. Wall #1	1'	1/5/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	16.9	88.7	<16.1	106	3.69
N. Wall #2	0.5'	1/5/2015	In-Situ	<0.0010	<0.0020	<0.0010	0.0026	<0.0010	0.0026	0.0026	<76.3	1,420	416	**1,840**	4.05
S. Wall #1	1'	1/5/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<16.4	123	33.0	156	2.76
S. Wall #2	0.5'	1/5/2015	In-Situ	<0.0010	<0.0020	<0.0010	0.0087	0.0258	0.0345	0.0345	119	1,830	282	**2,230**	3.48
E. Wall #1	1'	1/5/2015	In-Situ	<0.0010	<0.0020	0.0025	0.0096	0.0117	0.0213	0.0237	101	3,380	458	**3,940**	3.34
W. Wall #1	1'	1/5/2015	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	<77.6	881	332	**1,210**	3.05
Floor #1	4.5'	1/5/2015	Excavated	<0.0010	0.0243	0.0164	0.0179	0.0417	0.0596	0.100	374	9,040	1,220	**10,600**	20.4
Stockpile	N/A	1/30/2015	Blended	-	-	-	-	-	-	-	1,470	7,000	397	**8,867**	-
Floor #1b	5.5'	3/16/2015	In-Situ	<0.0010	0.0105	0.0042	0.0550	0.165	0.220	0.235	416	4,700	577	**5,690**	-
NMOCD Recommended Remediation Action Level				**10**						**50**				**1,000**	**500**

- = Not analyzed.

Appendices

Appendix A

Photographs

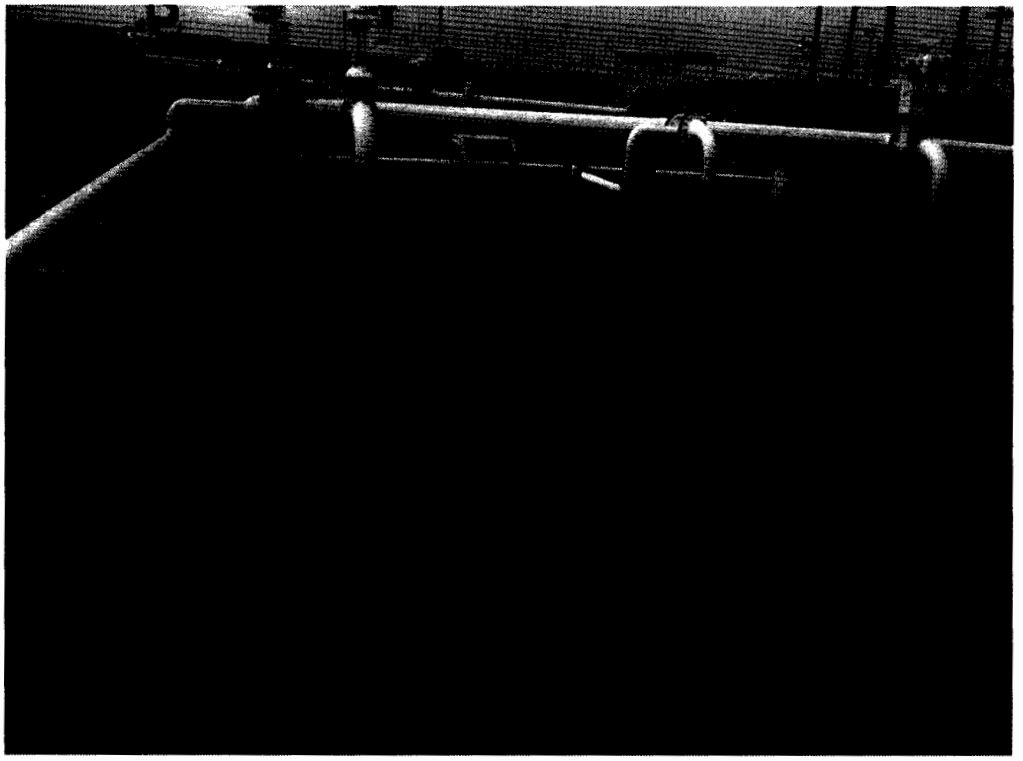


Jal Station 2-Inch Sump Line - Release Site (Looking Northeast)

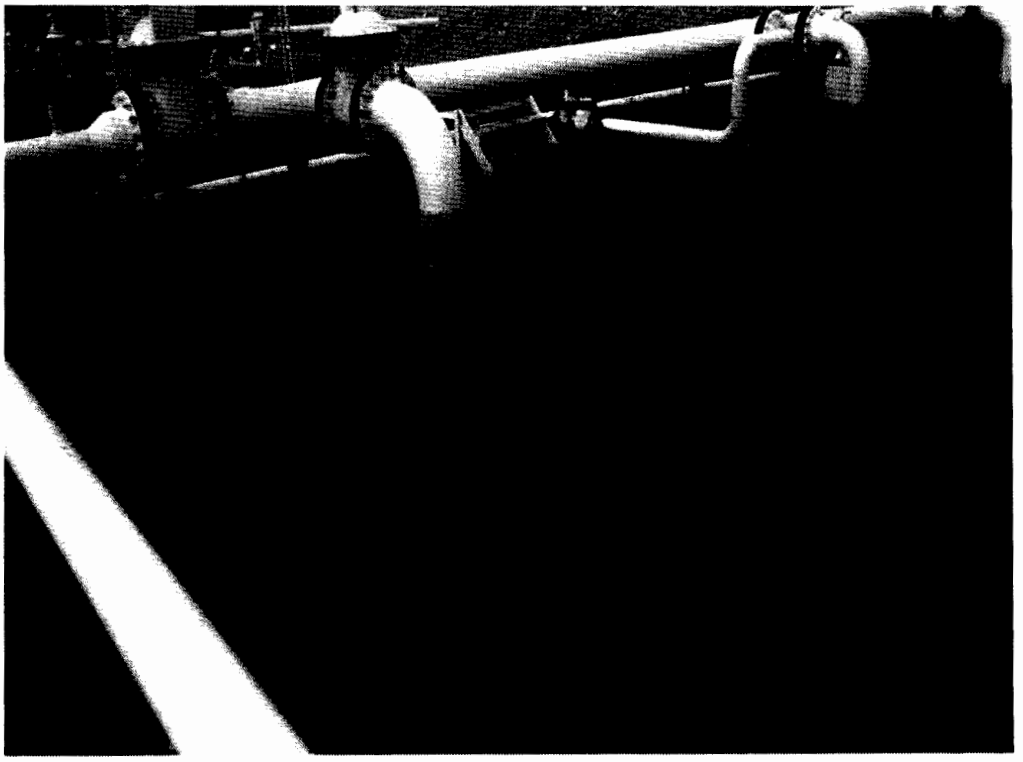
Jal Station 2-Inch Sump Line - Release Site (Looking North)

Jal Station 2-Inch Sump Line - Release Site (Looking Northeast)

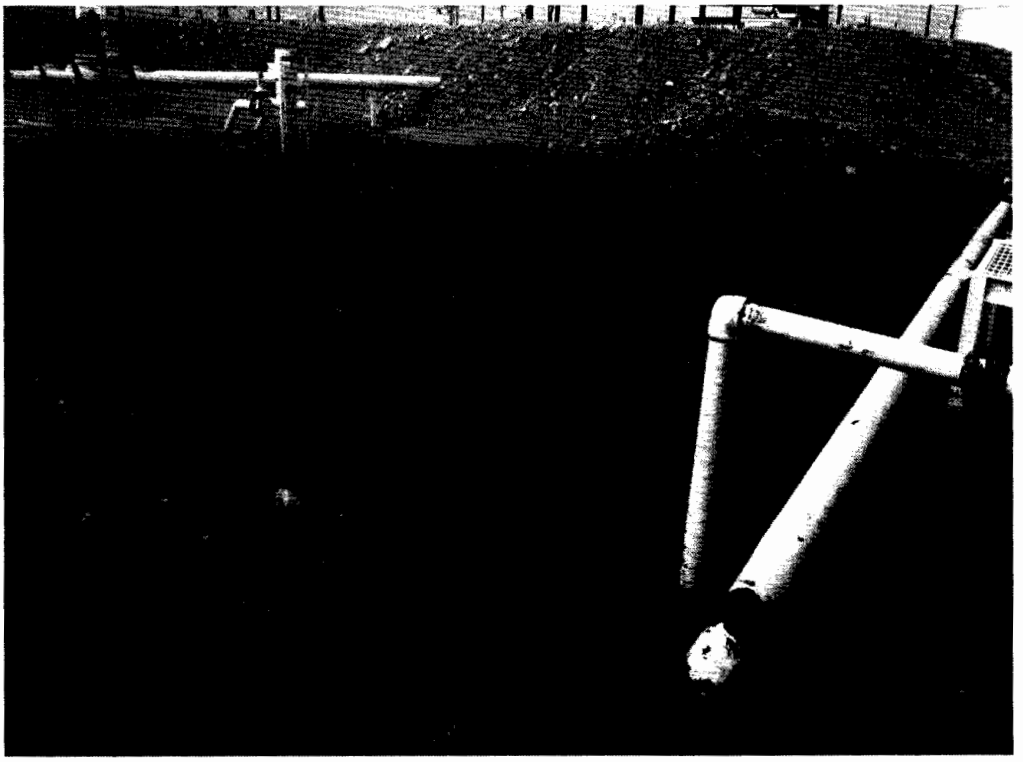
Jal Station 2-Inch Sump Line - Release Site
(Looking Northeast; Buried Pipelines Flagged in Yellow)



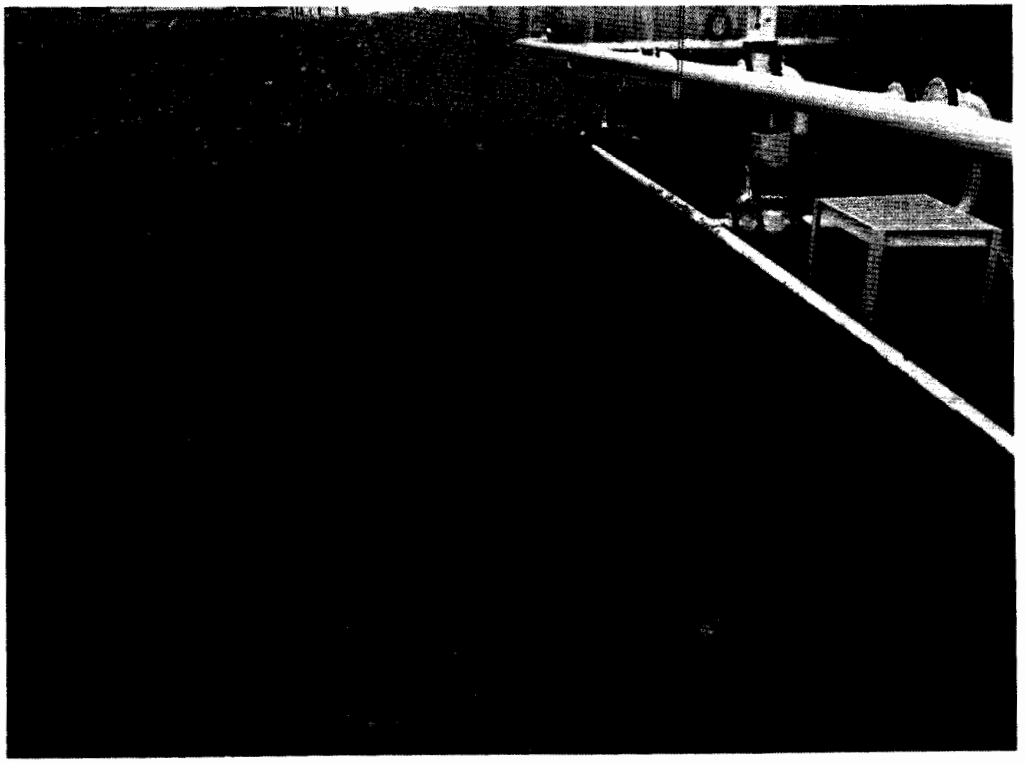
Jal Station 2-Inch Sump Line – Excavation (Looking West)



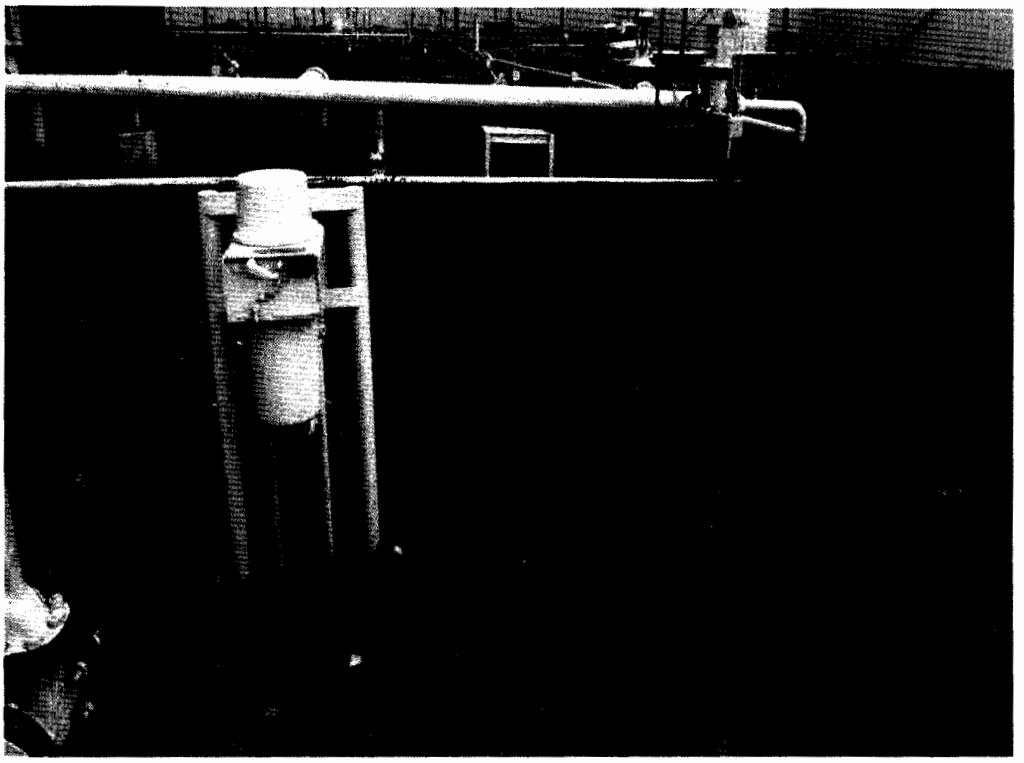
Jal Station 2-Inch Sump Line – Excavation (Looking Northwest)



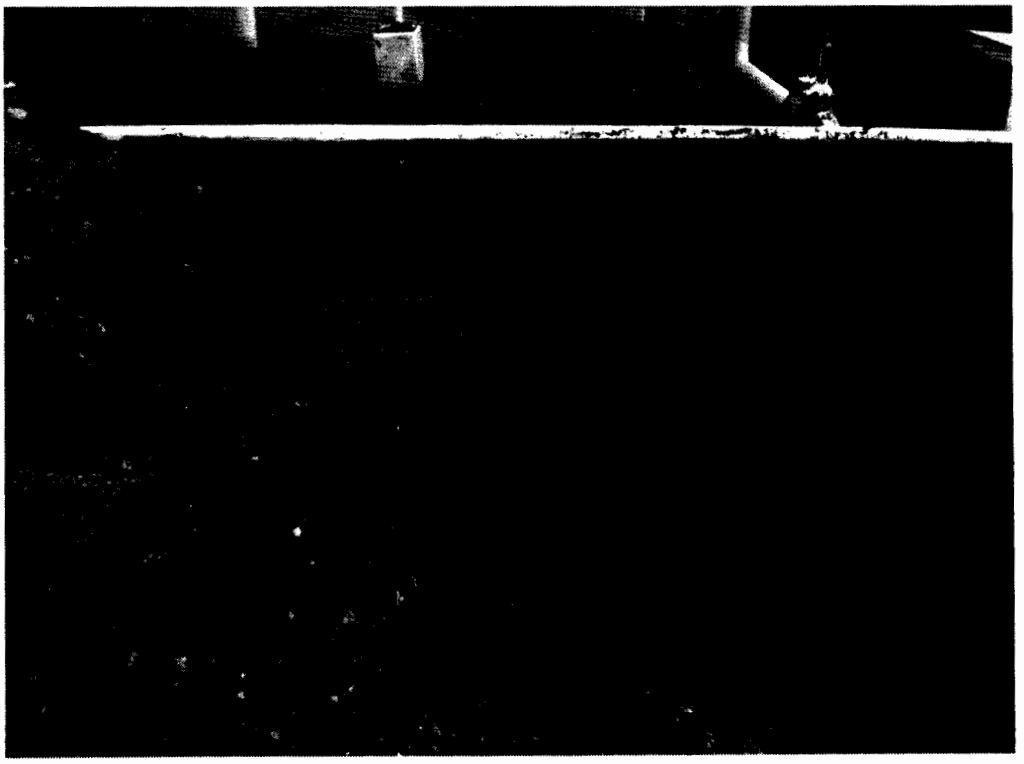
Jal Station 2-Inch Sump Line – Excavation (Looking Northwest)



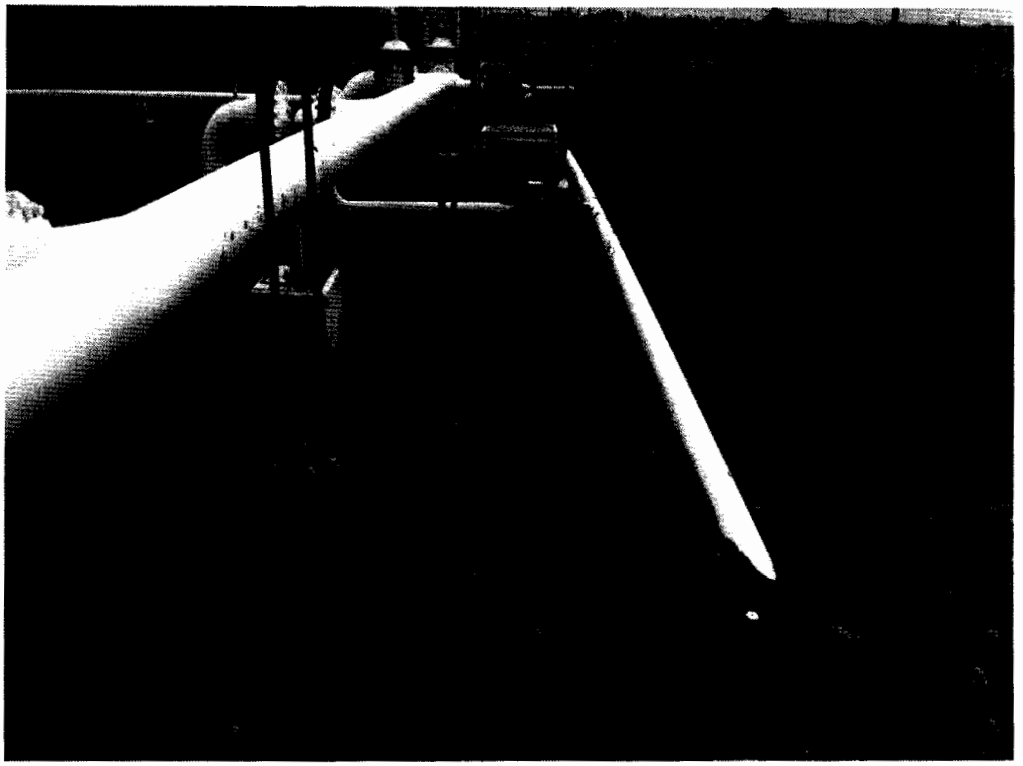
Jal Station 2-Inch Sump Line – Excavation (Looking North)



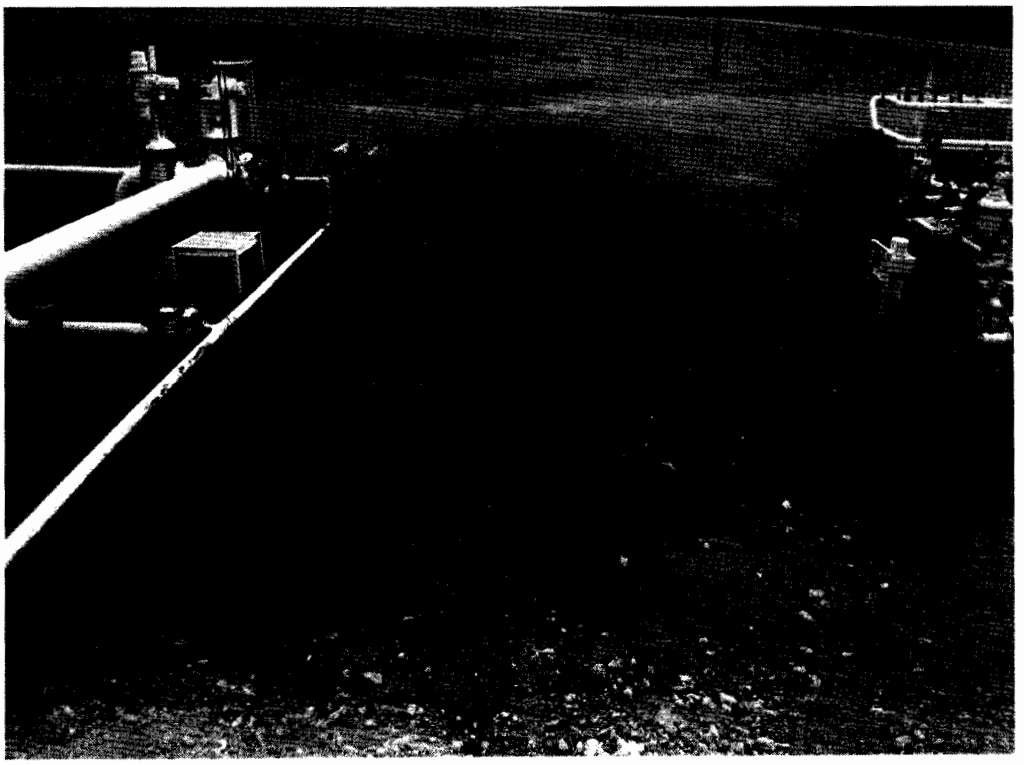
Jal Station 2-Inch Sump Line – Excavation (Looking East)



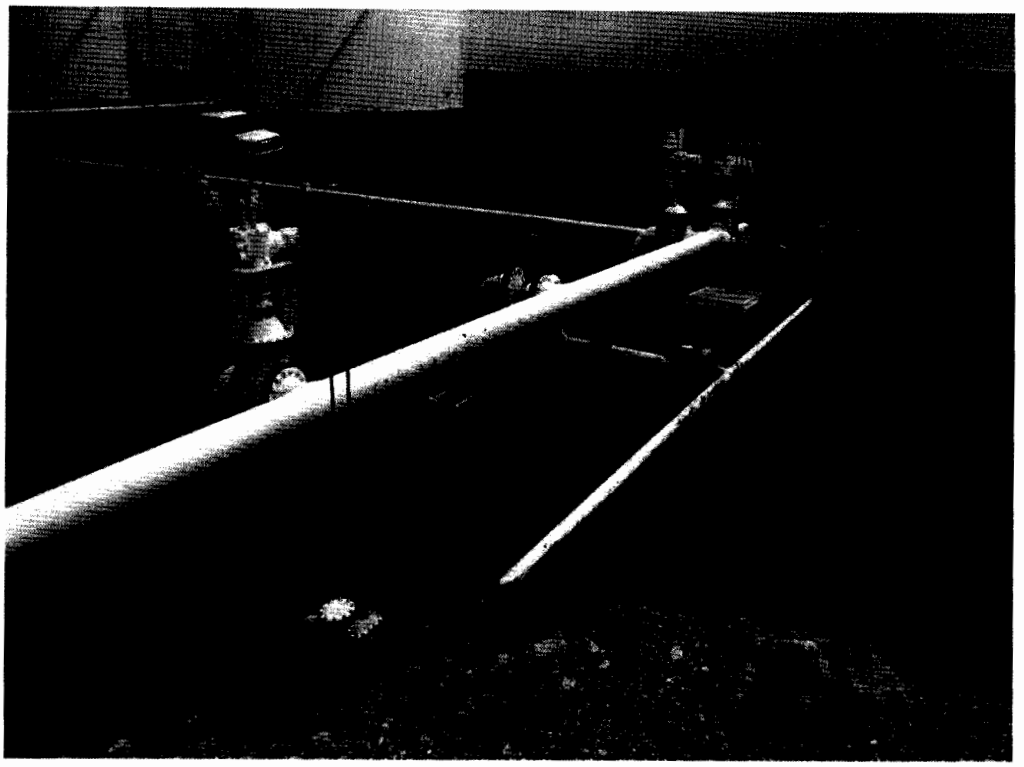
Jal Station 2-Inch Sump Line – Excavation (Looking East)



Jal Station 2-Inch Sump Line – Excavation (Looking South)

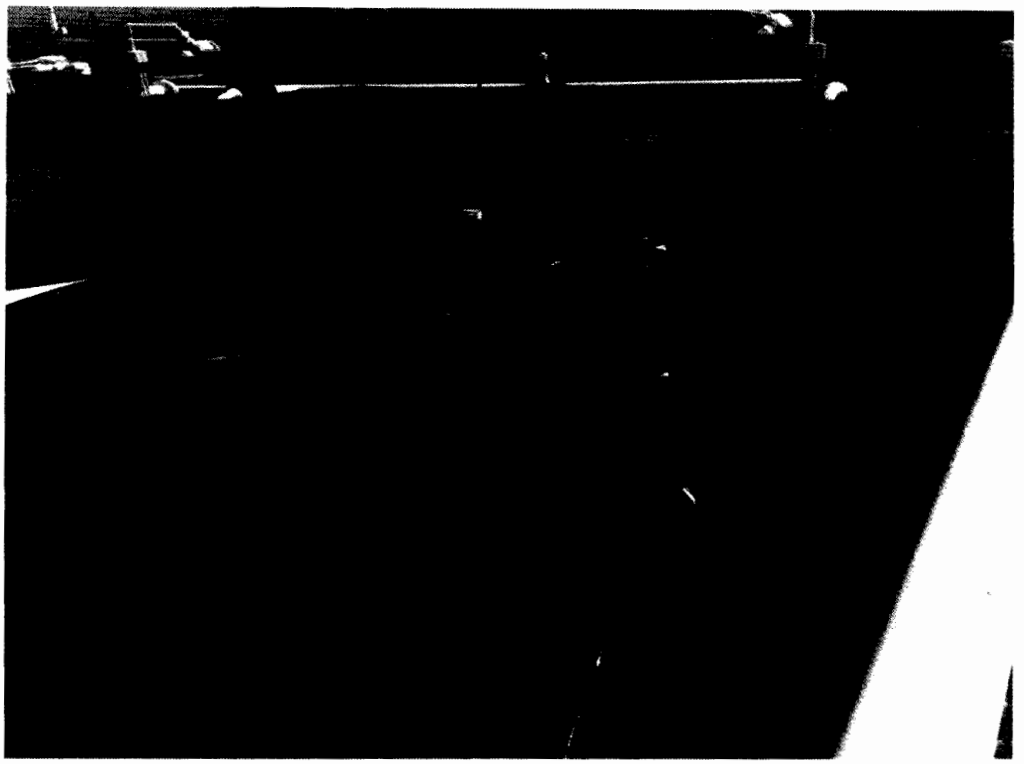


Jal Station 2-Inch Sump Line – Excavation (Looking South)

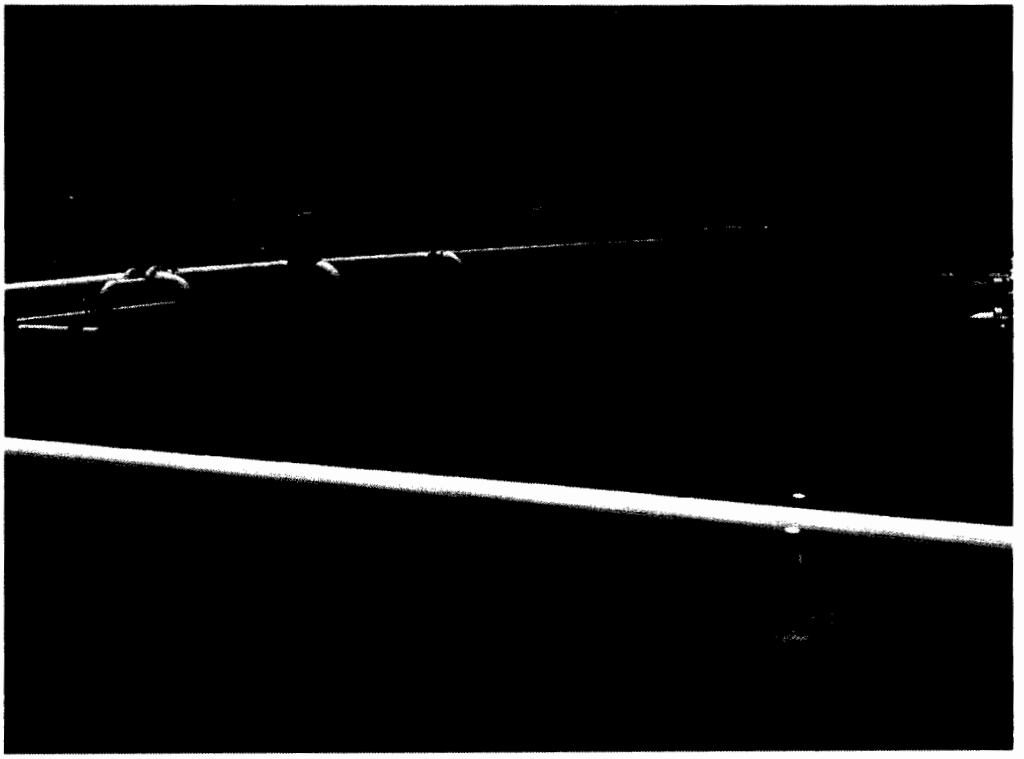


Jal Station 2-Inch Sump Line – Excavation (Looking Southeast)

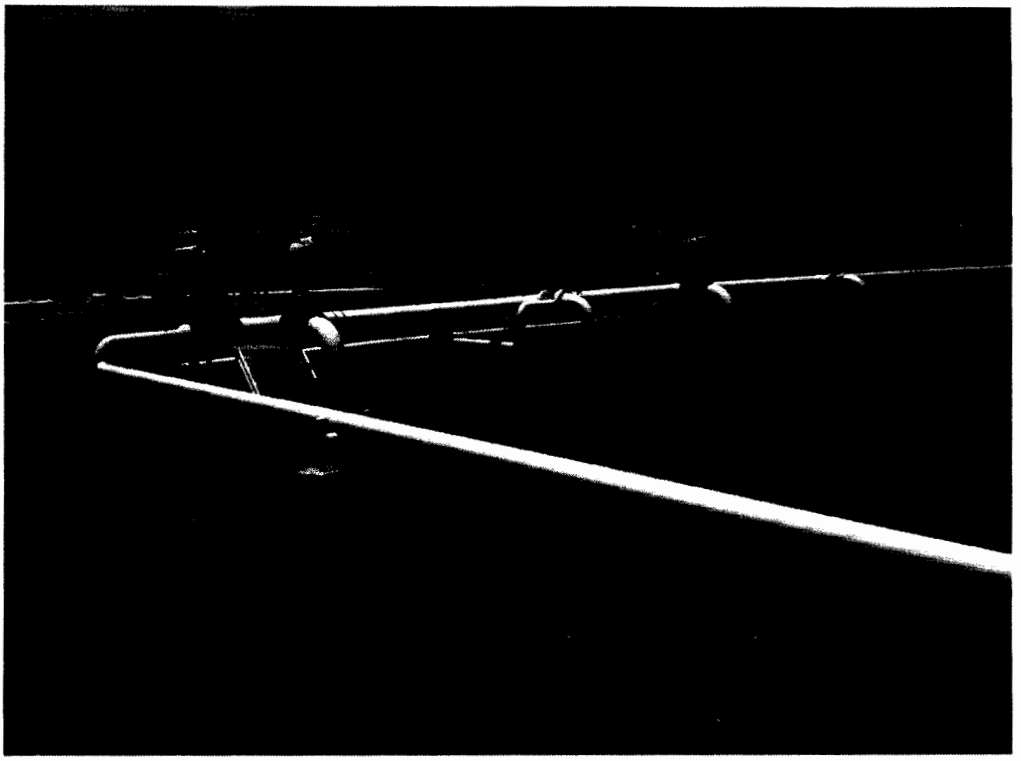
Jal Station 2-Inch Sump Line – Liner Installation & Backfilling (Looking Northeast)



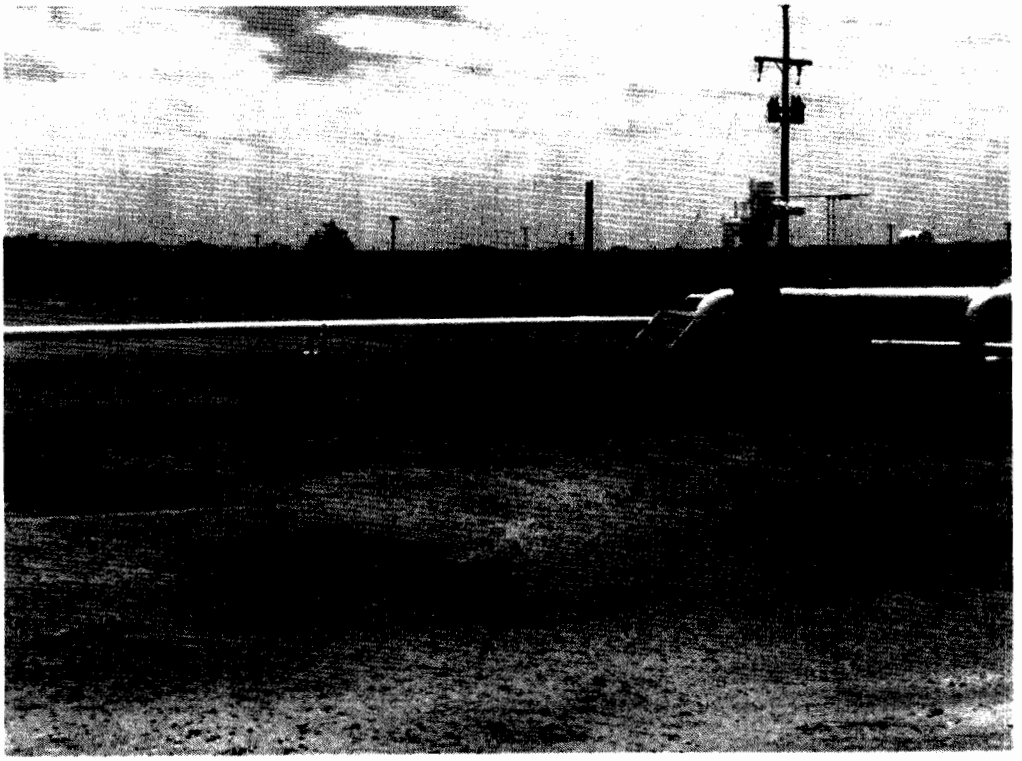
Jal Station 2-Inch Sump Line – Liner Installation & Backfilling (Looking East-Northeast)



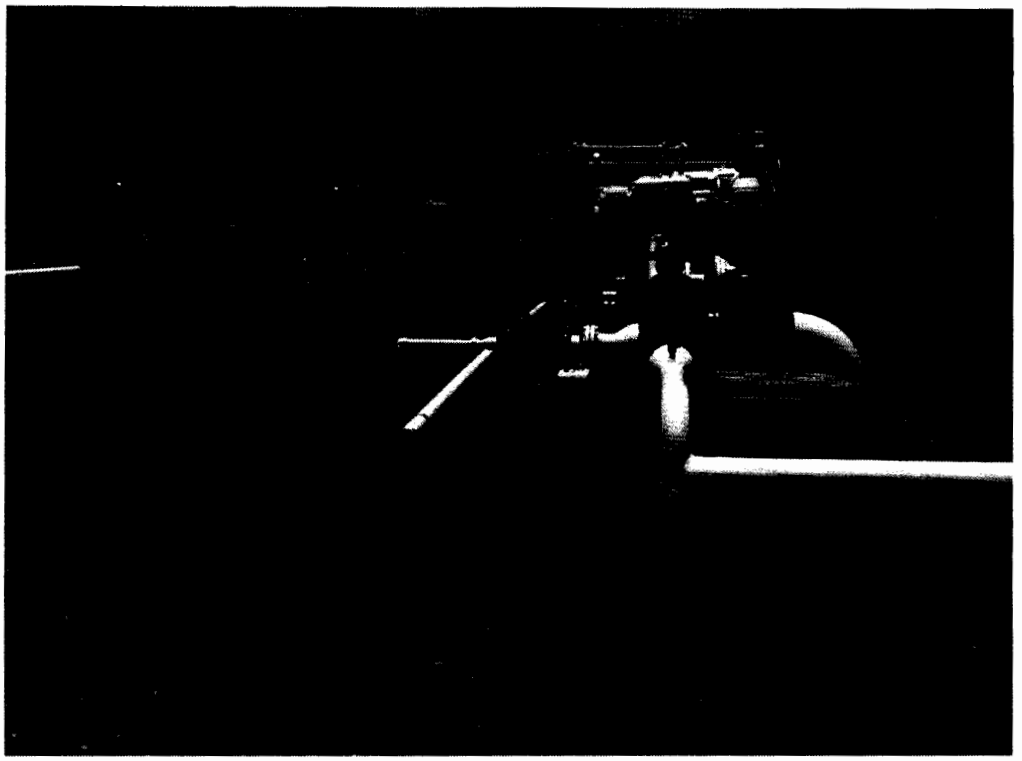
Jal Station 2-Inch Sump Line – Liner Installation & Backfilling (Looking Northwest)



Jal Station 2-Inch Sump Line –Backfilled Excavation (Looking West-Northwest)



Jal Station 2-Inch Sump Line –Backfilled Excavation (Looking Southwest)



Jal Station 2-Inch Sump Line –Backfilled Excavation (Looking North)

Jal Station 2-Inch Sump Line –Backfilled Excavation (Looking Northwest)

Appendix B

Laboratory Analytical Reports

Analytical Report 500102

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Jal Station 2-Inch Sump Line

SRS#2014-314

21-JAN-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

21-JAN-15

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

Reference: XENCO Report No(s): **500102**
Jal Station 2-Inch Sump Line
Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 500102. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 500102 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,

Kelsey Brooks
Project Manager

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

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

Sample Cross Reference 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
N.Wall #1	S	01-05-15 12:45		500102-001
N.Wall #2	S	01-05-15 13:10		500102-002
S. Wall #1	S	01-05-15 12:50		500102-003
S. Wall #2	S	01-05-15 13:05		500102-004
E. Wall #1	S	01-05-15 12:35		500102-005
W. Wall #1	S	01-05-15 13:15		500102-006
Floor #1	S	01-05-15 12:40		500102-007

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Jal Station 2-Inch Sump Line

Project ID: *SRS#2014-314*
Work Order Number(s): *500102*

Report Date: *21-JAN-15*
Date Received: *01/08/2015*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-959737 BTEX by EPA 8021
Benzene, m_p-Xylenes recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 500102-001.
The Laboratory Control Sample for Benzene, m_p-Xylenes is within laboratory Control Limits

XENCO Laboratories

Hits Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **N.Wall #1**
Lab Sample Id : 500102-001

Matrix : Soil
Date Collected : 01.05.15 12.45
Date Received : 01.08.15 14.45

% Moisture : 7.18
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.69	mg/kg	01.10.15 06.49		1

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	16.9	mg/kg	01.15.15 08.23		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	88.7	mg/kg	01.15.15 08.23		1
Total TPH	PHC635	106	mg/kg	01.15.15 08.23		1

Sample Id : **N.Wall #2**
Lab Sample Id : 500102-002

Matrix : Soil
Date Collected : 01.05.15 13.10
Date Received : 01.08.15 14.45

% Moisture : 1.9
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.05	mg/kg	01.10.15 07.57		1

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1420	mg/kg	01.15.15 08.43		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	416	mg/kg	01.15.15 08.43		5
Total TPH	PHC635	1840	mg/kg	01.15.15 08.43		5

XENCO Laboratories

Hits Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **N.Wall #2** Matrix : Soil % Moisture :
Lab Sample Id : 500102-002 Date Collected : 01.05.15 13.10 Basis : Wet Weight
Date Received : 01.08.15 14.45

Analytical Method : BTEX by EPA 8021 Prep Method: SW5030B
Seq Number 959737 Date Prep: 01.16.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
m_p-Xylenes	179601-23-1	0.00255	mg/kg	01.17.15 21.16		1
Xylenes, Total	1330-20-7	0.00255	mg/kg	01.17.15 21.16		1
Total BTEX		0.00255	mg/kg	01.17.15 21.16		1

Sample Id : **S. Wall #1** Matrix : Soil % Moisture : 8.62
Lab Sample Id : 500102-003 Date Collected : 01.05.15 12.50 Basis : Dry Weight
Date Received : 01.08.15 14.45

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 959255 Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2.76	mg/kg	01.10.15 08.20		1

Analytical Method : TPH by SW8015 Mod Prep Method: TX1005P
Seq Number 959564 Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	123	mg/kg	01.15.15 09.03		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	33.0	mg/kg	01.15.15 09.03		1
Total TPH	PHC635	156	mg/kg	01.15.15 09.03		1

Hits Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **S. Wall #2**
Lab Sample Id : 500102-004

Matrix : Soil
Date Collected : 01.05.15 13.05
Date Received : 01.08.15 14.45

% Moisture : 9.53
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.48	mg/kg	01.10.15 08.42		1

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	119	mg/kg	01.15.15 09.45		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	1830	mg/kg	01.15.15 09.45		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	282	mg/kg	01.15.15 09.45		1
Total TPH	PHC635	2230	mg/kg	01.15.15 09.45		1

Sample Id : **S. Wall #2**
Lab Sample Id : 500102-004

Matrix : Soil
Date Collected : 01.05.15 13.05
Date Received : 01.08.15 14.45

% Moisture :
Basis : Wet Weight

Analytical Method : BTEX by EPA 8021
Seq Number 959737

Prep Method: SW5030B
Date Prep: 01.16.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
m_p-Xylenes	179601-23-1	0.00868	mg/kg	01.17.15 21.47		1
o-Xylene	95-47-6	0.0258	mg/kg	01.17.15 21.47		1
Xylenes, Total	1330-20-7	0.0345	mg/kg	01.17.15 21.47		1
Total BTEX		0.0345	mg/kg	01.17.15 21.47		1

XENCO Laboratories

Hits Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **E. Wall #1**
Lab Sample Id : 500102-005

Matrix : Soil
Date Collected : 01.05.15 12.35
Date Received : 01.08.15 14.45

% Moisture : 5.4
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.34	mg/kg	01.10.15 09.05		1

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	101	mg/kg	01.15.15 10.07		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	3380	mg/kg	01.15.15 10.07		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	458	mg/kg	01.15.15 10.07		1
Total TPH	PHC635	3940	mg/kg	01.15.15 10.07		1

Sample Id : **E. Wall #1**
Lab Sample Id : 500102-005

Matrix : Soil
Date Collected : 01.05.15 12.35
Date Received : 01.08.15 14.45

% Moisture :
Basis : Wet Weight

Analytical Method : BTEX by EPA 8021
Seq Number 959737

Prep Method: SW5030B
Date Prep: 01.16.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Ethylbenzene	100-41-4	0.00248	mg/kg	01.17.15 22.04		1
m_p-Xylenes	179601-23-1	0.00956	mg/kg	01.17.15 22.04		1
o-Xylene	95-47-6	0.0117	mg/kg	01.17.15 22.04		1
Xylenes, Total	1330-20-7	0.0213	mg/kg	01.17.15 22.04		1
Total BTEX		0.0237	mg/kg	01.17.15 22.04		1

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **W. Wall #1**
Lab Sample Id : 500102-006

Matrix : Soil
Date Collected : 01.05.15 13.15
Date Received : 01.08.15 14.45

% Moisture : 3.67
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3.05	mg/kg	01.10.15 09.28		1

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C12-C28 Diesel Range Hydrocarbons	PHCG1028	881	mg/kg	01.15.15 10.29		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	332	mg/kg	01.15.15 10.29		5
Total TPH	PHC635	1210	mg/kg	01.15.15 10.29		5

Sample Id : **Floor #1**
Lab Sample Id : 500102-007

Matrix : Soil
Date Collected : 01.05.15 12.40
Date Received : 01.08.15 14.45

% Moisture : 3.11
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 959255

Prep Method: E300P
Date Prep: 01.09.15 16.30

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	mg/kg	01.10.15 10.13		5

Analytical Method : TPH by SW8015 Mod
Seq Number 959564

Prep Method: TX1005P
Date Prep: 01.14.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C12 Gasoline Range Hydrocarbons	PHC612	374	mg/kg	01.15.15 12.35		5
C12-C28 Diesel Range Hydrocarbons	PHCG1028	9040	mg/kg	01.15.15 12.35		5
C28-C35 Oil Range Hydrocarbons	PHCG2835	1220	mg/kg	01.15.15 12.35		5
Total TPH	PHC635	10600	mg/kg	01.15.15 12.35		5

XENCO Laboratories

Hits Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id : **Floor #1**
Lab Sample Id : 500102-007

Matrix : Soil
Date Collected : 01.05.15 12.40
Date Received : 01.08.15 14.45

% Moisture :
Basis : Wet Weight

Analytical Method : BTEX by EPA 8021
Seq Number 959737

Prep Method: SW5030B
Date Prep: 01.16.15 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Toluene	108-88-3	0.0243	mg/kg	01.17.15 23.25		1
Ethylbenzene	100-41-4	0.0164	mg/kg	01.17.15 23.25		1
m_p-Xylenes	179601-23-1	0.0179	mg/kg	01.17.15 23.25		1
o-Xylene	95-47-6	0.0417	mg/kg	01.17.15 23.25		1
Xylenes, Total	1330-20-7	0.0596	mg/kg	01.17.15 23.25		1
Total BTEX		0.100	mg/kg	01.17.15 23.25		1

Certificate of Analysis Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Jal Station 2-Inch Sump Line

Project Id: SRS#2014-314
Contact: Ben Arguijo
Project Location:

Date Received in Lab: Thu Jan-08-15 02:45 pm
Report Date: 21-JAN-15
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	500102-001		500102-002		500102-003		500102-004		500102-005		500102-006	
	Field Id:	N.Wall #1		N.Wall #2		S. Wall #1		S. Wall #2		E. Wall #1		W. Wall #1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-05-15 12:45		Jan-05-15 13:10		Jan-05-15 12:50		Jan-05-15 13:05		Jan-05-15 12:35		Jan-05-15 13:15	
BTEX by EPA 8021	*Extracted:*	Jan-16-15 15:00		Jan-16-15 15:00		Jan-16-15 15:00		Jan-16-15 15:00		Jan-16-15 15:00		Jan-16-15 15:00	
	Analyzed:	Jan-17-15 19:38		Jan-17-15 21:16		Jan-17-15 21:32		Jan-17-15 21:47		Jan-17-15 22:04		Jan-17-15 23:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.000994	ND	0.000996	ND	0.000996	ND	0.000992	ND	0.000998	ND	0.00100
Toluene		ND	0.00199	ND	0.00199	ND	0.00199	ND	0.00198	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.000994	ND	0.000996	ND	0.000996	ND	0.000992	0.00248	0.000998	ND	0.00100
m_p-Xylenes		ND	0.00199	0.00255	0.00199	ND	0.00199	0.00868	0.00198	0.00956	0.00200	ND	0.00200
o-Xylene		ND	0.000994	ND	0.000996	ND	0.000996	0.0258	0.000992	0.0117	0.000998	ND	0.00100
Xylenes, Total		ND	0.000994	0.00255	0.000996	ND	0.000996	0.0345	0.000992	0.0213	0.000998	ND	0.00100
Total BTEX		ND	0.000994	0.00255	0.000996	ND	0.000996	0.0345	0.000992	0.0237	0.000998	ND	0.00100
Inorganic Anions by EPA 300/300.1	*Extracted:*	Jan-09-15 16:30		Jan-09-15 16:30		Jan-09-15 16:30		Jan-09-15 16:30		Jan-09-15 16:30		Jan-09-15 16:30	
	Analyzed:	Jan-10-15 06:49		Jan-10-15 07:57		Jan-10-15 08:20		Jan-10-15 08:42		Jan-10-15 09:05		Jan-10-15 09:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3.69	2.15	4.05	2.04	2.76	2.19	3.48	2.21	3.34	2.11	3.05	2.08
Percent Moisture	*Extracted:*												
	Analyzed:	Jan-12-15 09:40		Jan-12-15 09:40		Jan-12-15 09:40		Jan-12-15 09:40		Jan-12-15 09:40		Jan-12-15 09:40	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.18	1.00	1.90	1.00	8.62	1.00	9.53	1.00	5.40	1.00	3.67	1.00
TPH by SW8015 Mod	*Extracted:*	Jan-14-15 15:00		Jan-14-15 15:00		Jan-14-15 15:00		Jan-14-15 15:00		Jan-14-15 15:00		Jan-14-15 15:00	
	Analyzed:	Jan-15-15 08:23		Jan-15-15 08:43		Jan-15-15 09:03		Jan-15-15 09:45		Jan-15-15 10:07		Jan-15-15 10:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		16.9	16.1	ND	76.3	ND	16.4	119	16.5	101	15.8	ND	77.6
C12-C28 Diesel Range Hydrocarbons		88.7	16.1	1420	76.3	123	16.4	1830	16.5	3380	15.8	881	77.6
C28-C35 Oil Range Hydrocarbons		ND	16.1	416	76.3	33.0	16.4	282	16.5	458	15.8	332	77.6
Total TPH		106	16.1	1840	76.3	156	16.4	2230	16.5	3940	15.8	1210	77.6

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

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 500102

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Jal Station 2-Inch Sump Line

Project Id: SRS#2014-314
Contact: Ben Arguijo
Project Location:

Date Received in Lab: Thu Jan-08-15 02:45 pm
Report Date: 21-JAN-15
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	500102-007					
	Field Id:	Floor #1					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jan-05-15 12:40					
BTEX by EPA 8021	***Extracted:***	Jan-16-15 15:00					
	Analyzed:	Jan-17-15 23:25					
	Units/RL:	mg/kg	RL				
Benzene		ND	0.000994				
Toluene		0.0243	0.00199				
Ethylbenzene		0.0164	0.000994				
m_p-Xylenes		0.0179	0.00199				
o-Xylene		0.0417	0.000994				
Xylenes, Total		0.0596	0.000994				
Total BTEX		0.100	0.000994				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jan-09-15 16:30					
	Analyzed:	Jan-10-15 10:13					
	Units/RL:	mg/kg	RL				
Chloride		20.4	10.3				
Percent Moisture	***Extracted:***						
	Analyzed:	Jan-12-15 09:40					
	Units/RL:	%	RL				
Percent Moisture		3.11	1.00				
TPH by SW8015 Mod	***Extracted:***	Jan-14-15 15:00					
	Analyzed:	Jan-15-15 12:35					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		374	77.1				
C12-C28 Diesel Range Hydrocarbons		9040	77.1				
C28-C35 Oil Range Hydrocarbons		1220	77.1				
Total TPH		10600	77.1				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and 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.

Kelsey Brooks
Project 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 quantitation limit and above the detection limit.

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 500102, 500102 **Project ID:** SRS#2014-314

Lab Batch #: 959564 **Sample:** 500102-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 08:23

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	99.9	80	70-135	
o-Terphenyl	43.1	50.0	86	70-135	

Lab Batch #: 959564 **Sample:** 500102-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 08:43

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	99.8	81	70-135	
o-Terphenyl	45.3	49.9	91	70-135	

Lab Batch #: 959564 **Sample:** 500102-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 09:03

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.6	99.8	81	70-135	
o-Terphenyl	44.8	49.9	90	70-135	

Lab Batch #: 959564 **Sample:** 500102-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 09:45

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.6	99.6	91	70-135	
o-Terphenyl	47.3	49.8	95	70-135	

Lab Batch #: 959564 **Sample:** 500102-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 10:07

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.3	99.8	94	70-135	
o-Terphenyl	51.4	49.9	103	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 500102, 500102 **Project ID:** SRS#2014-314

Lab Batch #: 959564 **Sample:** 500102-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 10:29

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.3	99.7	78	70-135	
o-Terphenyl	43.5	49.9	87	70-135	

Lab Batch #: 959564 **Sample:** 500102-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 12:35

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	99.6	85	70-135	
o-Terphenyl	57.6	49.8	116	70-135	

Lab Batch #: 959737 **Sample:** 500102-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 19:38

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 959737 **Sample:** 500102-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 21:16

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 959737 **Sample:** 500102-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 21:32

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0357	0.0300	119	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: Jal Station 2-Inch Sump Line

Work Orders : 500102, 500102 **Project ID:** SRS#2014-314

Lab Batch #: 959737 **Sample:** 500102-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 21:47

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 959737 **Sample:** 500102-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 22:04

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 959737 **Sample:** 500102-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 23:09

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 959737 **Sample:** 500102-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 23:25

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 959564 **Sample:** 667096-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/14/15 22:56

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.5	100	88	70-135	
o-Terphenyl	48.6	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

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 500102, 500102 **Project ID:** SRS#2014-314

Lab Batch #: 959737 **Sample:** 667222-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/15 17:59

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	0.0283	0.0300	94	80-120	

Lab Batch #: 959564 **Sample:** 667096-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/14/15 23:17

TPH by SW8015 Mod	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 959737 **Sample:** 667222-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/15 18:16

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 959564 **Sample:** 667096-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/14/15 23:37

TPH by SW8015 Mod	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 959737 **Sample:** 667222-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/15 18:32

BTEX by EPA 8021	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0253	0.0300	84	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: Jal Station 2-Inch Sump Line

Work Orders : 500102, 500102 **Project ID:** SRS#2014-314

Lab Batch #: 959564 **Sample:** 500182-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 14:12

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	49.5	49.9	99	70-135	

Lab Batch #: 959737 **Sample:** 500102-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 18:49

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 959564 **Sample:** 500182-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/15/15 14:32

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.7	100	70-135	
o-Terphenyl	46.7	49.9	94	70-135	

Lab Batch #: 959737 **Sample:** 500102-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/15 19:05

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	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 / BSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 500102, 500102 **Project ID:** SRS#2014-314

Analyst: ARM **Date Prepared:** 01/16/2015 **Date Analyzed:** 01/17/2015

Lab Batch ID: 959737 **Sample:** 667222-1-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	<0.00100	0.100	0.0881	88	0.100	0.0892	89	1	70-130	35	
Toluene	<0.00200	0.100	0.105	105	0.100	0.105	105	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.116	116	0.100	0.117	117	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.222	111	0.200	0.221	111	0	70-135	35	
o-Xylene	<0.00100	0.100	0.108	108	0.100	0.108	108	0	71-133	35	

Analyst: JUM **Date Prepared:** 01/09/2015 **Date Analyzed:** 01/10/2015

Lab Batch ID: 959255 **Sample:** 666868-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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	<2.00	50.0	46.2	92	50.0	54.8	110	17	90-110	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

BS / BSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 500102, 500102 **Project ID:** SRS#2014-314

Analyst: ARM **Date Prepared:** 01/14/2015 **Date Analyzed:** 01/14/2015

Lab Batch ID: 959564 **Sample:** 667096-1-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	1000	821	82	1000	815	82	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1040	104	1000	1020	102	2	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 Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 500102

Lab Batch #: 959255 **Project ID:** SRS#2014-314

Date Analyzed: 01/10/2015 **Date Prepared:** 01/09/2015 **Analyst:** JUM

QC- Sample ID: 500089-003 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	4780	10000	14400	96	80-120	

Lab Batch #: 959255

Date Analyzed: 01/10/2015 **Date Prepared:** 01/09/2015 **Analyst:** JUM

QC- Sample ID: 500102-006 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	3.05	51.9	52.7	96	80-120	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order # : 500102 **Project ID:** SRS#2014-314

Lab Batch ID: 959737 **QC- Sample ID:** 500102-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2015 **Date Prepared:** 01/16/2015 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0568	57	0.0998	0.0586	59	3	70-130	35	X
Toluene	<0.00200	0.0998	0.0914	92	0.0998	0.0856	86	7	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.107	107	0.0998	0.102	102	5	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.128	64	0.200	0.105	53	20	70-135	35	X
o-Xylene	<0.000998	0.0998	0.102	102	0.0998	0.0982	98	4	71-133	35	

Lab Batch ID: 959564 **QC- Sample ID:** 500182-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/15/2015 **Date Prepared:** 01/14/2015 **Analyst:** ARM

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	<15.7	1050	856	82	1050	848	81	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.7	1050	1070	102	1050	1070	102	0	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 500102

Lab Batch #: 959310 **Project ID:** SRS#2014-314

Date Analyzed: 01/12/2015 09:40 **Date Prepared:** 01/12/2015 **Analyst:** WRU

QC- Sample ID: 500102-001 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	7.18	7.17	0	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

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 01/08/2015 02:45:00 PM

Work Order #: 500102

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 01/08/2015

Checklist reviewed by: Kelsey Brooks Date: 01/08/2015

CHAIN OF CUSTODY RECORD

XENCO Laboratories Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

Page 1 of 1

LAB W.O #: 500102

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	Jal Station 2-Inch Sump Line SRS#2014-394	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

Sampler Name: Jody Walters

Circle One Event: Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

Sample #	Sample ID	Collected Date	Collected Time	Matrix	Containers			GC TPH	GC Chloride								
								I	I								
								TPH	Chloride								
	Lab Only:																
1	N. Wall #1	1/5/2015	1245	S			1	X	X								
2	N. Wall #2	1/5/2015	1310	S			1	X	X								
3	S. Wall #1	1/5/2015	1250	S			1	X	X								
4	S. Wall #2	1/5/2015	1305	S			1	X	X								
5	E. Wall #1	1/5/2015	1235	S			1	X	X								
6	W. Wall #1	1/5/2015	1315	S			1	X	X								
7	Floor #1	1/5/2015	1240	S			1	X	X	X							
8																	
9																	
10																	

ANALYSES REQUESTED

*** Container Type Codes**

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

**** Preservative Type Codes**

A. None E. HCL I. Ice
B HNO_3 F. MeOH J. MCAA C.
H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc&NaOH
D. NaOH H. $NaHSO_4$ L Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other _____

REMARKS

Special Reporting Instructions

CTLs TRRP DW NPDES LPST DryCln
Other:

FL TX GA NC SC NJ PA OK LA
AL NM Other:

1 2 3 4 CLP AFCEE QAPP
NELAC DoD-ELAP Other:

ADaPT SEDD ERPIMS
XLS Other:

Match Incomplete
Absent Unclear

Temperature Upon Receipt: 1.0 2 3 6.9

	Y	N	NA
Non-Conformances found?			
Samples intact upon arrival?			
Received on Wet Ice?			
Labeled with proper preservatives?			
Received within holding time?			
Custody seals intact?			
VOCs rec'd w/o headspace?			
Proper containers used?			
pH verified-acceptable, excl VOCs?			
Received on time to meet HTs?			

	Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
1	Jody Walters	Basin	1-7-15	10:05	B.B. Blakenship	Basin	1-7-15	10:05
2	B.B. Blakenship	Basin	1-7-15	11:40	Maria Rexroad	MS	1-7-15	11:40
3					MRios	Xenco	1/8/15	1445
4								

C.O.C. Serial #

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. *Revision Date: Nov 12, 2009*

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 01/08/2015 02:45:00 PM

Work Order #: 500102

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

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

Analyst: PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 01/08/2015

Checklist reviewed by: Kelsey Brooks Date: 01/08/2015

Analytical Report 501675

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Jal Station 2-Inch Sump Line

SRS#2014-314

04-FEB-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

04-FEB-15

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

Reference: XENCO Report No(s): **501675**
Jal Station 2-Inch Sump Line
Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 501675. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 501675 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,

Kelsey Brooks
Project Manager

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

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

Sample Cross Reference 501675

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Stockpile	S	01-30-15 14:20		501675-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S
Project Name: Jal Station 2-Inch Sump Line

Project ID: *SRS#2014-314*
Work Order Number(s): *501675*

Report Date: *04-FEB-15*
Date Received: *02/03/2015*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 501675

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Jal Station 2-Inch Sump Line

Project Id: SRS#2014-314
Contact: Ben Arguijo
Project Location:

Date Received in Lab: Tue Feb-03-15 09:25 am
Report Date: 04-FEB-15
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	501675-001					
	Field Id:	Stockpile					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Jan-30-15 14:20					
Percent Moisture	***Extracted:***						
	Analyzed:	Feb-03-15 17:10					
	Units/RL:	%	RL				
Percent Moisture		6.92	1.00				
TPH by SW8015 Mod	***Extracted:***	Feb-03-15 16:00					
	Analyzed:	Feb-04-15 02:20					
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		1470	161				
C12-C28 Diesel Range Hydrocarbons		7000	161				
C28-C35 Oil Range Hydrocarbons		397	161				
Total TPH		8870	161				

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.

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 501675, **Project ID:** SRS#2014-314

Lab Batch #: 960954 **Sample:** 501675-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/04/15 02:20

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	42.8	49.9	86	70-135	

Lab Batch #: 960954 **Sample:** 667966-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/15 17:50

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	55.7	50.0	111	70-135	

Lab Batch #: 960954 **Sample:** 667966-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/15 18:11

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	35.4	50.0	71	70-135	

Lab Batch #: 960954 **Sample:** 667966-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/03/15 18:33

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 960954 **Sample:** 501709-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/15 19:17

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	59.2	49.9	119	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: Jal Station 2-Inch Sump Line

Work Orders : 501675, **Project ID:** SRS#2014-314

Lab Batch #: 960954 **Sample:** 501709-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/03/15 19:38

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	56.5	50.0	113	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: Jal Station 2-Inch Sump Line

Work Order #: 501675 **Project ID:** SRS#2014-314

Analyst: ARM **Date Prepared:** 02/03/2015 **Date Analyzed:** 02/03/2015

Lab Batch ID: 960954 **Sample:** 667966-1-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	1000	933	93	1000	829	83	12	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1130	113	1000	918	92	21	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order # : 501675 **Project ID:** SRS#2014-314

Lab Batch ID: 960954 **QC- Sample ID:** 501709-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/03/2015 **Date Prepared:** 02/03/2015 **Analyst:** ARM

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	<17.0	1140	933	82	1140	881	77	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.0	1140	1050	92	1140	1010	89	4	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 501675

Lab Batch #: 960974 **Project ID:** SRS#2014-314

Date Analyzed: 02/03/2015 17:10 **Date Prepared:** 02/03/2015 **Analyst:** WRU

QC- Sample ID: 501675-001 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	6.92	6.96	1	20	

Lab Batch #: 960974

Date Analyzed: 02/03/2015 17:10 **Date Prepared:** 02/03/2015 **Analyst:** WRU

QC- Sample ID: 501709-017 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	12.9	13.6	5	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

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/03/2015 09:25:00 AM

Work Order #: 501675

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 02/03/2015

Checklist reviewed by: Kelsey Brooks Date: 02/03/2015

CHAIN OF CUSTODY RECORD

XENCO Laboratories Environmental Analysis Radiochemistry

Houston: 4143 Greenbriar Dr Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800

:roool-c

LAB W.O#: 501675

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	Jal Station 2-Inch Sump Line	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	
Sampler Name:	Jody Walters	Circle One Event:	Daily Weekly Monthly Quarterly Semi-Annual Annual N/A

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D **5D 7D** 10D 14D Other_____

ANALYSES REQUESTED

Sample #	Sample ID	Collect Date	Collect Time	Matrix	# Containers	Filtered	Preserved	GC TPH	GC BTEX	GC Chloride								
								I	I	I								
1	Stockpile	1/30/2015	1420	S			1	X										
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Lab Only:

^ Container Type Codes

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

**** Preservative Type Codes**

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA C.
H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc&NaOH
D. NaOH H. $NaHSO_4$ L Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other _____

REMARKS

Hold for BTEX

CTLs TRRP DW NPDES LPST DryCln
Other:

FL TX GA NC SC NJ PA OK LA
AL NM Other:

1 2 3 4 CLP AFCEE QAPP
NELAC DoD-ELAP Other:

ADaPT SEDD ERPIMS
XLS Other:

Match Incomplete
Absent Unclear

1 2 3 10.6

	Relinquished by	Received by	Date	Time	Received by	Date	Time
1	Jody Walters	BEST	2-2-15	13:15	Kerlyn Reverol	2-2-15	13:15
2					MRCS	2/3/15	925
3							
4							

Non-Conformances found?	
Samples intact upon arrival?	
Received on Wet Ice?	
Labeled with proper preservatives?	
Received within holding time?	
Custody seals intact?	
VOCs rec'd w/o headspace?	
Proper containers used?	
pH verified-acceptable, excl VOCs?	
Received on time to meet HTs?	

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330

FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. *Revision Date: Nov 12, 2009*

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 02/03/2015 09:25:00 AM

Work Order #: 501675

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	No	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

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

Analyst: PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 02/03/2015

Checklist reviewed by: Kelsey Brooks Date: 02/03/2015

Analytical Report 504238

for

PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Jal Station 2-Inch Sump Line

30-MAR-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

30-MAR-15

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

Reference: XENCO Report No(s): **504238**
Jal Station 2-Inch Sump Line
Project Address:

Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 504238. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 504238 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,

Kelsey Brooks
Project Manager

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

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

Sample Cross Reference 504238

PLAINS ALL AMERICAN EH&S, Midland, TX

Jal Station 2-Inch Sump Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Floor #1b	S	03-16-15 15:10		504238-001

CASE NARRATIVE

Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Jal Station 2-Inch Sump Line

Project ID:
Work Order Number(s): *504238*

Report Date: *30-MAR-15*
Date Received: *03/18/2015*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 504238

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Jal Station 2-Inch Sump Line

Project Id:
Contact: Ben Arguijo
Project Location:

Date Received in Lab: Wed Mar-18-15 03:09 pm
Report Date: 30-MAR-15
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	504238-001						
	Field Id:	Floor #1b						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Mar-16-15 15:10						
BTEX by EPA 8021	***Extracted:***	Mar-27-15 15:00						
	Analyzed:	Mar-27-15 22:09						
	Units/RL:	mg/kg	RL					
Benzene		ND	0.000996					
Toluene		0.0105	0.00199					
Ethylbenzene		0.00424	0.000996					
m_p-Xylenes		0.0550	0.00199					
o-Xylene		0.165	0.000996					
Xylenes, Total		0.220	0.000996					
Total BTEX		0.235	0.000996					
Percent Moisture	***Extracted:***							
	Analyzed:	Mar-18-15 17:40						
	Units/RL:	%	RL					
Percent Moisture		6.18	1.00					
TPH by SW8015 Mod	***Extracted:***	Mar-18-15 16:00						
	Analyzed:	Mar-19-15 08:15						
	Units/RL:	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		416	79.9					
C12-C28 Diesel Range Hydrocarbons		4700	79.9					
C28-C35 Oil Range Hydrocarbons		577	79.9					
Total TPH		5690	79.9					

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.

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 504238,

Project ID:

Lab Batch #: 964085 **Sample:** 504238-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/19/15 08:15

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.9	100	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 964769 **Sample:** 504238-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/27/15 22:09

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

Lab Batch #: 964085 **Sample:** 689967-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/19/15 00:12

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	57.7	50.0	115	70-135	

Lab Batch #: 964769 **Sample:** 690455-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/27/15 16:38

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 964085 **Sample:** 689967-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/19/15 00:35

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Orders : 504238, **Project ID:**

Lab Batch #: 964769 **Sample:** 690455-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/27/15 16:55

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 964085 **Sample:** 689967-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/19/15 01:00

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 964769 **Sample:** 690455-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/27/15 17:11

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	80-120	
4-Bromofluorobenzene	0.0306	0.0300	102	80-120	

Lab Batch #: 964085 **Sample:** 504227-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/19/15 02:34

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.9	104	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 964769 **Sample:** 504836-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/27/15 17:28

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	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: Jal Station 2-Inch Sump Line

Work Orders : 504238, **Project ID:**

Lab Batch #: 964085 **Sample:** 504227-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/19/15 02:58

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.7	120	70-135	
o-Terphenyl	51.0	49.9	102	70-135	

Lab Batch #: 964769 **Sample:** 504836-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/27/15 17:44

BTEX by EPA 8021 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	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.

BS / BSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 504238 **Project ID:**

Analyst: ARM **Date Prepared:** 03/27/2015 **Date Analyzed:** 03/27/2015

Lab Batch ID: 964769 **Sample:** 690455-1-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	<0.00100	0.100	0.106	106	0.100	0.103	103	3	70-130	35	
Toluene	<0.00200	0.100	0.108	108	0.100	0.105	105	3	70-130	35	
Ethylbenzene	<0.00100	0.100	0.115	115	0.100	0.111	111	4	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.224	112	0.200	0.218	109	3	70-135	35	
o-Xylene	<0.00100	0.100	0.111	111	0.100	0.108	108	3	71-133	35	

Analyst: ARM **Date Prepared:** 03/18/2015 **Date Analyzed:** 03/19/2015

Lab Batch ID: 964085 **Sample:** 689967-1-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	1000	887	89	1000	1020	102	14	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	972	97	1000	1160	116	18	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: Jal Station 2-Inch Sump Line

Work Order # : 504238 **Project ID:**

Lab Batch ID: 964769 **QC- Sample ID:** 504836-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/27/2015 **Date Prepared:** 03/27/2015 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00113	0.113	0.120	106	0.114	0.121	106	1	70-130	35	
Toluene	<0.00226	0.113	0.116	103	0.114	0.116	102	0	70-130	35	
Ethylbenzene	<0.00113	0.113	0.123	109	0.114	0.123	108	0	71-129	35	
m_p-Xylenes	<0.00226	0.226	0.242	107	0.227	0.243	107	0	70-135	35	
o-Xylene	<0.00113	0.113	0.126	112	0.114	0.127	111	1	71-133	35	

Lab Batch ID: 964085 **QC- Sample ID:** 504227-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/19/2015 **Date Prepared:** 03/18/2015 **Analyst:** ARM

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	<19.4	1290	1140	88	1290	1330	103	15	70-135	35	
C12-C28 Diesel Range Hydrocarbons	107	1290	1370	98	1290	1520	110	10	70-135	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: Jal Station 2-Inch Sump Line

Work Order #: 504238

Lab Batch #: 964046 **Project ID:**

Date Analyzed: 03/18/2015 17:40 **Date Prepared:** 03/18/2015 **Analyst:** WRU

QC- Sample ID: 504008-003 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	19.7	19.0	4	20	

Lab Batch #: 964046

Date Analyzed: 03/18/2015 17:40 **Date Prepared:** 03/18/2015 **Analyst:** WRU

QC- Sample ID: 504228-004 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	16.7	16.9	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

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 03/18/2015 03:09:00 PM

Work Order #: 504238

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**No**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 03/18/2015

Checklist reviewed by: Kelsey Brooks Date: 03/18/2015

CHAIN OF CUSTODY RECORD

XENCO Laboratories
Houston: 4143 Greenbriar Dr. Stafford, TX 77477 (281)240-4200 Odessa: 12600 West I-20 East Odessa, TX 79765 (432)563-1800
;roool-c

Page 1 of 1

LAB W.O#: 504238

Field billable Hrs :

Company:	Basin Environmental Service Technologies, LLC	Phone:	(575)396-2378
Address:	3100 Plains Hwy.	Fax:	(575)396-1429
City:	Lovington	State: NM	Zip: 88260
PM/Attn:	Ben J. Arguijo	Email:	bjarguijo@basinenv.com
Project ID:	Jal Station 2-Inch Sump Line	PO#:	PAA-C. Bryant
Invoice To:	Camille Bryant Plains All American	Quote #:	
Sampler Name:	Ben J. Arguijo	Circle One Event:	Daily Weekly Monthly Quartely Semi-Annual Annual N/A

TAT Work Days = D Need results by:_____ Time: _____

Std (5-7D) 5Hrs 1D 2D 3D 4D (5D 7D) 10D 14D Other_____

	Sample Id	Date	Time	Matrix	# Containers	Filtered	Preserv	GC	I	TPH								
1	Floor #1b	3/16/2015	1510	S			1	X										
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Lab Only:

ANALYSES REQUESTED

*** Container Type Codes**

VA Vial Amber ES Encore Sampler
VC Vial Clear TS TerraCore Sampler
VP Vial Pre-preserved AC Air Canister
GA Glass Amber TB Tedlar Bag
GC Glass Clear ZB Zip Lock Bag
PA Plastic Amber PC Plastic Clear
PC Plastic Clear
Other _____

Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other _____

**** Preservative Type Codes**

A. None E. HCL I. Ice
B. HNO_3 F. MeOH J. MCAA C.
H_2SO_4 G. $Na_2S_2O_3$ K. ZnAc&NaOH
D. NaOH H. $NaHSO_4$ L Asbc Acid&NaOH
O. _____

^ Matrix Type Codes

GW Ground Water S Soil/Sediment/Solid
WW Waste Water W Wipe
DW Drinking Water A Air
SW Surface Water O Oil
OW Ocean/Sea Water T Tissue
PL Product-Liquid U Urine
PS Product-Solid B Blood
SL Sludge
Other

REMARKS

Hold for BTEX

CTLs TRRP DW NPDES LPST DryCln
Other:

FL TX GA NC SC NJ PA OK LA AL NM Other:

1 2 3 4 CLP AFCEE QAPP NELAC DoD-ELAP Other:

ADaPT SEDD ERPIMS XLS Other:

Match Incomplete Absent Unclear

1 25 2 5 3

1	Camille Bryant	Basin Env.	3/17/15	1400	Camille Bryant	Basin	3/17/15	1400
2	Basin	Basin	3/17/15	1508	Matt Dumas	Mail Service	3/17/15	15:10
3						XENCO	3/18/15	1509
4								

Non-Conformances found? — — —
Samples intact upon arrival? — — —
Received on Wet Ice? — — —
Labeled with proper preservatives? — — —
Received within holding time? — — —
Custody seals intact? — — —
VOCs rec'd w/o headspace? — — —
Proper containers used? — — —
pH verified-acceptable, excl VOCs? — — —
Received on time to meet HTs? — — —

B&A Laboratories: Hobbs 575-392-7550 Dallas 214-902-0300 Houston 281-242-4200 Odessa 432-563-1800 San Antonio 210-509-3334 Phoenix 602-437-0330
FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

C.O.C. Serial #

Execution of this document by client creates a legal and binding agreement between client and Xenco for analytical and testing services provided by Xenco to client under Xenco's standard terms and conditions unless previously agreed in writing. Terms of payment are Net 30 days, and all past due amounts shall accrue interest at 1.5% per month until paid in full. All laboratory analytical data and reports generated by Xenco remain the exclusive property of Xenco until invoices for such data are paid in full. *Revision Date: Nov 12, 2009*

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 03/18/2015 03:09:00 PM

Work Order #: 504238

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**No**
#5 Custody Seals intact on sample bottles?	**No**
#6 *Custody Seals Signed and dated?	**No**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**No**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 03/18/2015

Checklist reviewed by: Kelsey Brooks Date: 03/18/2015

Appendix C

Release Notification & Corrective Action (Form C-141)

HOBBS OCD

DEC 19 2014

RECEIVED

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	Camille Bryant
Address	2530 State Hwy. 214, Denver City, TX 79323	Telephone No.	(575) 441-1099
Facility Name	Jal Station 2-Inch Sump Line	Facility Type	2-Inch Sump Line

Surface Owner	Mineral Owner	Lease No.
Plains Pipeline, LP		

LOCATION OF RELEASE

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

Latitude N 32.078268 Longitude W 103.179757°

NATURE OF RELEASE

Type of Release: Crude Oil	Volume of Release: 5 bbls	Volume Recovered: 3 bbls
Source of Release: 2" Sump Line	Date and Hour of Occurrence: 11/25/2014 @ 07:00	Date and Hour of Discovery: 11/25/2014 @ 07:15
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Verbal notification to Tomas Oberding	
By Whom? Camille Bryant	Date and Hour: 11/25/2014 @ 11:00	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Internal corrosion of a 2-inch 90 resulted in a release of crude oil.

Describe Area Affected and Cleanup Action Taken. The released crude oil impacted an area measuring approximately 50' x 60' inside the facility. The impacted area will be remediated as per applicable NMOCD 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: Camille Bryant	OIL CONSERVATION DIVISION	
Printed Name: Camille Bryant	Approved by District Supervisor: Sen. Env. Specialist	
Title: Remediation Coordinator	Approval Date: 12-19-14	Expiration Date: 2-19-15
E-mail Address: cjbryant@paalp.com	Conditions of Approval: Site Sample reports + Release and remarks are as per NMOCD guide. Submit Final C-141 by 2-19-15.	Attached ☐ IRP-3468
Date: 12/19/14 Phone: (575) 441-1099		

* Attach Additional Sheets If Necessary

17805

n-T01N 32 7826

P-T01N 32 8066

f-T01N 32 7638

DEC 23 2014