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# **REMEDIATION SUMMARY &**

## **RISK-BASED SITE CLOSURE PROPOSAL**

#### PLAINS MARKETING, LP FORMER MALJAMAR STATION Eddy County, New Mexico Unit Letter "E" (SW/NW), Section 25, Township 18 South, Range 31 East Latitude 32.719323° North, Longitude 103.828191° West NMOCD Reference #: 2RP-2504 PLAINS SRS: HD0-95-61 FORMER MALJAMAR STATION

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

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Ben J. Arguijo Project Manager

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#### **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin Environmental), on behalf of Plains Marketing, LP (Plains), has prepared this *Remediation Summary & Risk-Based Site Closure Proposal* for the site known as Former Maljamar Station. The legal description of the site is Unit Letter "E" (SW/NW), Section 25, Township 18 South, Range 31 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.719323° North latitude and 103.828191° West longitude. The property affected by the release is owned by The United States Department of the Interior - Bureau of Land Management (BLM). Please reference Figure 1 for a "Site Location Map".

In March of 2013, Plains' Maljamar Station crude oil pumping station was decommissioned and dismantled. During the removal of the on-site storage tanks, it was discovered that a release (or series of releases) had occurred at some point in the past. The nature, cause, and extent of the release(s) remains undetermined. Visibly stained, heavily impacted soil from underneath the storage tanks and from within the surrounding earthen containment berm was scraped up and stockpiled on-site in anticipation of additional remediation activities to be conducted at a later date.

On August 27, 2014, a representative of the United States Department of the Interior - Bureau of Land Management's (BLM) Carlsbad Field Office visited the Former Maljamar Station site and observed that soil remediation activities had yet to be conducted. The BLM representative notified Plains via email that additional soil remediation and subsequent revegetation of the site is required.

At the request of Plains, Basin Environmental Service Technologies, LLC (Basin Environmental), assumed remediation duties for the Former Maljamar Station site.

Remediation of contaminated soil to the north, east, and northwest of the Former Maljamar Station site was conducted by Basin Environmental in conjunction with the remediation of a pipeline release which occurred on February 8, 2006. Details of soil remediation activities were summarized in the document entitled "Closure Request, Caprock to Maljamar 4-Inch (231735)", dated February 27, 2007, and on-file with the NMOCD Artesia District Office and BLM Carlsbad Field Office.

#### 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 information was unavailable for Section 25, Township 18 South, Range 31 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately three hundred fifteen feet (315') to three hundred twenty feet (320') below ground surface (bgs). A drilling event conducted on December 22, 2014, confirmed the depth to water at the site is greater than one hundred fifty feet (>150') bgs. Based on the NMOCD ranking system, zero (0) 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  $(1,000^{\circ})$  of the remediation site. 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 remediation site. 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 Former Maljamar Station remediation site has an initial ranking score of zero (0) points. Soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene 10 mg/Kg (ppm)
- Benzene, ethylbenzene, toluene, and xylenes (BTEX) 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) 5,000 mg/Kg (ppm)

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

#### 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On September 9, 2014, representatives of Basin Environmental, Plains, and the BLM met on-site to determine a path forward for the remediation site. Following the meeting, a "Delineation Work Plan" was developed, outlining a strategy to investigate the horizontal and vertical extent of contaminated soil. The Delineation Work Plan was submitted to the NMOCD and BLM for review on September 22, 2014, and subsequently approved by both agencies, with the proviso that additional delineation beyond the proposed fifteen-foot (15') trenching depth and/or hard caliche layer may be required.

On September 30, 2014, Basin Environmental commenced delineation activities at the site. Pursuant to the Delineation Work Plan, a series of eleven (11) delineation trenches (TT-1 through TT-11) were advanced to investigate the horizontal and vertical extent of contaminated soil. The trenches were advanced at two-foot (2') intervals, and soil samples collected from the floors of the trenches were field-screened with a photo-ionization detector (PID) and/or chloride test kit. Trenches TT-1 through TT-9 were advanced inside the fenced-in area surrounding the Former Maljamar Station. Trenches TT-10 and TT-11 were advanced in low-lying areas in pastureland adjacent to the former pumping station, which were characterized by the presence of asphaltenes. Locations of the delineation trenches are depicted in Figure 2, "Site & Sample Location Map".

Representative soil samples collected from the delineation trenches were submitted to Xenco Laboratories in Odessa, Texas, for confirmatory analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) Methods SW 846-8021b and SW 846-8015M, respectively. Laboratory analytical results are summarized in Table 1, "Concentrations of Benzene, BTEX, TPH & Chloride in Soil", and analytical reports are provided in Appendix B.

Laboratory analytical results indicated additional vertical delineation was required in the areas represented by delineation trenches TT-2, TT-3, TT-5, TT-6, and TT-8. Vertical delineation in the adjacent pastureland (represented by delineation trenches TT-10 and TT-11) was achieved. Following the initial delineation event, a "Drilling Work Plan" was developed, outlining a strategy to further investigate the vertical extent of contaminated soil in the areas represented by delineation trenches TT-2, TT-3, TT-5, TT-6, and TT-8. The Drilling Work Plan was submitted to the NMOCD and BLM for review on October 14, 2014, and the locations of the four (4) proposed soil borings (SB-1 through SB-4) were approved by both agencies.

From October 16 through October 17, 2014, four (4) soil borings (SB-1 through SB-4) were advanced at the site to further investigate the vertical extent of impacted soil. Soil samples were collected at five-

foot (5') drilling intervals and field-screened with a PID. Representative soil samples were submitted to the laboratory for confirmatory analyses of TPH and/or BTEX concentrations. Select soil samples were also analyzed for chloride concentrations using EPA Method 300.1. Locations of the soil borings are depicted in Figure 2. Laboratory analytical results are summarized in Table 1, and analytical reports are provided in Appendix B.

Soil boring (SB-1) was advanced in an area representative of delineation trenches TT-2, TT-3, and TT-5. The soil boring was advanced to a total depth of approximately eighty feet (80') bgs. Soil samples collected at drilling depths of five (5), ten (10), twenty (20), thirty (30), fifty (50), seventy (70), and eighty feet (80') bgs were submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Soil samples SB-1 @ 10', SB-1 @ 50', and SB-1 @ 80' were also analyzed for chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil sample SB-1 @ 70' to 4,770 mg/kg in soil sample SB-1 @ 20', SB-1 @ 30', SB-1 @ 50', and SB-1 @ 80' to 0.0018 mg/kg in soil sample SB-1 @ 10'. Total BTEX concentrations ranged from less than the laboratory MDL in soil samples SB-1 @ 20', SB-1 @ 50', and SB-1 @ 80' to 0.346 mg/kg in soil sample SB-1 @ 10'. Chloride concentrations ranged from 75.7 mg/kg in soil sample SB-1 @ 10' to 222 mg/kg in soil sample SB-1 @ 50'.

Soil boring (SB-2) was advanced in the footprint of the historic tank battery, approximately ninety feet (90') to the southeast of soil boring SB-1. The soil boring was advanced to a total depth of approximately one hundred feet (100') bgs. Soil samples collected at drilling depths of five (5), ten (10), twenty-five (25), forty-five (45), sixty-five (65), eighty (80), and one hundred feet (100') bgs were submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Soil samples SB-2 (a) 10', SB-2 (a) 45', and SB-2 (a) 100' were also analyzed for chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil samples SB-2 (a) 25' and SB-2 (a) 65' to 4,590 mg/kg in soil sample SB-2 (a) 5'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SB-2 (a) 45', SB-2 (a) 45', SB-2 (a) 100' to 0.0062 mg/kg in soil sample SB-2 (a) 10'. Total BTEX concentrations ranged from less than the laboratory MDL in soil samples SB-2 (a) 100' to 0.267 mg/kg in soil sample SB-2 (a) 10'. Chloride concentrations ranged from 6.72 mg/kg in soil sample SB-2 (a) 45' to 32.0 mg/kg in soil sample SB-2 (a) 100'.

Soil boring (SB-3) was advanced in the area represented by delineation trench TT-8. The soil boring was advanced to a total depth of approximately one hundred feet (100') bgs. Soil samples collected at drilling depths of five (5), ten (10), twenty (20), thirty (30), fifty (50), seventy (70), eighty-five (85), and one hundred feet (100') bgs were submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Soil samples SB-3 @ 5', SB-3 @ 50', and SB-3 @ 100' were also analyzed for chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil sample SB-3 @ 100' to 9,330 mg/kg in soil sample SB-3 @ 5'. Benzene concentrations ranged from less than the laboratory MDL in soil samples SB-3 @ 20', SB-3 @ 50', SB-3 @ 85', and SB-3 @ 100' to 0.0017 mg/kg in soil sample SB-3 @ 5'. Total BTEX concentrations ranged from less than the laboratory MDL in soil sample SB-3 @ 50'. Chloride concentrations ranged from 4.54 mg/kg in soil sample SB-3 @ 50' to 22.9 mg/kg in soil sample SB-3 @ 5'.

Soil boring (SB-4) was advanced in the area represented by delineation trench TT-6. The soil boring was advanced to a total depth of approximately one hundred forty feet (140') bgs. Soil samples collected at drilling depths of five (5), ten (10), twenty (20), thirty (30), fifty (50), seventy (70), ninety (90), one hundred five (105), one hundred twenty (120), and one hundred forty feet (140') bgs were

submitted to the laboratory for analysis of TPH and/or BTEX concentrations. Soil samples SB-4 @ 10' and SB-4 @ 70' were also analyzed for chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 29.2 mg/kg in soil sample SB-4 @ 105' to 23,800 mg/kg in soil sample SB-4 @ 30', SB-4 @ 70', and SB-4 @ 140' to 0.237 mg/kg in soil sample SB-4 @ 10'. Total BTEX concentrations ranged from less than the laboratory MDL in soil STEX concentrations ranged from less than the laboratory MDL in soil samples SB-4 @ 70' and SB-4 @ 10'. Chloride concentrations ranged from 10.2 mg/kg in soil sample SB-4 @ 70' to 26.5 mg/kg in soil sample SB-4 @ 10'.

Per NMOCD request, on December 22, 2014, one (1) soil boring (SB-5) was advanced at the site to definitively determine the depth to groundwater in the area. Soil boring SB-5 was located outside of the estimated zone of impacted soil, approximately one hundred seventy-five feet (175') to the west-northwest (cross-gradient) of soil boring SB-1. The soil boring was advanced to a total depth of approximately one hundred fifty feet (150') bgs. Soil samples were collected at five-foot (5') drilling intervals and field-screened with a PID. Soil samples collected at drilling depths of five (5), ten (10), fifty (50), seventy-five (75), one hundred (100), one hundred forty-five (145), and one hundred fifty feet (150') were submitted to the laboratory for confirmatory analyses of TPH, BTEX, and/or chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL in soil samples SB-5 @ 5' and SB-5 @ 10' to 55.5 mg/kg in soil sample SB-5 @ 75'. BTEX constituent concentrations ranged from 4.51 mg/kg in soil sample SB-5 @ 150' to 64.5 mg/kg in soil sample SB-5 @ 5'.

Groundwater was not encountered during the advancement of soil boring SB-5.

### 4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES

#### 4.1 Soil Sampling

Soil samples were delivered to Xenco Laboratories, Inc., in Odessa, Texas, for BTEX, TPH, and/or chloride analyses using the methods described below:

- BTEX concentrations in accordance with EPA Method SW-846 8021b
- TPH concentrations in accordance with EPA Method SW-846 8015M
- Chloride concentrations in accordance with EPA Method 4500 Cl-B

#### 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 reports or are on file at the laboratory.

#### 5.0 PROPOSED ACTIVITIES

Plains proposes to conduct the following activities to progress the Former Maljamar Station release site to an NMOCD- and BLM-approved, risk-based closure:

- The horizontal limits of the excavation will be determined by field-screening using a PID and/or visual/olfactory senses. Confirmation soil samples will be collected at approximately fifty-foot (50') horizontal intervals and submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. Horizontal excavation will continue until laboratory analytical results indicate contaminant concentrations are below the recommended remediation action levels (RRALs) established for the site by the NMOCD.
- Excavated soil will be stockpiled on-site, pending final disposition. Heavily impacted soil will be transported to a nearby NMOCD-approved facility for disposal. Lesser impacted soil (as determined by visual/olfactory senses, laboratory analytical results, and/or PID readings) will be bioremediated on-site. Impacted material will be screened, treated with a water/fertilizer mix, and aerated to facilitate attenuation and off-gassing of contaminants. One (1) stockpile soil sample will be collected for each five hundred cubic yards (500 yd<sup>3</sup>) of treated soil and submitted to the laboratory for analysis of BTEX, TPH, and/or chloride concentrations. When laboratory analytical results indicate contaminant concentrations are below the RRALs established for the site by the NMOCD, the treated soil will be used as backfill material.
- The northwest portion of the excavation will be advanced to approximately four feet (4') bgs in the area represented by delineation trench TT-1 to approximately eight feet (8') bgs in the area represented by delineation trench TT-3.
- The area represented by soil boring SB-2 will be excavated to approximately five feet (5') bgs.
- The areas represented by delineation trenches TT-5, TT-6, TT-8, TT-10, and TT-11 and soil borings SB-3 and SB-4 will be excavated until laboratory analytical results indicate contaminants of concern are below the RRALs established for the site by the NMOCD, or to a maximum depth of ten feet (10') bgs. Due to safety, environmental, and financial concerns, the horizontal extent of the excavation will be limited by the presence of an oilfield access road adjacent to the Former Maljamar Station, which represents the only thoroughfare to several active production and storage facilities to the east of the site. In areas exhibiting contaminant concentrations above RRALs at ten feet (10') bgs, the floor of the excavation will be fitted with a twenty-millimeter (20mm), impermeable, polyethylene plastic liner. A cushion of sand will be installed approximately six inches (6'') both above and below the liner to protect it during installation and backfilling activities. This engineered control will serve to inhibit vertical migration of contaminants to groundwater, as well as inhibit migration of contaminants from below the liner to the surface, protecting the vegetative zone.
- Following the proposed remediation activities, the Former Maljamar Station and disturbed areas in the adjacent pastureland will be seeded with a BLM-approved seed mix.

#### 6.0 **REPORTING**

On review and approval of this proposal by the NMOCD and BLM, Plains is prepared to perform the corrective actions summarized in this *Remediation Summary & Risk-Based Site Closure Proposal*. Upon completion of the corrective actions, Plains will submit a *Remediation Summary & Risk-Based Site Closure Request* to the NMOCD and BLM, documenting remediation activities and results of confirmation soil samples.

#### 7.0 LIMITATIONS

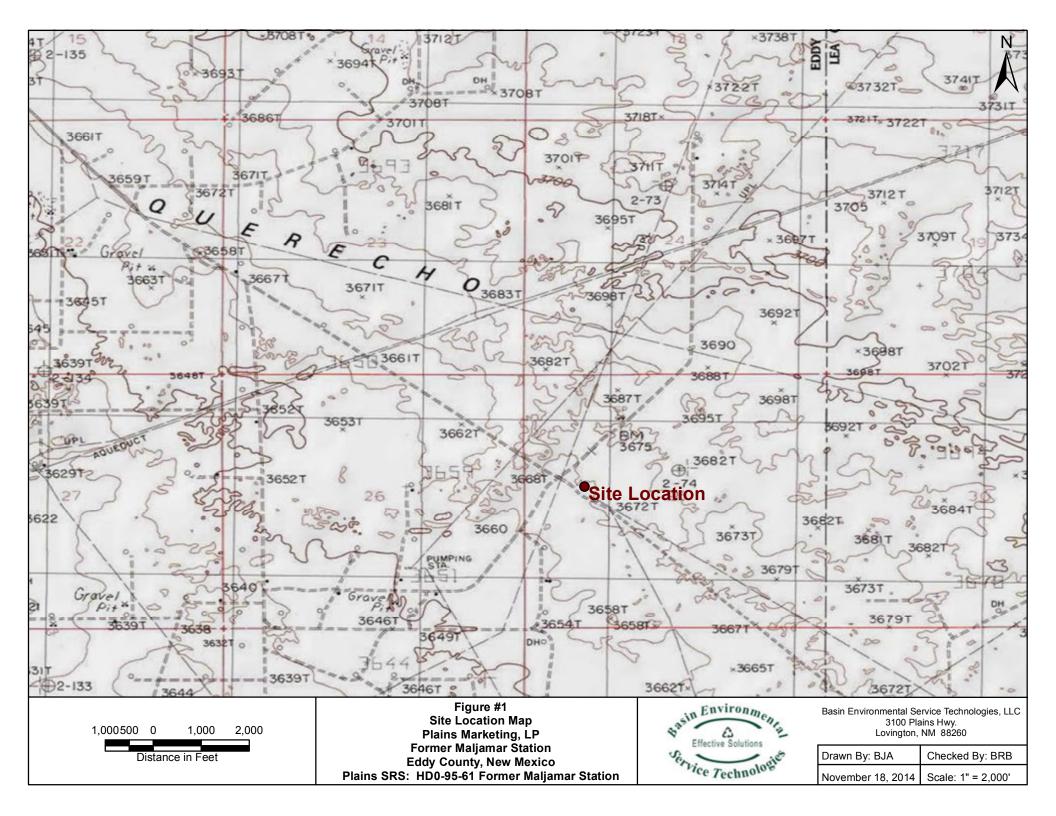
Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Risk-Based Site Closure Proposal* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin Environmental has examined and relied upon documents referenced in the report and on 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.

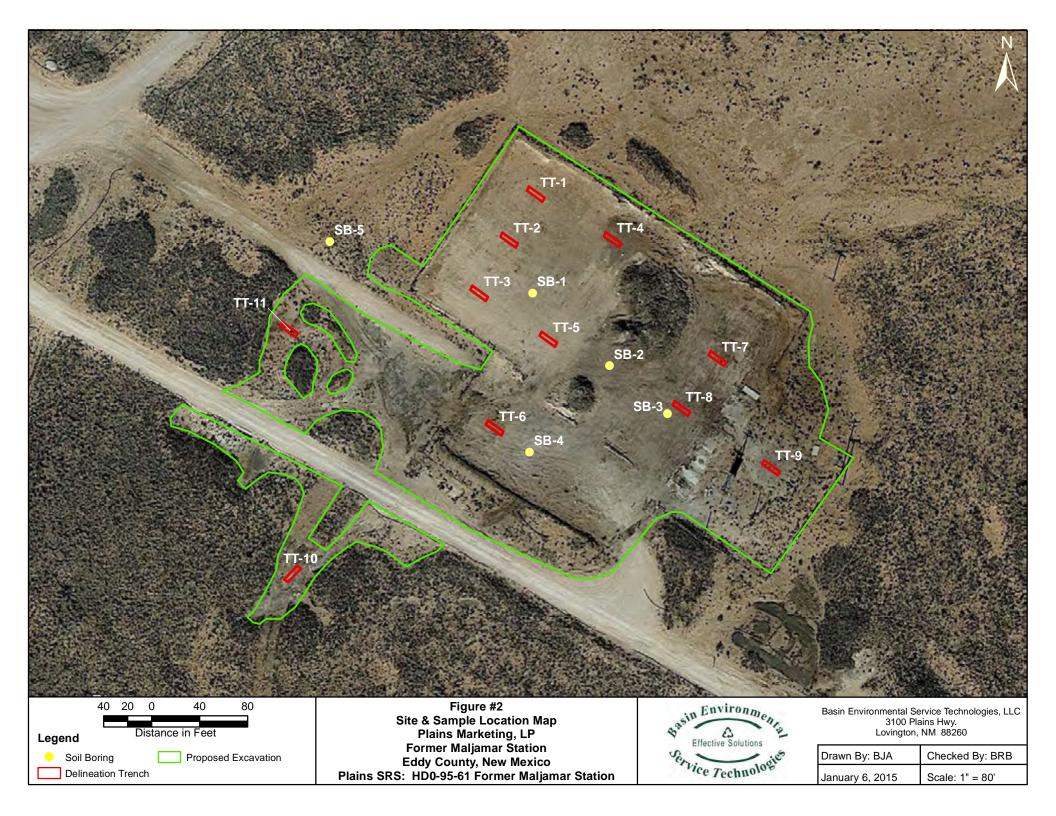
This report has been prepared for the benefit of Plains Marketing, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Plains Marketing, LP.

#### **8.0 DISTRIBUTION:**

- Copy 1: Mike Bratcher New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 2) 1301 E. Grand Avenue Artesia, NM 88210
- Copy 2: Randy Pair Bureau of Land Management 602 E. Greene Street Carlsbad, NM 88220
- Copy 3: Jeff Dann Plains All American Pipeline, LP 333 Clay Street, Suite 1600 Houston, Texas 77002 jpdann@paalp.com
- Copy 4: Camille Bryant Plains All American Pipeline, LP 2530 State Highway 214 Denver City, Texas 79323 cjbryant@paalp.com
- Copy 5: Basin Environmental Service Technologies, LLC P.O. Box 301 Lovington, New Mexico 88260

# Figures





# Tables

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

#### PLAINS MARKETING, LP FORMER MALJAMAR STATION EDDY COUNTY, NEW MEXICO PLAINS SRS: HD0-95-61 FORMER MALJAMAR STATION NMOCD REFERENCE #: 2RP-2504

SAMPLE LOCATION         DEFTH (BGS)         SAMPLE DATE         STATUS         BENZENE (mg/Kg)         TOULENE (mg/Kg)         CAVLENE (mg/Kg)         CAVLENE (mg/Kg)	300.1	TRU	5M	ETHOD: 801	ME			8021B, 5030	PA SW 846-	METHOD: E						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	) (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	BTEX	XYLENES		XYLENES	BENZENE			STATUS	DATE	DEPTH (BGS)	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		5,750		,		-	-		-	-	-	-				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	-	48.3	<16.9	48.3	<16.9	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	In-Situ	9/30/2014	8'	TT-1@8'
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	) –	37,100	6,070	29,200	1,870	-	-	-	-	-	-	-	In-Situ	9/30/2014	2'	TT-2 @ 2'
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	-	6,650	743	5,330	579	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-2 @ 4'
TT-3 @ 8'       8'       9/30/2014       In-Situ       . </td <td>-</td> <td>5,600</td> <td>503</td> <td>4,380</td> <td>714</td> <td>0.223</td> <td>0.146</td> <td>0.0431</td> <td>0.103</td> <td>0.0737</td> <td>0.0033</td> <td>&lt;0.0012</td> <td>In-Situ</td> <td>9/30/2014</td> <td>6'</td> <td>TT-2@6'</td>	-	5,600	503	4,380	714	0.223	0.146	0.0431	0.103	0.0737	0.0033	<0.0012	In-Situ	9/30/2014	6'	TT-2@6'
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	) –	19,500	1,880	14,700	2,910	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-3 @ 4'
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	)	10,600	963	8,120	1,500	-	-	-	-	-	-	-	In-Situ	9/30/2014	8'	TT-3 @ 8'
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	-	673	127	526	19.5	-	-	-	-	-	-	-	In-Situ	9/30/2014	2'	TT-4 @ 2'
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-	1,060	134	880	48.2	0.0080	0.0045	<0.0012	0.0045	0.0036	<0.0024	<0.0012	In-Situ	9/30/2014	6'	TT-4 @ 6'
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	-	8,910	900	7,060	949	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-5 @ 4'
TT-6 @ 4'       4'       9/30/2014       In-Situ       -       -       -       -       -       -       4,090       20,400       2,500       27,0         TT-6 @ 7'       7'       9/30/2014       In-Situ       -       -       -       -       4,090       20,400       2,500       27,0         TT-6 @ 7'       7'       9/30/2014       In-Situ       -       -       -       -       4,590       18,200       2,250       25,00       27,0         TT-7 @ 2'       2'       9/30/2014       In-Situ       -       -       -       -       -       47.4       626       88.7       76         TT-7 @ 6'       6'       9/30/2014       In-Situ       -       -       -       -       -       47.4       626       88.7       76         TT-8 @ 4'       4'       9/30/2014       In-Situ       -       -       -       -       -       -       1,460       8,340       1,190       11,0         TT-8 @ 9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -<	-	6,220	497	4,810	910	_	-	-	-	-	-	-	In-Situ	9/30/2014	8'	TT-5 @ 8'
TT-6@7'       7'       9/30/2014       In-Situ       -       -       -       -       -       4,590       18,200       2,250       25,0         TT-7@2'       2'       9/30/2014       In-Situ       -       -       -       -       -       -       47.4       626       88.7       76         TT-7@6'       6'       9/30/2014       In-Situ       <       -       -       -       -       -       47.4       626       88.7       76         TT-7@6'       6'       9/30/2014       In-Situ       <       -       -       -       -       -       -       47.4       626       88.7       76         TT-8@4'       4'       9/30/2014       In-Situ       -       -       -       -       -       1.460       8.340       1.190       11.0         TT-8@9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       -       -       -       -       -       -       1.460       8.340       1.190       11.0         TT-8@9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       -       -	)	10,600	896	8,080	1,660	-	-	-	-	-	-	-	In-Situ	9/30/2014	14'	TT-5@14'
Tr-r       0 <th0< th=""> <th0< th=""></th0<></th0<>	) -	27,000	2,500	20,400	4,090	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-6 @ 4'
TT-7@6'       6'       9/30/2014       In-Situ       <0.0012       <0.0024       <0.0012       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0024       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022	)	25,000	2,250	18,200	4,590	-	-	-	-	-	-	-	In-Situ	9/30/2014	7'	TT-6 @ 7'
TT-8 @ 4'       4'       9/30/2014       In-Situ       -       -       -       -       -       -       1,460       8,340       1,190       11,00         TT-8 @ 9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       1,460       8,340       1,190       11,00         TT-8 @ 9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       2,030       9,240       1,180       12,5         TT-9 @ 2'       2'       9/30/2014       In-Situ       -       -       -       -       -       -       2,030       9,240       1,180       12,5         TT-9 @ 2'       2'       9/30/2014       In-Situ       - </td <td>-</td> <td>762</td> <td>88.7</td> <td>626</td> <td>47.4</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>In-Situ</td> <td>9/30/2014</td> <td>2'</td> <td>TT-7 @ 2'</td>	-	762	88.7	626	47.4	-	-	-	-	-	-	-	In-Situ	9/30/2014	2'	TT-7 @ 2'
TT-8@9.5'       9.5'       9/30/2014       In-Situ       -       -       -       -       -       2,030       9,240       1,180       12,5         TT-9@2'       2'       9/30/2014       In-Situ       -       -       -       -       -       2,030       9,240       1,180       12,5         TT-9@2'       2'       9/30/2014       In-Situ       -	-	30.4	<17.9	30.4	<17.9	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	In-Situ	9/30/2014	6'	TT-7 @ 6'
TT-9@2'       2'       9/30/2014       In-Situ       - <td>) -</td> <td>11,000</td> <td>1,190</td> <td>8,340</td> <td>1,460</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>In-Situ</td> <td>9/30/2014</td> <td>4'</td> <td>TT-8 @ 4'</td>	) -	11,000	1,190	8,340	1,460	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-8 @ 4'
TT-9@4'       4'       9/30/2014       In-Situ       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16	)	12,500	1,180	9,240	2,030	-	-	-	-	-	-	-	In-Situ	9/30/2014	9.5'	TT-8 @ 9.5'
TT-9       4'       9/30/2014       In-Situ       <0.0011       <0.0022       <0.0011       <0.0022       <0.0011       <0.0022       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.6       <16.7       <16.7       <17.300       <2.440       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23.8       <23	-	<16.0	<16.0	<16.0	<16.0	-	-	-	-	-	-	-	In-Situ	9/30/2014	2'	TT-9 @ 2'
TT-10@8'         8'         9/30/2014         In-Situ         <0.0012         <0.0044         0.012         <0.0012         0.0124         159         3,350         708         4,21           TT-11@2'         2'         9/30/2014         In-Situ         - </td <td>-</td> <td>&lt;16.6</td> <td>&lt;16.6</td> <td>&lt;16.6</td> <td>&lt;16.6</td> <td>&lt;0.0022</td> <td>&lt;0.0022</td> <td>&lt;0.0011</td> <td>&lt;0.0022</td> <td>&lt;0.0011</td> <td>&lt;0.0022</td> <td>&lt;0.0011</td> <td>In-Situ</td> <td>9/30/2014</td> <td>4'</td> <td>TT-9 @ 4'</td>	-	<16.6	<16.6	<16.6	<16.6	<0.0022	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	In-Situ	9/30/2014	4'	TT-9 @ 4'
TT-11 @ 2'         2'         9/30/2014         In-Situ         -         -         -         -         -         -         -         -         -         19.0         47.9         16	) -	23,800	2,440	17,300	4,070	-	-	-	-	-	-	-	In-Situ	9/30/2014	4'	TT-10 @ 4'
	-	4,220	708	3,350	159	0.0164	0.012	<0.0012	0.012	0.0044	<0.0024	<0.0012	In-Situ	9/30/2014	8'	TT-10 @ 8'
TT-11@4' 4' 9/30/2014 In-Situ <0.0012 <0.0024 <0.0012 <0.0024 <0.0012 <0.0024 <0.0012 <0.0024 <18.0 547 142 68	-	167	47.9	119.0	<18.3	-	-	-	-	-	-	-	In-Situ	9/30/2014	2'	TT-11 @ 2'
	-	689	142	547	<18.0	<0.0024	<0.0024	<0.0012	<0.0024	<0.0012	<0.0024	<0.0012	In-Situ	9/30/2014	4'	TT-11 @ 4'
SB-1@5' 5' 10/16/2014 In-Situ 632 3,460 675 4,7'	-	4,770	675	3,460	632	-	-	-	-	-	-	-	In-Situ	10/16/2014	5'	SB-1 @ 5'
		3,460		,		0.346	0.212	0.0734	0.139	0.114	0.0173	0.0018				
	-	85.1		65.0		<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	< 0.0011	In-Situ	10/16/2014	20'	
SB-1@30' 30' 10/16/2014 In-Situ <0.0011 <0.0023 <0.0011 <0.0023 <0.0011 <0.0023 <0.0023 <17.0 142 33 17	-	175		142	<17.0	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	In-Situ	10/16/2014		
SB-1@50' 50' 10/16/2014 In-Situ <0.0011 <0.0023 <0.0011 <0.0023 <0.0011 <0.0023 <0.0013 I8.7 <17.0 <17.0 18.	222	18.7	<17.0	<17.0	18.7	<0.0023	<0.0023	<0.0011	<0.0023	<0.0011	<0.0023	<0.0011	In-Situ	10/16/2014	50'	SB-1 @ 50'
	-	<16.7	<16.7		<16.7	-	-	-	-	-	-	-			70'	
SB-1@80' 80' 10/16/2014 In-Situ <0.0013 <0.0027 <0.0013 <0.0027 <0.0013 <0.0027 <0.0013 <0.0027 21.4 35.5 <19.9 56.	81.0	56.9	<19.9	35.5	21.4	< 0.0027	< 0.0027	< 0.0013	< 0.0027	< 0.0013	< 0.0027	< 0.0013	In-Situ	10/16/2014	80'	SB-1 @ 80'

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

#### PLAINS MARKETING, LP FORMER MALJAMAR STATION EDDY COUNTY, NEW MEXICO PLAINS SRS: HD0-95-61 FORMER MALJAMAR STATION NMOCD REFERENCE #: 2RP-2504

						METHOD: E	PA SW 846-	8021B, 5030	)		M	ETHOD: 801	5M		300.1
SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	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 <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TPH C <sub>6</sub> -C <sub>35</sub> (mg/Kg)	CHLORIDE (mg/Kg)
SB-2 @ 5'	5'	10/16/2014	In-Situ	-	-	-	-	-	-	-	243	3,900	449	4,590	-
SB-2 @ 10'	10'	10/16/2014	In-Situ	0.0062	0.0041	0.208	0.0425	0.0067	0.0492	0.267	320	1,480	101	1,900	15.9
SB-2 @ 25'	25'	10/16/2014	In-Situ	-	-	-	-	-	-	-	<19.0	<19.0	<19.0	<19.0	-
SB-2 @ 45'	45'	10/16/2014	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	< 0.0011	<0.0021	<0.0021	38.1	333	35.3	406	6.72
SB-2 @ 65'	65'	10/16/2014	In-Situ	-	-	-	-	-	-	-	<18.2	<18.2	<18.2	<18.2	-
SB-2 @ 80'	80'	10/16/2014	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	< 0.0010	<0.0021	<0.0021	<15.5	99.0	<15.5	99.0	-
SB-2 @ 100'	100'	10/16/2014	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	-	-	-	-	32.0
SB-3 @ 5'	5'	10/17/2014	In-Situ	0.0017	0.0043	0.0292	0.0307	0.0301	0.0608	0.096	927	7,770	636	9.330	22.9
SB-3@10'	10'	10/17/2014	In-Situ	-	-	-	-	-	-	-	89.5	462	51.7	603	-
SB-3 @ 20'	20'	10/17/2014	In-Situ	< 0.0012	<0.0024	0.0115	0.0115	0.0067	0.0182	0.0297	135	832	60.1	1,030	-
SB-3 @ 30'	30'	10/17/2014	In-Situ	-	-	-	-	-	-	-	18.4	442	46.5	507	-
SB-3 @ 50'	50'	10/17/2014	In-Situ	< 0.0012	<0.0023	< 0.0012	< 0.0023	< 0.0012	<0.0023	<0.0023	<17.2	41.8	<17.2	41.8	4.54
SB-3 @ 70'	70'	10/17/2014	In-Situ	-	-	-	-	-	-	-	<16.2	36.9	<16.2	36.9	-
SB-3 @ 85'	85'	10/17/2014	In-Situ	< 0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.3	34.9	<16.3	34.9	-
SB-3 @ 100'	100'	10/17/2014	In-Situ	< 0.0011	<0.0023	< 0.0011	< 0.0023	< 0.0011	< 0.0023	< 0.0023	<16.9	<16.9	<16.9	<16.9	6.79
SB-4 @ 5'	5'	10/17/2014	In-Situ	-	-	-	-	-	-	-	2,210	20,100	1,440	23,800	-
SB-4 @ 10'	10'	10/17/2014	In-Situ	0.237	<0.232	10.4	21.3	4.37	25.7	36.3	2,630	11,200	1,450	15,300	26.5
SB-4 @ 20'	20'	10/17/2014	In-Situ	-	-	-	-	-	-	-	503	3,560	709	4,770	-
SB-4 @ 30'	30'	10/17/2014	In-Situ	<0.0011	<0.0023	0.0182	0.0312	0.0060	0.0372	0.0554	318	2,340	82.4	2,740	-
SB-4 @ 50'	50'	10/17/2014	In-Situ	-	-	-	-	-	-	-	<21.1	49.1	<21.1	49.1	-
SB-4 @ 70'	70'	10/17/2014	In-Situ	< 0.0014	<0.0028	< 0.0014	<0.0028	< 0.0014	<0.0028	<0.0028	64.8	191	62.1	318	10.2
SB-4 @ 90'	90'	10/17/2014	In-Situ	-	-	-	-	-	-	-	<16.1	41.0	<16.1	41.0	-
SB-4 @ 105'	105'	10/17/2014	In-Situ	-	-	-	-	-	-	-	<16.2	29.2	<16.2	29.2	-
SB-4 @ 120'	120'	10/17/2014	In-Situ	-	-	-	-	-	-	-	<15.7	154	24.3	178	-
SB-4 @ 140'	140'	10/17/2014	In-Situ	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	21.6	103	24.0	149	-
SB-5@5'	5'	12/22/2014	In-Situ	<0.0011	<0.0022	<0.0011	<0.0022	<0.0011	<0.0022	<0.0022	<16.7	<16.7	<16.7	<16.7	64.5
SB-5@10	10'	12/22/2014	In-Situ	-	-	-	-	-	-	-	<16.7	<16.7	<16.7	<16.7	-
SB-5 @ 50'	50'	12/22/2014	In-Situ	-	-	-	-	-	-	-	<16.9	37.9	<16.9	37.9	-
SB-5 @ 75'	75'	12/22/2014	In-Situ	<0.0010	<0.0021	<0.0010	<0.0021	< 0.0010	<0.0021	<0.0021	<15.5	55.5	<15.5	55.5	20.2
SB-5 @ 100'	100'	12/22/2014	In-Situ	-	-	-	-	-	-	-	<16.3	22.5	<16.3	22.5	
SB-5 @ 145'	145'	12/22/2014	In-Situ	-	-	-	-	-	-	-	<15.8	19.5	<15.8	19.5	-
SB-5 @ 150'	150'	12/22/2014	In-Situ	<0.0011	<0.0021	<0.0011	<0.0021	<0.0011	<0.0021	<0.0021	<15.8	21.2	<15.8	21.2	4.51
	d Domodiati	an Astion Lat		10						50				5.000	1.000
NMOCD Recommended	a nemediati	UN ACTION LEV	/ei	10						50				5,000	1,000

- = Not analyzed.

# Appendices

Appendix C Photographs



Former Maljamar Station (looking northwest)



Former Maljamar Station (looking north)



Former Maljamar Station (looking north-northeast)



Former Maljamar Station (looking east)



Former Maljamar Station

(looking north-northwest; asphaltines in adjacent pastureland visible in foreground)



Former Maljamar Station (looking east; asphaltines in adjacent pastureland visible in foreground & background)



Former Maljamar Station (looking northeast)



Former Maljamar Station – Advancement of Delineation Trench TT-10 (looking southwest)



Former Maljamar Station - Advancement of Soil Boring SB-2 (looking south-southeast)



Former Maljamar Station - Advancement of Soil Boring SB-5 (looking northwest)

# Appendix D Laboratory Analytical Reports

# Analytical Report 494567

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Formar Maljamar Station

#### SRS HD0-95-61

#### 09-OCT-14

Collected By: Client





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

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-14-16-TX), 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)



09-OCT-14

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

Reference: XENCO Report No(s): **494567** Formar Maljamar Station Project Address: NM

#### Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 494567. 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. 494567 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.

Ams Boah

 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 494567



## PLAINS ALL AMERICAN EH&S, Midland, TX

Formar Maljamar Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @ 4'	S	09-30-14 10:05	- 4 In	494567-001
TT-1 @ 8'	S	09-30-14 10:10	- 8 In	494567-002
TT-2 @ 2'	S	09-30-14 10:30	- 2 In	494567-003
TT-2 @ 4'	S	09-30-14 10:35	- 4 In	494567-004
TT-2 @ 6'	S	09-30-14 10:40	- 6 In	494567-005
TT-3 @ 4'	S	09-30-14 11:00	- 4 In	494567-006
TT-3 @ 8'	S	09-30-14 11:10	- 8 In	494567-007
TT-4 @ 2'	S	09-30-14 11:30	- 2 In	494567-008
TT-4 @ 6'	S	09-30-14 11:40	- 6 In	494567-009
TT-5 @ 4'	S	09-30-14 12:30	- 4 In	494567-010
TT-5 @ 8'	S	09-30-14 12:40	- 8 In	494567-011
TT-5 @ 14'	S	09-30-14 12:55	- 14 In	494567-012
TT-6 @ 4'	S	09-30-14 13:15	- 4 In	494567-013
TT-6 @ 7'	S	09-30-14 13:25	- 7 In	494567-014
TT-7 @ 2'	S	09-30-14 13:50	- 2 In	494567-015
TT-7 @ 6'	S	09-30-14 14:00	- 6 In	494567-016
TT-8 @ 4'	S	09-30-14 14:30	- 4 In	494567-017
TT-8 @ 9.5'	S	09-30-14 14:45	- 9.5 In	494567-018
TT-9 @ 2'	S	09-30-14 15:05	- 2 In	494567-019
TT-9 @ 4'	S	09-30-14 15:10	- 4 In	494567-020
TT-10 @ 4'	S	09-30-14 15:25	- 4 In	494567-021
TT-10 @ 8'	S	09-30-14 15:40	- 8 In	494567-022
TT-11 @ 2'	S	09-30-14 16:05	- 2 In	494567-023
TT-11 @ 4'	S	09-30-14 16:10	- 4 In	494567-024



# CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Formar Maljamar Station

Project ID: SRS HD0-95-61 Work Order Number(s): 494567 
 Report Date:
 09-OCT-14

 Date Received:
 10/03/2014

Sample receipt non conformances and comments:

TT-3 @8' and TT-5 @14' rush for TPH

Sample receipt non conformances and comments per sample:

None



PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS HD0-95-61

Contact: Ben Arguijo

Project Location: NM

Project Name: Formar Maljamar Station
Draft

Date Received in Lab: Fri Oct-03-14 12:30 pm

Report Date: 09-OCT-14

								Project Ma	nager:	Kelsey Brook	5		
	Lab Id:	494567-(	001	494567-0	02	494567-0	03	494567-0	04	494567-0	05	494567-0	06
Analysis Requested	Field Id:	TT-1 @	4'	TT-1 @	8'	TT-2 @ 2	2'	TT-2 @	4'	TT-2 @	6'	TT-3 @	4'
Anulysis Kequesleu	Depth:	4 In		8 In		2 In		4 In		6 In		4 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-30-14	10:05	Sep-30-14 1	0:10	Sep-30-14 1	0:30	Sep-30-14	10:35	Sep-30-14	10:40	Sep-30-14 1	1:00
BTEX by EPA 8021B	Extracted:			Oct-07-14 0	9:00					Oct-07-14 (	09:00		
	Analyzed:			Oct-07-14 2	1:03					Oct-07-142	21:19		
	Units/RL:			mg/kg	RL					mg/kg	RL		
Benzene				ND	0.00113					ND	0.00116		
Toluene				ND	0.00225					0.00333	0.00231		
Ethylbenzene				ND	0.00113					0.0737	0.00116		
m_p-Xylenes				ND	0.00225					0.103	0.00231		
o-Xylene				ND	0.00113					0.0431	0.00116		
Total Xylenes				ND	0.00113					0.146	0.00116		
Total BTEX				ND	0.00113					0.223	0.00116		
Percent Moisture	Extracted:												
	Analyzed:	Oct-06-14	16:00	Oct-06-14 1	6:00	Oct-06-14 1	6:00	Oct-06-14	16:00	Oct-06-14	6:00	Oct-06-14 1	6:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.17	1.00	11.6	1.00	15.4	1.00	11.8	1.00	13.7	1.00	6.79	1.00
TPH By SW8015 Mod	Extracted:	Oct-03-14	15:00	Oct-03-14 1	5:00	Oct-03-14 1	5:00	Oct-03-14	15:00	Oct-03-14	5:00	Oct-03-14 1	5:00
	Analyzed:	Oct-03-14	18:51	Oct-03-14 1	9:18	Oct-03-14 2	0:35	Oct-03-14 2	20:59	Oct-03-14 2	21:23	Oct-03-14 2	1:47
	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	·	353	80.5	ND	16.9	1870	354	579	84.8	714	17.4	2910	161
C12-C28 Diesel Range Hydrocarbons		4660	80.5	48.3	16.9	29200	354	5330	84.8	4380	17.4	14700	161
C28-C35 Oil Range Hydrocarbons		737	80.5	ND	16.9	6070	354	743	84.8	503	17.4	1880	161
Total TPH		5750	80.5	48.3	16.9	37100	354	6650	84.8	5600	17.4	19500	161

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Huns Boah

Kelsey Brooks Project Manager



PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS HD0-95-61 Contact: Ben Arguijo

Project Location: NM

Project Name: Formar Maljamar Station

Draft

Date Received in Lab: Fri Oct-03-14 12:30 pm Report Date: 09-OCT-14

oject Location: NM													
					,			Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	494567-0	007	494567-0	08	494567-	009	494567-0	010	494567-0	011	494567-0	12
Analysis Proprested	Field Id:	TT-3 @	8'	TT-4 @	2'	TT-4 @	6'	TT-5 @	4'	TT-5 @	8'	TT-5 @ 1	14'
Analysis Requested	Depth:	8 In		2 In		6 In		4 In		8 In		14 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-30-14	11:10	Sep-30-14	1:30	Sep-30-14	11:40	Sep-30-14	12:30	Sep-30-14	12:40	Sep-30-14 1	2:55
BTEX by EPA 8021B	Extracted:					Oct-07-14	09:00						
	Analyzed:					Oct-07-14	21:36						
	Units/RL:					mg/kg	RL						
Benzene						ND	0.00120						
Toluene						ND	0.00239						
Ethylbenzene						0.00357	0.00120						
m_p-Xylenes						0.00445	0.00239						
o-Xylene						ND	0.00120						
Total Xylenes						0.00445	0.00120						
Total BTEX						0.00802	0.00120						
<b>Percent Moisture</b>	Extracted:												
	Analyzed:	Oct-03-14	13:30	Oct-06-14 1	6:00	Oct-06-14	16:00	Oct-06-14	16:00	Oct-06-14	16:00	Oct-03-14 1	3:30
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture	·	14.3	1.00	11.8	1.00	16.6	1.00	6.34	1.00	24.5	1.00	16.4	1.00
TPH By SW8015 Mod	Extracted:	Oct-03-14	15:00	Oct-03-14 1	5:00	Oct-03-14	15:00	Oct-03-14	15:00	Oct-03-14	15:00	Oct-03-14 1	5:00
	Analyzed:	Oct-03-14	22:13	Oct-03-14 2	22:41	Oct-03-14	23:08	Oct-03-14 2	23:35	Oct-04-14	00:59	Oct-04-14 0	)1:27
	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		1500	175	19.5	17.0	48.2	17.9	949	79.9	910	19.8	1660	179
C12-C28 Diesel Range Hydrocarbons		8120	175	526	17.0	880	17.9	7060	79.9	4810	19.8	8080	179
C28-C35 Oil Range Hydrocarbons		963	175	127	17.0	134	17.9	900	79.9	497	19.8	896	17
Total TPH		10600	175	673	17.0	1060	17.9	8910	79.9	6220	19.8	10600	179

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Kelsey Brooks Project Manager



PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS HD0-95-61

**Project Name: Formar Maljamar Station** 

110ject Iu. SKS 11D0-95-01							Б			<b>F</b> : 0 : 00 14	10.00		
Contact: Ben Arguijo			Dra	oft			Dat			Fri Oct-03-14	12:30 pi	n	
roject Location: NM				all				Report	Date:	09-OCT-14			
• 								Project Ma	nager:	Kelsey Brooks	s		
	Lab Id:	494567-0	13	494567-0	014	494567-0	15	494567-0	016	494567-0	017	494567-01	8
Analysis Requested	Field Id:	TT-6@	4'	TT-6 @	7'	TT-7 @ 2	2'	TT-7 @	6'	TT-8 @	4'	TT-8 @ 9.	5'
Analysis Kequesieu	Depth:	4 In		7 In		2 In		6 In		4 In		9.5 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-30-14 1	3:15	Sep-30-14	13:25	Sep-30-14 1	3:50	Sep-30-14	14:00	Sep-30-14	14:30	Sep-30-14 14	4:45
BTEX by EPA 8021B	Extracted:							Oct-07-14	09:00				
	Analyzed:							Oct-07-14	21:52				
	Units/RL:							mg/kg	RL				
Benzene	·							ND	0.00119				
Toluene								ND	0.00237				
Ethylbenzene								ND	0.00119				
m_p-Xylenes								ND	0.00237				
o-Xylene								ND	0.00119				
Total Xylenes								ND	0.00119				
Total BTEX								ND	0.00119				
Percent Moisture	Extracted:												
	Analyzed:	Oct-06-14	6:00	Oct-06-14 1	16:00	Oct-06-14 1	6:00	Oct-06-14	16:00	Oct-06-14 1	16:00	Oct-06-14 10	5:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		24.9	1.00	8.55	1.00	8.44	1.00	16.2	1.00	13.3	1.00	23.6	1.00
TPH By SW8015 Mod	Extracted:	Oct-03-14	15:00	Oct-03-14 1	15:00	Oct-03-14 1	5:00	Oct-03-14	15:00	Oct-03-14 1	15:00	Oct-03-14 15	5:00
	Analyzed:	Oct-04-14 (	01:51	Oct-04-14 (	02:20	Oct-04-14 0	2:48	Oct-06-14	10:07	Oct-04-14 (	03:43	Oct-04-14 04	4:12
	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		4090	398	4590	327	47.4	16.4	ND	17.9	1460	173	2030	196
C12-C28 Diesel Range Hydrocarbons		20400	398	18200	327	626	16.4	30.4	17.9	8340	173	9240	196
C28-C35 Oil Range Hydrocarbons		2500	398	2250	327	88.7	16.4	ND	17.9	1190	173	1180	196
Total TPH		27000	398	25000	327	762	16.4	30.4	17.9	11000	173	12500	196

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Version: 1.%

Kms Boah

Kelsey Brooks Project Manager



PLAINS ALL AMERICAN EH&S, Midland, TX



Project Id: SRS HD0-95-61 Contact: Ben Arguijo

Project Location: NM

Project Name: Formar Maljamar Station
Draft

Date Received in Lab: Fri Oct-03-14 12:30 pm Report Date: 09-OCT-14

roject Location: NM								Project Ma	nager:	Kelsey Brooks	5		
	Lab Id:	494567-0	)19	494567-0	20	494567-0	21	494567-	022	494567-0	23	494567-	024
Amaluaia Dogu astad	Field Id:	TT-9 @	2'	TT-9@4	4'	TT-10 @	4'	TT-10 @	9 8'	TT-11 @	2'	TT-11 @	¢ 4'
Analysis Requested	Depth:	2 In		4 In		4 In		8 In		2 In		4 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Sep-30-14	15:05	Sep-30-14 1	5:10	Sep-30-14 1	15:25	Sep-30-14	15:40	Sep-30-14 1	6:05	Sep-30-14	16:10
BTEX by EPA 8021B	Extracted:			Oct-07-14 0	9:00			Oct-07-14	09:00		1	Oct-07-14	09:00
	Analyzed:			Oct-07-14 2	2:09			Oct-07-14	22:25			Oct-07-14	22:41
	Units/RL:			mg/kg	RL			mg/kg	RL			mg/kg	RL
Benzene				ND	0.00111			ND	0.00120			ND	0.00120
Toluene				ND	0.00222			ND	0.00241			ND	0.00240
Ethylbenzene				ND	0.00111			0.00436	0.00120			ND	0.00120
m_p-Xylenes				ND	0.00222			0.0120	0.00241			ND	0.00240
o-Xylene				ND	0.00111			ND	0.00120			ND	0.00120
Total Xylenes				ND	0.00111			0.0120	0.00120			ND	0.00120
Total BTEX				ND	0.00111			0.0164	0.00120			ND	0.00120
Percent Moisture	Extracted:												
	Analyzed:	Oct-06-14	16:00	Oct-06-14 1	6:00	Oct-06-14 1	6:00	Oct-06-14	16:00	Oct-06-14 1	6:00	Oct-06-14	16:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.37	1.00	9.99	1.00	14.8	1.00	17.0	1.00	18.0	1.00	16.8	1.00
TPH By SW8015 Mod	Extracted:	Oct-03-14	15:00	Oct-03-14 1	5:00	Oct-03-14 1	5:00	Oct-03-14	15:00	Oct-03-14 1	5:00	Oct-03-14	15:00
	Analyzed:	Oct-04-14	04:40	Oct-04-14 0	5:07	Oct-04-14 1	4:13	Oct-04-14	14:38	Oct-04-14 1	5:03	Oct-04-14	15:28
	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		ND	16.0	ND	16.6	4070	175	159	90.1	ND	18.3	ND	18.0
C12-C28 Diesel Range Hydrocarbons		ND	16.0	ND	16.6	17300	175	3350	90.1	119	18.3	547	18.0
C28-C35 Oil Range Hydrocarbons		ND	16.0	ND	16.6	2440	175	708	90.1	47.9	18.3	142	18.0
Total TPH		ND	16.0	ND	16.6	23800	175	4220	90.1	167	18.3	689	18.0

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Kms Boah

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(210) 509-3335

(813) 620-2033

(432) 563-1713

(770) 449-5477



# Project Name: Formar Maljamar Station

Work Orders Lab Batch #: 95		7, Sample: 494567-001 / SMP	Batch		: SRS HD0-9 : Soil	5-61	
	g/kg	Date Analyzed: 10/03/14 18:51		RROGATE R		STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			128	99.6	129	70-135	
o-Terphenyl			61.8	49.8	124	70-135	
Lab Batch #: 95	52189	Sample: 494567-002 / SMP	Batch	n: 1 Matrix	: Soil		
Units: mg	g/kg	Date Analyzed: 10/03/14 19:18	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			112	99.7	112	70-135	
o-Terphenyl			58.8	49.9	118	70-135	
Lab Batch #: 95	52189	Sample: 494567-003 / SMP	Batch				
Units: m	g/kg	Date Analyzed: 10/03/14 20:35	SU	RROGATE R	ECOVERYS	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[A]	[D]	[D]	701	
1-Chlorooctane			112	99.8	112	70-135	
o-Terphenyl			55.9	49.9	112	70-135	
Lab Batch #: 95	52189	Sample: 494567-004 / SMP	Batch	n: 1 Matrix	: Soil		
Units: mg	g/kg	Date Analyzed: 10/03/14 20:59	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			123	99.7	123	70-135	
o-Terphenyl			63.0	49.9	126	70-135	
Lab Batch #: 95	52189	Sample: 494567-005 / SMP	Batch				<u> </u>
Units: mg	g/kg	Date Analyzed: 10/03/14 21:23	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			130	100	130	70-135	
o-Terphenyl			64.7	50.0	129	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# Project Name: Formar Maljamar Station

Lab Batch #	<b>ders :</b> 49456 #: 952189	Sample: 494567-006 / SMP	Batc		: SRS HD0-9 : Soil		
Units:	mg/kg	Date Analyzed: 10/03/14 21:47	SU	JRROGATE R	ECOVERY	STUDY	
	TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		123	99.9	123	70-135	
o-Terphenyl			58.2	50.0	116	70-135	
Lab Batch #	#: 952189	Sample: 494567-007 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/03/14 22:13	SU	JRROGATE R	ECOVERY	STUDY	
	TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ine	Anarytes	114	99.9	114	70-135	
o-Terphenyl			45.5	50.0	91	70-135	
Lab Batch #	#: 952189	Sample: 494567-008 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/03/14 22:41	su	JRROGATE R	ECOVERY	STUDY	
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
_		Analytes			[D]		
1-Chloroocta	nne		112	99.7	112	70-135	
o-Terphenyl			60.3	49.9	121	70-135	
Lab Batch a	<b>#:</b> 952189	Sample: 494567-009 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/03/14 23:08	SU	JRROGATE R	ECOVERY	STUDY	
	TPH ]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ane		118	99.8	118	70-135	
o-Terphenyl			64.2	49.9	129	70-135	
Lab Batch #		Sample: 494567-010 / SMP	Batc				
Units:	mg/kg	Date Analyzed: 10/03/14 23:35	st	JRROGATE R	ECOVERYS	STUDY	
	TPH	By SW8015 Mod	Amount Found	True Amount	Recovery %R	Control Limits %R	Flage
		Analytas	[A]	[B]			
1-Chloroocta		Analytes	[ <b>A</b> ]	<b>[B]</b> 99.8	[D]	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# Project Name: Formar Maljamar Station

Work Ore Lab Batch #	<b>ders :</b> 49456 <b>‡:</b> 952189	7, Sample: 494567-011 / SMP	Batcl		: SRS HD0-9 : Soil	5-61	
Units:	mg/kg	Date Analyzed: 10/04/14 00:59	SU	RROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		129	99.8	129	70-135	
o-Terphenyl			64.6	49.9	129	70-135	
Lab Batch #	<b>:</b> 952189	Sample: 494567-012 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/04/14 01:27	SU	RROGATE R	ECOVERYS	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		115	100	115	70-135	
o-Terphenyl			64.5	50.0	129	70-135	
Lab Batch #	<b>#</b> : 952189	Sample: 494567-013 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/04/14 01:51	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		118	99.6	118	70-135	
o-Terphenyl			39.2	49.8	79	70-135	
Lab Batch #	<b>:</b> 952189	Sample: 494567-014 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/04/14 02:20	SU	<b>RROGATE R</b>	ECOVERY S	STUDY	
	TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne	-	125	99.6	126	70-135	
o-Terphenyl			62.0	49.8	124	70-135	
Lab Batch #	<b>#:</b> 952189	Sample: 494567-015 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/04/14 02:48	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		126	99.8	126	70-135	
			120	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	140	10155	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



# Project Name: Formar Maljamar Station

Work Orders		7, Sample: 494567-017 / SMP	Project ID: SRS HD0-95-61 Batch: 1 Matrix: Soil				
	g/kg	Date Analyzed: 10/04/14 03:43	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			120	99.8	120	70-135	
o-Terphenyl			63.0	49.9	126	70-135	
Lab Batch #:         952189         Sample:         494567-018 / SMP			Batch: 1 Matrix: Soil				
Units: mg	g/kg	Date Analyzed: 10/04/14 04:12	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod Analytes			Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		Anarytes	125	99.7	125	70-135	
o-Terphenyl			63.7	49.9	128	70-135	
Lab Batch #: 95	2189	Sample: 494567-019 / SMP	Batcl				
	g/kg	<b>Date Analyzed:</b> 10/04/14 04:40	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes					[D]		
1-Chlorooctane			114	99.9	114	70-135	
o-Terphenyl			59.7	50.0	119	70-135	
Lab Batch #:         952189         Sample:         494567-020 / SMP			Batch: 1 Matrix: Soil				
Units: mg	g/kg	Date Analyzed: 10/04/14 05:07	SURROGATE RECOVERY STUDY				
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane			108	99.9	108	70-135	
o-Terphenyl			57.3	50.0	115	70-135	
Lab Batch #: 95	2196	Sample: 494567-021 / SMP	Batcl	h: 1 Matrix	: Soil	1	
Units: mg	g/kg	Date Analyzed: 10/04/14 14:13	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane			129	99.7	129	70-135	
o-Terphenyl			64.7	49.9	130	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Project Name: Formar Maljamar Station

Lab Batch #	<b>lers :</b> 49456 <b>:</b> 952196	7, Sample: 494567-022 / SMP	Project ID: SRS HD0-95-61 Batch: 1 Matrix: Soil									
Units:	mg/kg	<b>Date Analyzed:</b> 10/04/14 14:38	SU	JRROGATE R	ECOVERY	STUDY						
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
		Analytes			[D]							
1-Chloroocta	ne		129	99.7	129	70-135						
o-Terphenyl			59.7	49.9	120	70-135						
Lab Batch #	<b>:</b> 952196	Sample: 494567-023 / SMP	P Batch: 1 Matrix: Soil									
Units:	mg/kg	Date Analyzed: 10/04/14 15:03	SU	JRROGATE R	ECOVERY	STUDY						
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage					
1-Chloroocta	ne		123	100	123	70-135						
o-Terphenyl			63.8	50.0	128	70-135						
Lab Batch #	<b>:</b> 952196	Sample: 494567-024 / SMP	Batc	h: 1 Matrix	: Soil							
Units:	mg/kg	Date Analyzed: 10/04/14 15:28	SU	JRROGATE R	ECOVERY	STUDY						
	TPHI	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag					
		Analytes			[D]							
1-Chloroocta	ne		118	99.9	118	70-135						
o-Terphenyl			63.8	50.0	128	70-135						
Lab Batch #	<b>:</b> 952189	Sample: 494567-016 / SMP	Batc	h: 1 Matrix	: Soil							
Units:	mg/kg	Date Analyzed: 10/06/14 10:07	SU	JRROGATE R	ECOVERY	STUDY						
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage					
1-Chloroocta	ne		109	99.9	109	70-135						
o-Terphenyl			56.8	50.0	114	70-135						
Lab Batch #	: 952300	Sample: 494567-002 / SMP	Batc									
Units:	mg/kg	Date Analyzed: 10/07/14 21:03		JRROGATE R	ECOVERY	STUDY						
	втех	K by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits %R	Flag					
		Analytes	[A]	[B]	%R [D]	/01						
1.4-Difluorob		Analytes	[ <b>A</b> ]	[ <b>B</b> ]	<b>[D]</b>	80-120						

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Project Name: Formar Maljamar Station

Lab Batch #: 95	52300	Sample: 494567-005 / SMP	Batc	ch: 1 Matrix	: Soil								
Units: m	g/kg	Date Analyzed: 10/07/14 21:19	SURROGATE RECOVERY STUDY										
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
		Analytes			[D]								
1,4-Difluorobenze	ne		0.0277	0.0300	92	80-120							
4-Bromofluorober	nzene		0.0319	0.0300	106	80-120							
Lab Batch #: 95	52300	Sample: 494567-009 / SMP											
Units: m	g/kg	Date Analyzed: 10/07/14 21:36	SU	JRROGATE R	ECOVERY S	STUDY							
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1,4-Difluorobenze	ne	Analytes	0.0305	0.0300	102	80-120							
4-Bromofluorober	izene		0.0336	0.0300	112	80-120							
Lab Batch #: 95	52300	Sample: 494567-016 / SMP	Batc										
Units: m	g/kg	Date Analyzed: 10/07/14 21:52	su	JRROGATE R	ECOVERY S	STUDY							
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage						
		Analytes			[D]								
1,4-Difluorobenze	ne		0.0317	0.0300	106	80-120							
4-Bromofluorober	izene		0.0312	0.0300	104	80-120							
Lab Batch #: 95	52300	Sample: 494567-020 / SMP	Batc	h: 1 Matrix	: Soil								
Units: m	g/kg	Date Analyzed: 10/07/14 22:09	SU	JRROGATE R	ECOVERY S	STUDY							
	втеу	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage						
1.4-Difluorobenze	ne		0.0323	0.0300	108	80-120							
4-Bromofluorober	-		0.0314	0.0300	103	80-120							
Lab Batch #: 95		Sample: 494567-022 / SMP	Batc			00 120							
	g/kg	<b>Date Analyzed:</b> 10/07/14 22:25	SURROGATE RECOVERY STUDY										
	втеу	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag						
		Analytes			[D]								
1,4-Difluorobenze			0.0301	0.0300	100	80-120							
4-Bromofluorober	nzene		0.0325	0.0300	108	80-120							

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Project Name: Formar Maljamar Station

Work Orde Lab Batch #:		Sample: 494567-024 / SMP	Batc		: SRS HD0-9 : Soil								
Units:	mg/kg	Date Analyzed: 10/07/14 22:41	SU	RROGATE R	ECOVERY	STUDY							
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag						
		Analytes			[D]								
1,4-Difluorobe	nzene		0.0311	0.0300	104	80-120							
4-Bromofluoro	benzene		0.0302	0.0300	101	80-120							
Lab Batch #:	952189	Sample: 662476-1-BLK / BL	/ BLK Batch: 1 Matrix: Solid										
Units:	mg/kg	Date Analyzed: 10/03/14 17:37	SURROGATE RECOVERY STUDY										
	TPH ]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage						
1-Chlorooctane	•		117	100	117	70-135							
o-Terphenyl			60.3	50.0	121								
Lab Batch #:	952196	Sample: 662478-1-BLK / BL	K Batc	h: 1 Matrix	: Solid	I							
Units:	mg/kg	Date Analyzed: 10/04/14 06:31	SU	RROGATE R	ECOVERY	STUDY							
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage						
		Analytes			[D]								
1-Chlorooctane	e		116	100	116	70-135							
o-Terphenyl			61.8	50.0	124	70-135							
Lab Batch #:	952300	Sample: 662535-1-BLK / BL	K Batc	h: 1 Matrix	: Solid								
Units:	mg/kg	Date Analyzed: 10/07/14 10:47	SU	RROGATE R	ECOVERYS	STUDY							
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage						
		Analytes			[D]								
1,4-Difluorobe			0.0297	0.0300	99	80-120							
4-Bromofluoro			0.0264	0.0300	88	80-120							
Lab Batch #:		Sample: 662476-1-BKS / BK											
Units:	mg/kg	Date Analyzed: 10/03/14 18:02	SU	RROGATE R	ECOVERY S	STUDY							
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag						
		Analytes			[D]								
1-Chlorooctane			125	100	125	70-135							
o-Terphenyl			63.5	50.0	127	70-135							

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Project Name: Formar Maljamar Station

Work Or Lab Batch #	<b>ders :</b> 49456 #: 952196	7, <b>Sample:</b> 662478-1-BKS / B	KS Batc		: SRS HD0-9 :: Solid	5-61	
Units:	mg/kg	Date Analyzed: 10/04/14 06:59	SU	RROGATE R	ECOVERY	STUDY	
	<b>TPH</b>	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ine		115	100	115	70-135	
o-Terphenyl			59.9	50.0	120	70-135	
Lab Batch #	<b>#:</b> 952300	Sample: 662535-1-BKS / B	KS Batcl	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/07/14 11:04	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes					
1,4-Difluoro			0.0298	0.0300	99	80-120	
4-Bromofluo			0.0295	0.0300	98	80-120	
Lab Batch #		Sample: 662476-1-BSD / B					
Units:	mg/kg	Date Analyzed: 10/03/14 18:26	SU	RROGATE R	ECOVERY	STUDY	
	<b>TPH</b>	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[-]	1	[D]	,	
1-Chloroocta	ine		127	100	127	70-135	
o-Terphenyl			63.9	50.0	128	70-135	
Lab Batch #	<b>#:</b> 952196	Sample: 662478-1-BSD / B	SD Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/04/14 07:24	SU	RROGATE R	ECOVERY	STUDY	
	TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.011		Analytes	100	100		<b>70 105</b>	
1-Chloroocta	ine		123	100	123	70-135	
o-Terphenyl	4. 052200	Somela: ((2525-1 DCD / D	64.2	50.0	128	70-135	
Lab Batch #		Sample: 662535-1-BSD / B			: Solid		
Units:	mg/kg	Date Analyzed: 10/07/14 11:20	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
140.0		Analytes	0.0200	0.0700		00.170	
1,4-Difluoro			0.0300	0.0300	100	80-120	
4-Bromofluo	robenzene		0.0283	0.0300	94	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## Project Name: Formar Maljamar Station

Lab Batch #	: 952189	Sample: 494567-002 S / M	S Bate	h: 1 Matrix	: Soil								
Units:	mg/kg	Date Analyzed: 10/03/14 20:07	SU	JRROGATE R	ECOVERY	STUDY							
	TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage						
		Analytes			[D]								
1-Chloroocta	ne		121	99.6	121	70-135							
o-Terphenyl			57.4	49.8	115	70-135							
Lab Batch #	: 952196	Sample: 494551-001 S / M	MS Batch: 1 Matrix: Soil										
Units:	mg/kg	Date Analyzed: 10/04/14 08:21	SU	JRROGATE R	ECOVERY	STUDY							
	TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chloroocta	ne	1 mary tes	116	99.7	116	70-135							
o-Terphenyl			60.0	49.9	120	70-135							
Lab Batch #	: 952300	Sample: 494551-001 S / M	S Batch: 1 Matrix: Soil										
Units:	mg/kg	<b>Date Analyzed:</b> 10/07/14 11:36		JRROGATE R	ECOVERY	STUDY							
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags						
		Analytes			[D]								
1,4-Difluorob	enzene		0.0351	0.0300	117	80-120							
4-Bromofluor	obenzene		0.0346	0.0300	115	80-120							
Lab Batch #	: 952196	Sample: 494551-001 SD / 1	MSD Bate	h: 1 Matrix	: Soil								
Units:	mg/kg	Date Analyzed: 10/04/14 08:46	SU	JRROGATE R	ECOVERY	STUDY							
	TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags						
1-Chloroocta	ne	<i>v</i>	127	99.7	127	70-135							
o-Terphenyl			64.3	49.9	129	70-135							
Lab Batch #	: 952300	Sample: 494551-001 SD / I				I							
Units:	mg/kg	Date Analyzed: 10/07/14 11:53	SU	JRROGATE R	ECOVERY	STUDY							
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage						
1,4-Difluorob	enzene	· · · · · · · · · · · · · · · · · · ·	0.0335	0.0300	112	80-120							

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **BS / BSD Recoveries**



#### **Project Name:** Formar Maljamar Station

Work Order #: 494567							Proj	ect ID:	SRS HD0-9	95-61	
Analyst: ARM	D	ate Prepar	ed: 10/07/20	14			Date A	nalyzed: 1	10/07/2014		
Lab Batch ID: 952300 Sample: 662535-1-1	BKS	Batch	<b>n #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0912	91	0.100	0.0897	90	2	70-130	35	
Toluene	< 0.00200	0.100	0.0963	96	0.100	0.0947	95	2	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.0999	100	0.100	0.0978	98	2	71-129	35	
m_p-Xylenes	< 0.00200	0.200	0.205	103	0.200	0.200	100	2	70-135	35	
o-Xylene	< 0.00100	0.100	0.0956	96	0.100	0.0933	93	2	71-133	35	
Analyst: ARM	D	ate Prepar	ed: 10/03/20	14			Date A	nalyzed:	10/03/2014		
Lab Batch ID: 952189 Sample: 662476-1-	BKS	Batch	n#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
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	967	97	1000	978	98	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1130	113	1000	1180	118	4	70-135	35	

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



## **BS / BSD Recoveries**



#### **Project Name:** Formar Maljamar Station

Work Order	Work Order #: 494567         Project ID: SRS HD0-95-61											
Analyst:	ARM	<b>Date Prepared:</b> 10/03/2014						Date A	nalyzed:	0/04/2014		
Lab Batch ID:	: 952196 Sample: 662478-1-H	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK S	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analy	tes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 G	asoline Range Hydrocarbons	<15.0	1000	921	92	1000	998	100	8	70-135	35	
C12-C28 I	Diesel Range Hydrocarbons	<15.0	1000	1200	120	1000	1160	116	3	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 Recoveries Project Name: Formar Maljamar Station



 Work Order #:
 494567

 Lab Batch #:
 952189

 Date Analyzed:
 10/03/2014

 QC- Sample ID:
 494567-002 S

 Reporting Units:
 mg/kg

C12-C28 Diesel Range Hydrocarbons

Project ID: SRS HD0-95-61

114

70-135

1340

<b>Date Analyzed:</b> 10/03/2014	Date Prepared: 10/03/	2014	А	nalyst: A	RM	
<b>QC- Sample ID:</b> 494567-002 S	<b>Batch #:</b> 1		1	Matrix: So	oil	
Reporting Units: mg/kg	MATRI	X / MAT	RIX SPIKE	RECOV	ERY STU	DY
TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.9	1130	1050	93	70-135	

48.3

1130

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative 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: Formar Maljamar Station**



<b>Work Order # :</b> 494567						Project II	SRS H	D0-95-61			
Lab Batch ID: 952300	QC- Sample ID:	494551-	-001 S	Ba	tch #:	1 Matrix	: Soil				
<b>Date Analyzed:</b> 10/07/2014	Date Prepared:	10/07/2	014	An	alyst: A	ARM					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		[D]	[E]		[G]				
Benzene	< 0.00107	0.107	0.0932	87	0.108	0.0840	78	10	70-130	35	
Toluene	<0.00215	0.107	0.0902	84	0.108	0.0840	78	7	70-130	35	
Ethylbenzene	< 0.00107	0.107	0.0830	78	0.108	0.0794	74	4	71-129	35	
m_p-Xylenes	<0.00215	0.215	0.169	79	0.215	0.162	75	4	70-135	35	
o-Xylene	<0.00107	0.107	0.0804	75	0.108	0.0770	71	4	71-133	35	
Lab Batch ID: 952196	QC- Sample ID:	494551-	-001 S	Ba	tch #:	1 Matrix	: Soil				
<b>Date Analyzed:</b> 10/04/2014	Date Prepared:	10/03/2	014	An	alyst: A	ARM					
Reporting Units: mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[~]	[D]	[E]		[G]	,			
C6-C12 Gasoline Range Hydrocarbons	<16.1	1070	1040	97	1070	1260	118	19	70-135	35	
C12-C28 Diesel Range Hydrocarbons	622	1070	1820	112	1070	1910	120	5	70-135	35	

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





#### **Project Name: Formar Maljamar Station**

Work Order #: 494567					
Lab Batch #: 952117			Project I	D: SRS HD	0-95-61
<b>Date Analyzed:</b> 10/03/2014 13:30 <b>Date P</b>	repared: 10/03/2014	4 Ana	lyst:WRU		
QC- Sample ID: 494529-001 D	Batch #: 1	Ma	t <b>rix:</b> Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	15.9	12.2	26	20	F
Lab Batch #: 952117					
<b>Date Analyzed:</b> 10/03/2014 13:30 <b>Date P</b>	repared: 10/03/2014	4 Ana	lyst:WRU		
QC- Sample ID: 494543-004 D	<b>Batch #:</b> 1	Ma	t <b>rix:</b> Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.14	18.7	142	20	F
	5.11	10.7	112	20	1
Lab Batch #: 952276 Date Analyzed: 10/06/2014 16:00 Date P	repared: 10/06/2014	4 Ana	lyst:WRU		
<b>QC- Sample ID:</b> 494567-001 D	Batch #: 1		trix: Soil		
Reporting Units: %		/ SAMPLE		ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.17	7.66	7	20	
Lab Batch #: 952276 Date Analyzed: 10/06/2014 16:00 Date P QC- Sample ID: 494567-013 D	repared: 10/06/2014 Batch #: 1		<b>lyst:</b> WRU t <b>rix:</b> Soil		
Reporting Units: %	Duttin	/ SAMPLE		ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	24.9	13.0	63	20	F

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

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

BRL - Below Reporting Limit





#### **Project Name: Formar Maljamar Station**

Work Order #: 494567

Lab Batch #: 952278 Date Analyzed: 10/06/2014 16:00 QC- Sample ID: 494567-021 D	Date Prepared: Batch #:	10/06/2014 1	Anal	<b>Project I</b> yst:WRU rix: Soil	D: SRS HD(	)-95-61
<b>Reporting Units:</b> %	S	AMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte		ent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		14.8	14.7	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

5	ENCO		CHAI	N OF	C	US	ГОІ	DY RE	CO	RD				Pa	ge_ 1	of 3			* Container Type Codes
La	Houston: 4143 Gree Joool-C	enbriar Dr. Stafford,	TX 77477 (28	1)240-4200	O Ode	issa: 12	600 We	ist I-20 East	Odessa,	TX 79765	(432)563	1800	LAB	W.O #	<i>t</i> :			67	VA Vial Amber ES Encore Sampler VC Vial Clear TS TerraCore Sampler VP Vial Pre-preserved AC Air Cenister GA Glass Amber TB Tediar Bag GC Glass Clear ZB Zip Lock Bag
	pany: Basin Environmental Service	Technologies, LL	.c	Phone:	(575	5)396-2	378	TAT W	ork Da	vs = D	Need	results		Disable 1		Tin	10'		PA Plastic Amber PC Plastic Clear PC Plastic Clear Other
Addr	ess: 3100 Plains Hwy.			Fax:	(575	5)396-1	429	1 (		-1				7D 10					Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1Gal 40ml, 125 ml, 250 ml, 500 ml, 1L, Other
City:	Lovington		State: NM	Zip:	882	60		1		1	And Distances	A DESCRIPTION OF THE OWNER	Charles and the second	QUES	201202251	o u loi	SPACE.	100	** Preservative Type Codes
PM/A	Ben Arguijo		Email:	bjarguijo	@basi	nenv.co	m	Cont Type *	GC	GC		T	T	1			1	100	A. None E. HCL I. Ice
Proje	ct ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA	-C. Brya	int	Pres Type**	1	1									B. HNO <sub>3</sub> F. MeOH J. MCAA H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZhAc&NaOH D. NaOH H. NaHSO <sub>4</sub> L. Asbc Acid&NaOH
nvoi	ce To: Camille Bryant Plains All	American		Quote #	t			09										PAH My II	0
	oler Name: I. Arguijo		Event: Daily I Annual		Mont	thly Q	uartely	ample s by 82	Н	Chloride								Run PH On	A Matrix Type Codes
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Filtered	Integrity OK (YIN)	Total # of containers	Example Volatiles by 8260	F	ð								Hold (CALL_) on Highest T	SW Surface Water O Oil OW Ocean/Sea Water T Tissue PL Product-Liquid U Urine PS Product-Solid B Blood SL Shudge
S	The second second second		1	1				# Cont	Lab Oni	y:								22	REMARKS
_1	TT-1 @ 4'	9/30/2014	1005	S			1	Same	х	X								Carlo and	Hold for BTEX
_2	TT-1 @ 8'	9/30/2014	1010	S			1		x	X								1000	
_3	TT-2 @ 2'	9/30/2014	1030	S			1	E	х	X								Sec.	
_4	TT-2 @ 4'	9/30/2014	1035	s			1		x	X								1000	
_5	TT-2 @ 6'	9/30/2014	1040	s			1	HE PART	x	x							-	11200	
_6	TT-3 @ 4'	9/30/2014	1100	s			1	14.07	х	x		-		-				1000	
7	TT-3 @ 8'	9/30/2014	1110	s			1	- Alesanda	X	x									Rush TPH MB
_8	TT-4 @ 2'	9/30/2014	1130	S			1	Ster.	X	X									nush jirj nu
_9	TT-4 @ 6'	9/30/2014	1140	s			1		х	X								1000	
_0	TT-5 @ 4'	9/30/2014	1230	s			1	E	х	X								1000	
	Reg. Program / Clean-up Std	STATE	for Certs &	Regs	Q	AVQCI	Level	& Certifica	ation	1981	EDDs	188.20	COC 8	Labels	C	oolers	Temp *	C	Lab Use Only YES NO N/A
ther:	TRRP DW NPDES LPST DryCln	FL TX GA N AL NM Othe	in in its second se	0.000.000	NELA	C DoD-	ELAP	Other:	pp	ADaPT XLS Othe		ERPIMS		Incomplete Unclear	1	2	30		Non-Conformances found?
1	Relinquished by		Affiliat	-		Date	-		_	Re	ceived	by	Affili	ation	Da	the second s	-	100000000000000000000000000000000000000	Received on Wet loe?
1	MAG		Disinb	nv.	101	2/19		095	5 (	Leru	4 th	esend	SM	1	10-2	1-14	9:-		Labeled with proper preservatives?
3	1						+		_		-								VOCs rec'd w/o headspace?
4							+			2	na	7	10		10 7	111	11.		pH verified-acceptable, exct VDCs?
	Laboratories: Hobbs 575-392-7	550 Dallas 214	-902-0300	Housto	20 29	1.242	4200	Odeeee	422 50	V. 20	Ath	inau	Ther	100	10-3	14	12.	30	

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 #

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Draft 1.000

5	ENCO		CHAI	N OF	F C	US	roi	DY RE	CO	RD				Pa	ge_2_	of 3			* Container Type	Contract of the local division of the local
La	Houston: 4143 Greent rocol-c	briar Dr. Stafford,	TX 77477 (28	1)240-4200	0 Ode	issa: 12	600 We	st I-20 East	Odessa,	TX 79765	(432)563-	1800		W.O #	:		1949	567	VC Viel Clear TS Terra VP Vial Pre-preserved AC Air C. GA Glass Amber TB Tedia GC Glass Clear ZB Zip U	ock Bag
	pany: Basin Environmental Service Te	chnologies, LL	с	Phone:	(575	5)396-2	378	TAT W	ork Da	ys = D	Need	results I		endere r		Tin	ne:		PA Plastic Amber PC Plast PC Plastic Clear Other	ic Clear
Addr	3100 Plains Hwy.			Fax:	(575	5)396-1	429		/	C 21			1.1	7D 10	D 14D				Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 1G 40ml, 125 ml, 250 ml, 500 ml, 1L, Oth	al
City:	Lovington		State: NM	Zip:	882	60		1	-	/	and a second	1010000000	and states and states	QUES	Saculty 2 (2)	Guidi	UK SA	27150	** Preservative Type	
PM/A	Attn: Ben Arguijo		Email:	bjarguijo	@basi	nenv.co	m	Cont Type *	GC	GC							1		A. None E. HCL L Ice	
Proje	ct ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA	-C. Brya	ant	Pres Type**	1	1									B. HNO <sub>3</sub> F. MeOH J. MCA/ H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc&Ni D. NaOH H. NaHSO <sub>4</sub> L Asbc	OH
ivoi	ce To: Camille Bryant Plains All A	merican		Quote #	t.			60						1				PAH by if	0	
	oler Name: Arguijo	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Mont	thiy Q	uartely	imple s by 82	HdT	Chloride								Sample Run PH Or	A Matrix Type Co GW Ground Water S Soll/Se WW Waste Water W Wipe DW Drinking Water A Air	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260	-	C								Hold (CALL_) on Highest T	SW Surface Water O Oil OW Ocean/Sea Water T Tissue PL Product-Liquid U Unine PS Product-Solid B Blood SL Sludge	
S	South and a second state			12020-			Carles .	# Cont	Lab On	À:								-	REMARKS	
_1	TT-5 @ 8'	9/30/2014	1240	s			1	The	X	X									Hold for BTE	<
_2	TT-5 @ 14'	9/30/2014	1255	S			1	1045	x	X								Sec.	RushTPH	
_3	TT-6 @ 4'	9/30/2014	1315	s			1	21900	х	x								19/28	100511111	no
_4	TT-6 @ 7'	9/30/2014	1325	s			1		х	x								3.354		-
_5	TT-7 @ 2'	9/30/2014	1350	s			1	Salt -	х	x								Ten de		
_6	TT-7 @ 6'	9/30/2014	1400	s			1	The state	х	x								1.000		
_7	TT-8 @ 4'	9/30/2014	1430	s			1	and a state	х	X								SHOUL		
_8	TT-8 @ 9.5'	9/30/2014	1445	s			1		х	x								1 ALLER		
_9	TT-9 @ 2'	9/30/2014	1505	s			1	1926	х	x								2012		
_0	TT-9 @ 4'	9/30/2014	1510	s			1		х	х								122.95		
	Reg. Program / Clean-up Std	STATE	for Certs &	Regs	Q	AVQCI	Level	& Certifica	ation	180	EDDs	20	COC 8	Labels	C	coolers	Temp °(	c	Lab Use Only YE	S NO N
TLs her:	TRRP DW NPDES LPST DryCin	FL TX GA N AL NM Othe		OK LA		3 4 C DoD-		AFCEE QAS Other:	PP	ADaPT XLS Othe	SEDD E	ERPIMS	Match I Absent	unclear	1	2	3 ()	.1	Non-Conformances found?	
122	Relinquished by	- Il Recent	Affiliat	ion		Date		Time			ceived	by		ation	Da	_		me	Samples intact upon arrival? Received on Wet Ice?	
1	MAG		Disne	nv.	19	13/1	9	095	5	erl	nhe	sever	M	2	10.2	1-14	95.	S	Labeled with proper preservatives?	
2	11		_																Custody seals intact?	
3										~~~	20								Proper containers used?	
4	Laboratories: Hobbs 575-392-755				-					BU	alun	au	Xen	CO /	0.3.	14	12:	30	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

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24	ENCO		CHAI	N OF	C	US'	то	DY RE	CO	RD				Pa	ge_3_	of 3			* Container Ty	
Lab	Houston: 4143 Greent rocol-c	briar Dr. Stafford,	TX 77477 (28	1)240-4200	) Ode	ssa: 12	8600 We	est I-20 East	Odessa,	TX 79765	(432)563-	1800	LAB	W.O #	ŧ:			67	VC Vial Clear TS VP Vial Pre-preserved AC GA Glass Amber TB GC Glass Clear ZB	Tedlar Bag Zip Lock Bag
Compa	ny: Basin Environmental Service Te	echnologies, LL	С	Phone:	(575	5)396-2	378	TAT W	ork Da	VS = D	Need	results			115.	Tie	no.		PA Plastic Amber PC PC Plastic Clear Other	Plastic Clear
ddres	s: 3100 Plains Hwy.			Fax:	(575	5)396-1	429	1 /						7D 10					Size(s): 20z, 40z, 80z, 160z, 32 40ml, 125 ml, 250 ml, 500 ml,	toz . 1Gal
City:	Lovington		State: NM	Zip:	8826	60		C			1997	100000000000000000000000000000000000000	Real Property lies	QUES	Conception of the	Ouler	5	12.20	** Preservative	
M/Attr	<sup>1:</sup> Ben Arguijo		Email:	bjarguijo	@basi	nenv.co	m	Cont Type *	GC	GC	I				I	1		1	1	loe
	ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA	-C. Brya	ant	Pres Type**	1	1							+	28	B. HNO <sub>3</sub> F. MeOH J. H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. Zn D. NaOH H. NaHSO <sub>4</sub> L	MCAA Ac&NaOH
voice	To: Camille Bryant Plains All A	merican		Quote #	:			8					1	1	1	-	+	PAH II Vin	0	
	r Name: Arguijo	Circle One I Semi-Annual	Event: Daily I Annual	Weekiy N/A	Mont	hly Q	uartely	ample s by 826	TPH	Chloride								Sample Run P PH Oni	GW Ground Water S	Soll/Sediment/Solid Wipe
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Filtered	Integrity OK (YIN)	Total # of containers	Example Volatiles by 8260	Т	G								Hold (CALL) on Highest T	SW Surface Water O ( OW Ocean/Sea Water T	Dil Tissue Urine
S					1200			# Cont	Lab Oni	Ŋ:									REMAR	KS
_1	TT-10 @ 4'	9/30/2014	1525	S			1		х	X									Hold for B	TEX
_2	TT-10 @ 8'	9/30/2014	1540	s			1	12	х	X								1		
_3	TT-11 @ 2'	9/30/2014	1605	s			1	inter the	х	X			<u> </u>							
_4	TT-11 @ 4'	9/30/2014	1610	s			1		х	X								1		
_5								17 Aller										Contest.		
_6																				
7								Sec. 2										10000		
8								19.4574										and the second		
9								2.2.1										10000		
0								Ser Martin								-				
	teg. Program / Clean-up Std	STATE	for Certs &	Regs	Q	AVQC	Level	& Certifica	ation	819219	EDDs	10.969	COC 8	Labels	C	Coolers	Temp °	C	Lab Use Only	YES NO N/A
TLs T her:	RRP DW NPDES LPST DryCin	FL TX GA N AL NM Other	C SC NJ PA		1 2 NELAC	3 4 C DoD-	CLP	AFCEE QAF		ADaPT XLS Othe	SEDD E	ERPIMS		Incomplete Unclear	1	2	30	- (	Non-Conformances found?	
_	Relinquished by	12-13-11-12-1	Affiliat	ion		Date		Time		-	ceived	by		ation	Da		The Party name		Samples intact upon arrival? Received on Wet Ice?	
1	1/11		TASINA	nil.	10	12/19	4	095	5	Yad	ci Re	send	M	S	10-2	7-14	9:	55	Labeled with proper preservatives? Received within holding time?	
2	//						$\rightarrow$			-		_							Custody seals intact? VOCs rec'd w/o headspace?	===
4							$\rightarrow$			0.7	00	,	16						Proper containers used? pH verified-acceptable, excl VOCs?	===
_	boratories: Hobbs 575-392-755	O Delles Off	000 0000							Bell	& whi	nau	Xen	20	10-3	-14	12:	30	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 C. FTS Service Centers: Atlanta 770-449-8800 Lakeland 863-646-8526 Tampa 803-543-8099 Philadelphia 610-955-5649 South Carolina 803-543-8099

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#### **XENCO Laboratories** Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S Date/ Time Received: 10/03/2014 12:30:00 PM Work Order #: 494567

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

Date: 10/03/2014

 Checklist completed by:
 Mmg Moah

 Kelsey Brooks

 Checklist reviewed by:
 Mmg Moah

 Kelsey Brooks

Date: 10/03/2014

# Analytical Report 495800

## for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Former Maljimar Station

#### SRS HD0-95-61

#### 28-OCT-14

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)





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

Reference: XENCO Report No(s): **495800** Former Maljimar Station 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) 495800. 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. 495800 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.

Ams Boah

 Kelsey Brooks

 Project Manager

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## Sample Cross Reference 495800



## PLAINS ALL AMERICAN EH&S, Midland, TX

Former Maljimar Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1 @5'	S	10-16-14 11:05	- 5 ft	495800-001
SB-1 @10'	S	10-16-14 11:10	- 10 ft	495800-002
SB-1 @20'	S	10-16-14 11:20	- 20 ft	495800-003
SB-1 @30'	S	10-16-14 11:30	- 30 ft	495800-004
SB-1 @50'	S	10-16-14 11:50	- 50 ft	495800-005
SB-1 @70'	S	10-16-14 12:50	- 70 ft	495800-006
SB-1 @80'	S	10-16-14 13:00	- 80 ft	495800-007
SB-2 @5'	S	10-16-14 13:50	- 5 ft	495800-008
SB-2 @10'	S	10-16-14 13:55	- 10 ft	495800-009
SB-2 @25'	S	10-16-14 14:10	- 25 ft	495800-010
SB-2 @45'	S	10-16-14 14:30	- 45 ft	495800-011
SB-2 @65'	S	10-16-14 14:50	- 65 ft	495800-012
SB-2 @80'	S	10-16-14 15:05	- 80 ft	495800-013
SB-2 @100'	S	10-16-14 15:25	- 100 ft	495800-014
SB-3@5'	S	10-17-14 09:20	- 5 ft	495800-015
SB-3@10'	S	10-17-14 09:25	- 10 ft	495800-016
SB-3@20'	S	10-17-14 09:35	- 20 ft	495800-017
SB-3@30'	S	10-17-14 09:45	- 30 ft	495800-018
SB-3@50'	S	10-17-14 10:05	- 50 ft	495800-019
SB-3@70'	S	10-17-14 10:25	- 70 ft	495800-020
SB-3@85'	S	10-17-14 10:40	- 85 ft	495800-021
SB-3@100'	S	10-17-14 10:55	- 100 ft	495800-022
SB-4@ 5'	S	10-17-14 11:35	- 5 ft	495800-023
SB-4@ 10'	S	10-17-14 11:40	- 10 ft	495800-024
SB-4@ 20'	S	10-17-14 11:50	- 20 ft	495800-025
SB-4@ 30'	S	10-17-14 12:00	- 30 ft	495800-026
SB-4@ 50'	S	10-17-14 12:20	- 50 ft	495800-027
SB-4@ 70'	S	10-17-14 12:40	- 70 ft	495800-028
SB-4@ 90'	S	10-17-14 13:00	- 90 ft	495800-029
SB-4 @ 105'	S	10-17-14 13:15	- 105 ft	495800-030
SB-4 @ 120'	S	10-17-14 13:30	- 120 ft	495800-031
SB-4 @ 140'	S	10-17-14 13:50	- 140 ft	495800-032



## CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Former Maljimar Station

Project ID: SRS HD0-95-61 Work Order Number(s): 495800 
 Report Date:
 28-OCT-14

 Date Received:
 10/23/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Contact: Ben Arguijo

**Project Location:** 

## Certificate of Analysis Summary 495800

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm

Report Date: 28-OCT-14

roject Location:								Report	Dute.	20 001 11			
-								Project Ma	nager:	Kelsey Brook	s		
	Lab Id:	495800-0	001	495800-0	002	495800-0	003	495800-0	004	495800-0	005	495800-0	06
Analysis Requested	Field Id:	SB-1 @	5'	SB-1 @	10'	SB-1 @2	20'	SB-1@	30'	SB-1 @	50'	SB-1 @7	'0'
Anaiysis Kequesiea	Depth:	5 ft		10 ft		20 ft		30 ft		50 ft		70 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL	,	SOIL	
	Sampled:	Oct-16-14	1:05	Oct-16-14	11:10	Oct-16-14	11:20	Oct-16-14	11:30	Oct-16-14	11:50	Oct-16-14 1	2:50
BTEX by EPA 8021B	Extracted:			Oct-24-14	16:00	Oct-24-14	16:00	Oct-24-14	16:00	Oct-24-14	16:00		
	Analyzed:			Oct-25-14	01:11	Oct-24-14	21:07	Oct-24-14	23:34	Oct-24-14	21:24		
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene	· · · · · ·			0.00184	0.00111	ND	0.00113	ND	0.00113	ND	0.00113		
Toluene				0.0173	0.00222	ND	0.00226	ND	0.00225	ND	0.00225		
Ethylbenzene				0.114	0.00111	ND	0.00113	ND	0.00113	ND	0.00113		
m,p-Xylenes				0.139	0.00222	ND	0.00226	ND	0.00225	ND	0.00225		
o-Xylene				0.0734	0.00111	ND	0.00113	ND	0.00113	ND	0.00113		
Total Xylenes				0.212	0.00111	ND	0.00113	ND	0.00113	ND	0.00113		
Total BTEX				0.346	0.00111	ND	0.00113	ND	0.00113	ND	0.00113		
Inorganic Anions by EPA 300/300.1	Extracted:			Oct-27-14	12:00					Oct-27-14	12:00		
	Analyzed:			Oct-27-14	19:22					Oct-27-14	19:44		
	Units/RL:			mg/kg	RL					mg/kg	RL		
Chloride				75.7	11.2					222	11.3		
Percent Moisture	Extracted:												
	Analyzed:	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14 1	6:40
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		11.7	1.00	10.5	1.00	11.7	1.00	12.0	1.00	11.7	1.00	10.7	1.00
TPH By SW8015 Mod	Extracted:	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14 1	7:00
	Analyzed:	Oct-25-14	03:54	Oct-25-14	04:26	Oct-25-14	04:58	Oct-25-14	06:37	Oct-25-14	07:09	Oct-25-14 0	07:41
	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		632	84.6	557	16.7	20.1	17.0	ND	17.0	18.7	17.0	ND	16.7
C12-C28 Diesel Range Hydrocarbons		3460	84.6	2550	16.7	65.0	17.0	142	17.0	ND	17.0	ND	16.7
C28-C35 Oil Range Hydrocarbons		675	84.6	355	16.7	ND	17.0	32.6	17.0	ND	17.0	ND	16.7
Total TPH		4770	84.6	3460	16.7	85.1	17.0	175	17.0	18.7	17.0	ND	16.7

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Huns Boah

Kelsey Brooks Project Manager

Page 5 of 37



Contact: Ben Arguijo

**Project Location:** 

Certificate of Analysis Summary 495800

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm

Report Date: 28-OCT-14

roject Location:								Report	Dutti	20 001 11			
								Project Mar	nager:	Kelsey Brook	s		
	Lab Id:	495800-0	007	495800-0	08	495800-0	009	495800-0	10	495800-0	011	495800-0	12
Analysis Requested	Field Id:	SB-1 @8	30'	SB-2 @	5'	SB-2 @	10'	SB-2 @2	5'	SB-2 @4	45'	SB-2 @6	5'
Anaiysis Kequesiea	Depth:	80 ft		5 ft		10 ft		25 ft		45 ft		65 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-16-14	13:00	Oct-16-14	3:50	Oct-16-14	13:55	Oct-16-14 1	4:10	Oct-16-14	14:30	Oct-16-14 1	4:50
BTEX by EPA 8021B	Extracted:	Oct-24-14	16:00			Oct-24-14	16:00			Oct-24-14	16:00		
	Analyzed:	Oct-24-14	21:40			Oct-25-14	01:27			Oct-25-14 (	00:22		
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL		
Benzene		ND	0.00133			0.00615	0.00121			ND	0.00107		
Toluene		ND	0.00266			0.00408	0.00243			ND	0.00214		
Ethylbenzene		ND	0.00133			0.208	0.00121			ND	0.00107		
m,p-Xylenes		ND	0.00266			0.0425	0.00243			ND	0.00214		
o-Xylene		ND	0.00133			0.00674	0.00121			ND	0.00107		
Total Xylenes		ND	0.00133			0.0492	0.00121			ND	0.00107		
Total BTEX		ND	0.00133			0.267	0.00121			ND	0.00107		
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-27-14	12:00			Oct-27-14	12:00			Oct-27-14	12:00		
	Analyzed:	Oct-27-14	20:07			Oct-27-14	20:29			Oct-27-14	20:52		
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL		
Chloride		81.0	2.67			15.9	2.44			6.72	2.15		
Percent Moisture	Extracted:												
	Analyzed:	Oct-27-14	16:40	Oct-27-14	6:40	Oct-27-14	16:40	Oct-27-14 1	6:40	Oct-27-14	16:40	Oct-27-14 1	6:40
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		25.0	1.00	10.3	1.00	18.0	1.00	21.1	1.00	7.08	1.00	17.9	1.00
TPH By SW8015 Mod	Extracted:	Oct-24-14	17:00	Oct-24-14	7:00	Oct-24-14	17:00	Oct-24-14 1	7:00	Oct-24-14	17:00	Oct-24-14 1	7:00
	Analyzed:	Oct-25-14	08:14	Oct-25-14 (	08:50	Oct-25-14	09:32	Oct-27-14 1	0:14	Oct-25-14	16:11	Oct-25-14 1	6:36
	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		21.4	19.9	243	83.4	320	18.3	ND	19.0	38.1	16.1	ND	18.2
C12-C28 Diesel Range Hydrocarbons		35.5	19.9	3900	83.4	1480	18.3	ND	19.0	333	16.1	ND	18.2
C28-C35 Oil Range Hydrocarbons		ND	19.9	449	83.4	101	18.3	ND	19.0	35.3	16.1	ND	18.2
Total TPH		56.9	19.9	4590	83.4	1900	18.3	ND	19.0	406	16.1	ND	18.2

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Kelsey Brooks Project Manager

Page 6 of 37



Contact: Ben Arguijo

**Project Location:** 

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm Report Date: 28-OCT-14

oject Location:								Project Mai	nager:	Kelsey Brook	s		
	Lab Id:	495800-0	013	495800-0	014	495800-	015	495800-0	16	495800-0	017	495800-0	18
An aluaia Domunatad	Field Id:	SB-2 @8	30'	SB-2 @1	00'	SB-3@	5'	SB-3@1	0'	SB-3@2	20'	SB-3@3	0'
Analysis Requested	Depth:	80 ft		100 ft		5 ft		10 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL	,	SOIL		SOIL		SOIL	
	Sampled:	Oct-16-14	15:05	Oct-16-14	15:25	Oct-17-14	09:20	Oct-17-14 0	9:25	Oct-17-14 (	09:35	Oct-17-14 0	9:45
BTEX by EPA 8021B	Extracted:	Oct-24-14	16:00	Oct-24-14	16:00	Oct-24-14	16:00			Oct-24-14	16:00		
	Analyzed:	Oct-24-14	21:56	Oct-24-14	22:12	Oct-25-14	01:58			Oct-25-14 (	00:39		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL		
Benzene		ND	0.00103	ND	0.00106	0.00168	0.00111			ND	0.00119		
Toluene		ND	0.00206	ND	0.00213	0.00434	0.00222			ND	0.00238		
Ethylbenzene		ND	0.00103	ND	0.00106	0.0292	0.00111			0.0115	0.00119		
m,p-Xylenes		ND	0.00206	ND	0.00213	0.0307	0.00222			0.0115	0.00238		
o-Xylene		ND	0.00103	ND	0.00106	0.0301	0.00111			0.00672	0.00119		
Total Xylenes		ND	0.00103	ND	0.00106	0.0608	0.00111			0.0182	0.00119		
Total BTEX		ND	0.00103	ND	0.00106	0.0960	0.00111			0.0297	0.00119		
Inorganic Anions by EPA 300/300.1	Extracted:			Oct-27-14	12:00	Oct-27-14	12:00						
	Analyzed:			Oct-27-14	21:37	Oct-27-14	22:00						
	Units/RL:			mg/kg	RL	mg/kg	RL						
Chloride				32.0	2.13	22.9	11.2						
Percent Moisture	Extracted:												
	Analyzed:	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14	16:40	Oct-27-14 1	6:40	Oct-27-14	16:40	Oct-27-14 1	6:40
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.25	1.00	5.91	1.00	10.8	1.00	10.2	1.00	16.3	1.00	12.1	1.00
TPH By SW8015 Mod	Extracted:	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14	17:00	Oct-24-14 1	7:00	Oct-24-14	17:00	Oct-24-14 1	7:00
	Analyzed:	Oct-25-14	17:00	Oct-27-14	10:38	Oct-25-14	17:47	Oct-25-14 1	8:10	Oct-25-14	18:33	Oct-25-14 1	8:57
	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		ND	15.5	ND	15.9	927	83.7	89.5	16.7	135	17.9	18.4	17.1
C12-C28 Diesel Range Hydrocarbons		99.0	15.5	ND	15.9	7770	83.7	462	16.7	832	17.9	442	17.1
C28-C35 Oil Range Hydrocarbons		ND	15.5	ND	15.9	636	83.7	51.7	16.7	60.1	17.9	46.5	17.1
Total TPH		99.0	15.5	ND	15.9	9330	83.7	603	16.7	1030	17.9	507	17.1

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Huns Boah

Kelsey Brooks Project Manager



Contact: Ben Arguijo

**Project Location:** 

Certificate of Analysis Summary 495800

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm

Report Date: 28-OCT-14

roject Location:								Report	Dutter 1				
								Project Mar	nager: H	Kelsey Brook	s		
	Lab Id:	495800-0	)19	495800-0	20	495800-0	21	495800-0	22	495800-0	023	495800-0	24
Analysis Requested	Field Id:	SB-3@5	50'	SB-3@7	0'	SB-3@8	5'	SB-3@10	00'	SB-4@	5'	SB-4@ 1	0'
Anutysis Requested	Depth:	50 ft		70 ft		85 ft		100 ft		5 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-17-14	10:05	Oct-17-14 1	0:25	Oct-17-14 1	10:40	Oct-17-14 1	0:55	Oct-17-14	11:35	Oct-17-14 1	1:40
BTEX by EPA 8021B	Extracted:	Oct-24-14	16:00			Oct-24-14 1	16:00	Oct-24-14 1	6:00			Oct-27-14 1	4:00
	Analyzed:	Oct-24-14	22:29			Oct-24-14 2	22:45	Oct-24-14 2	3:01			Oct-28-14 0	08:53
	Units/RL:	mg/kg	RL			mg/kg	RL	mg/kg	RL			mg/kg	RL
Benzene		ND	0.00115			ND	0.00109	ND	0.00113			0.237	0.116
Toluene		ND	0.00230			ND	0.00218	ND	0.00225			ND	0.232
Ethylbenzene		ND	0.00115				0.00109	ND	0.00113			10.4	0.116
m,p-Xylenes		ND	0.00230				0.00218		0.00225			21.3	0.232
o-Xylene		ND	0.00115			ND	0.00109	ND	0.00113			4.37	0.116
Total Xylenes		ND	0.00115				0.00109	ND	0.00113			25.7	0.116
Total BTEX		ND	0.00115			ND	0.00109	ND	0.00113			36.3	0.116
Inorganic Anions by EPA 300/300.1	Extracted:	Oct-27-14	12:00					Oct-27-14 1	2:00			Oct-27-14 1	2:00
	Analyzed:	Oct-27-14	22:23					Oct-27-14 2	2:45			Oct-27-14 2	23:53
	Units/RL:	mg/kg	RL					mg/kg	RL			mg/kg	RL
Chloride		4.54	2.30					6.79	2.25			26.5	11.6
Percent Moisture	Extracted:												
	Analyzed:	Oct-27-14	16:40	Oct-27-14 1	6:40	Oct-27-14 1	16:40	Oct-27-14 1	6:40	Oct-27-14	16:40	Oct-27-14 1	6:40
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		13.2	1.00	7.53	1.00	8.31	1.00	11.3	1.00	12.8	1.00	14.0	1.00
TPH By SW8015 Mod	Extracted:	Oct-24-14	17:00	Oct-24-14 1	7:00	Oct-24-14 1	17:00	Oct-24-14 1	7:00	Oct-24-14	17:00	Oct-24-14 1	7:00
	Analyzed:	Oct-25-14	19:20	Oct-25-14 1	9:44	Oct-25-14 2	22:05	Oct-25-14 2	3:15	Oct-25-14 2	23:40	Oct-26-14 0	00:04
	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		ND	17.2	ND	16.2	ND	16.3	ND	16.9	2210	343	2630	174
C12-C28 Diesel Range Hydrocarbons		41.8	17.2	36.9	16.2	34.9	16.3	ND	16.9	20100	343	11200	174
C28-C35 Oil Range Hydrocarbons		ND	17.2	ND	16.2	ND	16.3	ND	16.9	1440	343	1450	174
Total TPH		41.8	17.2	36.9	16.2	34.9	16.3	ND	16.9	23800	343	15300	174

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Kelsey Brooks Project Manager

Page 8 of 37



Contact: Ben Arguijo

**Project Location:** 

## Certificate of Analysis Summary 495800

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm

Report Date: 28-OCT-14

oject Location:								Report	Dute.	20 001 11			
-	1							Project Mai	nager:	Kelsey Brook	S		
	Lab Id:	495800-0	25	495800-0	26	495800-02	27	495800-0	28	495800-0	29	495800-0	30
Analysis Requested	Field Id:	SB-4@2	20'	SB-4@ 3	0'	SB-4@ 5	0'	SB-4@ 7	'0'	SB-4@ 9	90'	SB-4 @ 1	05'
Analysis Kequestea	Depth:	20 ft		30 ft		50 ft		70 ft		90 ft		105 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-17-14	1:50	Oct-17-14 1	2:00	Oct-17-14 1	2:20	Oct-17-14 1	2:40	Oct-17-14	13:00	Oct-17-14 1	3:15
BTEX by EPA 8021B	Extracted:			Oct-24-14 1	6:00			Oct-27-14 1	4:00				
	Analyzed:			Oct-25-14 (	1:43			Oct-28-14 0	)3:31				
	Units/RL:			mg/kg	RL			mg/kg	RL				
Benzene					0.00114				0.00139				
Toluene				ND	0.00229			ND	0.00278				
Ethylbenzene				0.0182	0.00114			ND	0.00139				
m,p-Xylenes				0.0312	0.00229			ND	0.00278				
o-Xylene				0.00602	0.00114			ND	0.00139				
Total Xylenes					0.00114				0.00139				
Total BTEX				0.0554	0.00114			ND	0.00139				
Inorganic Anions by EPA 300/300.1	Extracted:							Oct-27-14 1	2:00				
	Analyzed:							Oct-28-14 0	00:16				
	Units/RL:							mg/kg	RL				
Chloride								10.2	2.80				
Percent Moisture	Extracted:												
	Analyzed:	Oct-27-14	16:40	Oct-27-14 1	6:40	Oct-27-14 1	6:40	Oct-27-14 1	6:40	Oct-27-14	16:40	Oct-27-14 1	6:40
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8.60	1.00	13.1	1.00	29.0	1.00	28.5	1.00	7.30	1.00	7.88	1.00
TPH By SW8015 Mod	Extracted:	Oct-24-14	17:00	Oct-24-14 1	7:00	Oct-24-14 1	7:00	Oct-24-14 1	7:00	Oct-24-14	17:00	Oct-24-14 1	7:00
	Analyzed:	Oct-26-14	00:27	Oct-26-14 (	0:50	Oct-26-14 0	1:14	Oct-26-14 0	)1:39	Oct-26-14 (	02:02	Oct-26-14 0	)2:25
	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		503	81.7	318	17.2	ND	21.1	64.8	20.9	ND	16.1	ND	16.2
C12-C28 Diesel Range Hydrocarbons		3560	81.7	2340	17.2	49.1	21.1	191	20.9	41.0	16.1	29.2	16.2
C28-C35 Oil Range Hydrocarbons		709	81.7	82.4	17.2	ND	21.1	62.1	20.9	ND	16.1	ND	16.2
Total TPH		4770	81.7	2740	17.2	49.1	21.1	318	20.9	41.0	16.1	29.2	16.2

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

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Kelsey Brooks Project Manager

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Contact: Ben Arguijo

**Project Location:** 

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Thu Oct-23-14 02:08 pm

Report Date: 28-OCT-14

Project Manager: Kelsey Brooks

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $					-	J	
Analysis Requested Marix: SampletDepin: 120 ft120 ft140 ftMarix: SampletSOLSOLSOLSampletOct-17-14 13:50Oct-17-14 13:50BTEX by EPA 8021BExtracted: Analyzed:Oct-24-14 23:17DiskOct-27-14 12:50Oct-24-14 23:17DiskDiskND00002TolueneND00002TolueneND00002TolueneND00002TolueneND00002DiskND00002TolueneND00002		Lab Id:	495800-031	495800-032			
$ \begin{array}{ c c c c c c c } \begin{tabular}{ c c c c } & 12 0 \ II & 13 \\ \hline Marris: & SOI \\ \hline Sampled \\ \hline Oct-17-14 13:50 \\ \hline Oct-17-14 13:50 \\ \hline Oct-17-14 13:50 \\ \hline Oct-24-14 2:17 \\ \hline Oct-2$		Field Id:	SB-4 @ 120'	SB-4 @ 140'			
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Anaiysis Kequestea	Depth:	120 ft	140 ft			
BTEX by EPA 8021B         Extracted: Analyzei: Units/RL:         Oct:24:14 16:00 Oct:24:14 23:17         M		Matrix:	SOIL	SOIL			
BTEX by EPA 8021B         Extracted: Analyzei: Units/RL:         Oct:24:14 16:00 Oct:24:14 23:17         M		Sampled:	Oct-17-14 13:30	Oct-17-14 13:50			
Analyzei       Unis/RL:       Oct:24:14 23:17       No	BTEX by EPA 8021B			Oct-24-14 16:00			
virits/RL:     virits/RL: </th <td></td> <td>   </td> <td></td> <td></td> <td></td> <td></td> <td></td>							
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							
$ \begin{array}{c c c c c c } \hline Total number & Interpret $$ ND $$ 0.0024$ $$ ND $$ 0.00102$ $$ ND $$ ND $$ 0.00102$ $$ ND $$ 0.00102$ $$ ND $$ 0.0010$	Benzene	Unus/KL:					
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	m,p-Xylenes						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	o-Xylene			ND 0.00102			
Inorganic Anions by EPA 300/300.1         Extracted: Analyzed: Units/RL:         Oct-27-14 12:00 0ct-28-14 00:39         Oct-27-14 10:00         Pmg/kg         RL           Chloride         14.2         2.05 <t< th=""><td>Total Xylenes</td><td></td><td></td><td>ND 0.00102</td><td></td><td></td><td></td></t<>	Total Xylenes			ND 0.00102			
Analyzei       Units/RL:       Oct-28-14 00:39       mg/kg       RL         Chloride       14.2       2.05       0       0       0         Percent Moisture       Extracteil       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40       Percent Moisture       Malyzeil       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40       Percent Moisture       Malyzeil       Oct-27-14 16:40       Oct-27-14 16:40       Percent Moisture       Malyzeil       Oct-27-14 16:40       Oct-27-14 16:40       Percent Moisture       Malyzeil       Oct-27-14 17:00       Oct-26-14 17:00       Oct-26-14 17:00       Percent Moisture       Malyzeil       Oct-26-14 00:40       Percent Moisture       Malyzeil       Oct-26-14 00:40       Percent Moisture       Percent Moly Moly Moly Moly Moly Moly Moly Moly	Total BTEX			ND 0.00102			
Units/RL       mg/kg       RL         Chloride       14.2       2.05             Percent Moisture       Extracted:       Nalzzed:       Oct-27-14       6.0       Oct-27-14       7.00       7.0	Inorganic Anions by EPA 300/300.1	Extracted:		Oct-27-14 12:00			
Chloride       14.2       2.05         Percent Moisture       Extracted: Analyzed:       Oct-27-14 16:40       Oct-27-14 16:40         Units/RL:       %       RL       %       RL         Percent Moisture       4.59       1.00       2.63       1.00         TPH By SW8015 Mod       Extracted:       Oct-24-14 17:00       Oct-24-14 17:00         Mailyzed:       Oct-26-14 03:40       Oct-26-14 04:04       mg/kg       RL         C6-C12 Gasoline Range Hydrocarbons       ND       15.7       21.6       15.4         C28-C35 Oil Range Hydrocarbons       24.3       15.7       24.0       15.4		Analyzed:		Oct-28-14 00:39			
Percent Moisture         Extracted: Analyzed:         Oct-27-14 16:40         Oct-27-14 16:40         Oct-27-14 16:40           Malyzed:         Oct-27-14 16:40         Oct-27-14 16:40         Oct-27-14 16:40         Oct-27-14 16:40           Percent Moisture         4.59         1.00         2.63         1.00         Oct-27-14 16:40           Percent Moisture         4.59         1.00         2.63         1.00         Oct-26-14           TPH By SW8015 Mod         Extracted:         Oct-24-14 17:00         Oct-26-14 04:04         Oct-26-14 04:04           Malyzed:         Oct-26-14 03:40         Oct-26-14 04:04         Oct-26-14 04:04         Oct-26-14 04:04           Units/RL:         mg/kg         RL         mg/kg         RL         Oct-26-14 04:04           C6-C12 Gasoline Range Hydrocarbons         ND         15.7         21.6         15.4           C12-C28 Diesel Range Hydrocarbons         154         15.7         103         15.4           C28-C35 Oil Range Hydrocarbons         24.3         15.7         24.0         15.4         Image term		Units/RL:		mg/kg RL			
Analyzed:       Oct-27-14 16:40       Oct-27-14 16:40       Oct-27-14 16:40         Units/RL:       %       RL       %       RL         Percent Moisture       4.59       1.00       2.63       1.00         TPH By SW8015 Mod       Extracted:       Oct-24-14 17:00       Oct-24-14 17:00       Oct-24-14 17:00         Analyzed:       Oct-26-14 03:40       Oct-26-14 04:04       Oct-26-14 04:04       Oct-26-14 04:04       Oct-26-14 04:04         C6-C12 Gasoline Range Hydrocarbons       ND       15.7       21.6       15.4       Oct-26-14       Iso       Iso       Iso         C28-C35 Oil Range Hydrocarbons       24.3       15.7       24.0       15.4       Iso       Iso       Iso       Iso	Chloride						
Units/RL:       %       RL       %	Percent Moisture	Extracted:					
Percent Moisture       4.59       1.00       2.63       1.00       Image: Constraint of the constr		Analyzed:	Oct-27-14 16:40	Oct-27-14 16:40			
TPH By SW8015 Mod       Extracted:       Oct-24-14 17:00       Oct-24-14 17:00       Oct-26-14 04:04         Analyzed:       Oct-26-14 03:40       Oct-26-14 04:04       Mg/kg       RL       mg/kg       RL         C6-C12 Gasoline Range Hydrocarbons       ND       15.7       21.6       15.4		Units/RL:	% RL	% RL			
Analyzed:       Oct-26-14 03:40       Oct-26-14 04:04       Oct-26	Percent Moisture		4.59 1.00	2.63 1.00			
Units/RL:         mg/kg         RL         mg/kg         RL           C6-C12 Gasoline Range Hydrocarbons         ND         15.7         21.6         15.4           C12-C28 Diesel Range Hydrocarbons         154         15.7         103         15.4           C28-C35 Oil Range Hydrocarbons         24.3         15.7         24.0         15.4	TPH By SW8015 Mod	Extracted:	Oct-24-14 17:00	Oct-24-14 17:00			
C6-C12 Gasoline Range Hydrocarbons         ND         15.7         21.6         15.4         Image: C12-C28 Diesel Range Hydrocarbons         Image: C12-C28 Diesel Range Hydrocarbons         Image: C15.7         C103         15.4         Image: C12-C28 Diesel Range Hydrocarbons         Image: C12-C2		Analyzed:	Oct-26-14 03:40	Oct-26-14 04:04			
C6-C12 Gasoline Range Hydrocarbons         ND         15.7         21.6         15.4         Image: C12-C28 Diesel Range Hydrocarbons         Image: C12-C28 Diesel Range Hydrocarbons         Image: C15.7         C103         15.4         Image: C12-C28 Diesel Range Hydrocarbons         Image: C12-C2		Units/RL:	mg/kg RL	mg/kg RL			
C28-C35 Oil Range Hydrocarbons 24.3 15.7 24.0 15.4	C6-C12 Gasoline Range Hydrocarbons						
	C12-C28 Diesel Range Hydrocarbons		154 15.7	103 15.4			 
Total TPH 178 15.7 149 15.4	C28-C35 Oil Range Hydrocarbons						
	Total TPH		178 15.7	149 15.4			

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# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **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

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



## **Project Name: Former Maljimar Station**

Lab Batch #	9336/7	Sample: 495800-003 / SMP	Batc	h: 1 Matrix	. 5011				
U <b>nits:</b>	mg/kg	Date Analyzed: 10/24/14 21:07	SURROGATE RECOVERY STUDY						
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0308	0.0300	103	80-120			
4-Bromofluor	obenzene		0.0300	0.0300	100	80-120			
Lab Batch #	953877	Sample: 495800-005 / SMP	Batch: 1 Matrix: Soil						
Units:	mg/kg	Date Analyzed: 10/24/14 21:24	SURROGATE RECOVERY STUDY						
	BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1,4-Difluorob	enzene		0.0330	0.0300	110	80-120			
4-Bromofluor	obenzene		0.0319	0.0300	106	80-120			
Lab Batch #	953877	Sample: 495800-007 / SMP	Batc		: Soil				
Units:	mg/kg	<b>Date Analyzed:</b> 10/24/14 21:40	SURROGATE RECOVERY STUDY						
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorob			0.0321	0.0300	107	80-120			
4-Bromofluor			0.0303	0.0300	101	80-120			
Lab Batch #		Sample: 495800-013 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/24/14 21:56	SU	RROGATE R	ECOVERY S	STUDY			
	втех	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag		
1.4-Difluorob	enzene		0.0330	0.0300	110	80-120			
4-Bromofluor			0.0302	0.0300	101	80-120			
Lab Batch #		Sample: 495800-014 / SMP	Batc				<u> </u>		
Units:	mg/kg	Date Analyzed: 10/24/14 22:12	SU	RROGATE R	ECOVERY S	STUDY			
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0313	0.0300	104	80-120			
4-Bromofluor	obenzene		0.0290	0.0300	97	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Lab Batch #: 9	53877	Sample: 495800-019 / SMP	Batc	h: 1 Matrix	: Soil				
U <b>nits:</b> n	ng/kg	Date Analyzed: 10/24/14 22:29	SURROGATE RECOVERY STUDY						
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorobenz	ene		0.0322	0.0300	107	80-120			
4-Bromofluorobe	enzene		0.0322	0.0300	107	80-120			
Lab Batch #: 9	53877	Sample: 495800-021 / SMP	P Batch: 1 Matrix: Soil						
Units: n	ng/kg	Date Analyzed: 10/24/14 22:45	SURROGATE RECOVERY STUDY						
	втеу	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenz	ene		0.0310	0.0300	103	80-120			
4-Bromofluorobe	enzene		0.0292	0.0300	97	80-120			
Lab Batch #: 9	53877	Sample: 495800-022 / SMP	Batc	h: 1 Matrix	: Soil				
Units: n	ng/kg	Date Analyzed: 10/24/14 23:01	SURROGATE RECOVERY STUDY						
	втеу	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorobenz			0.0307	0.0300	102	80-120			
4-Bromofluorobe			0.0289	0.0300	96	80-120			
Lab Batch #: 9		Sample: 495800-032 / SMP	Batc	h: 1 Matrix	: Soil				
Units: n	ng/kg	Date Analyzed: 10/24/14 23:17	SU	JRROGATE R	ECOVERY S	STUDY			
	BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage		
1,4-Difluorobenz	ene		0.0306	0.0300	102	80-120			
4-Bromofluorobe			0.0300	0.0300	102	80-120			
Lab Batch #: 9	53877	Sample: 495800-004 / SMP	Batc			-			
Units: n	ng/kg	<b>Date Analyzed:</b> 10/24/14 23:34	SU	JRROGATE R	ECOVERY S	STUDY			
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1,4-Difluorobenz			0.0315	0.0300	105	80-120			
4-Bromofluorobe	nzene		0.0314	0.0300	105	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

		Sample: 495800-011 / SMP							
Units:	mg/kg	<b>Date Analyzed:</b> 10/25/14 00:22	SURROGATE RECOVERY STUDY						
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorol	enzene		0.0311	0.0300	104	80-120			
4-Bromofluo	obenzene		0.0300	0.0300	100	80-120			
Lab Batch #	: 953877	Sample: 495800-017 / SMP	Batch: 1 Matrix: Soil						
Units:	mg/kg	Date Analyzed: 10/25/14 00:39	SU	RROGATE R	ECOVERY S	STUDY			
	BTEX	A polytos	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorol	enzene	Analytes	0.0294	0.0300	98	80-120			
4-Bromofluor			0.0294	0.0300	106	80-120			
Lab Batch #		Sample: 495800-002 / SMP	Batc			80-120			
Units:	mg/kg	Date Analyzed: 10/25/14 01:11	SURROGATE RECOVERY STUD						
	ВТЕХ	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluorob	enzene		0.0304	0.0300	101	80-120			
4-Bromofluo	obenzene		0.0303	0.0300	101	80-120			
Lab Batch #	: 953877	Sample: 495800-009 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 01:27	SU	RROGATE R	ECOVERY S	STUDY			
	BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorol	enzene		0.0281	0.0300	94	80-120			
4-Bromofluo	obenzene		0.0295	0.0300	98	80-120			
Lab Batch #		Sample: 495800-026 / SMP	Batc		: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 01:43	SU	RROGATE R	ECOVERY	STUDY			
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1,4-Difluorol			0.0301	0.0300	100	80-120			
4-Bromofluo	obenzene		0.0314	0.0300	105	80-120			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Order Lab Batch #: 9		Sample: 495800-015 / SMP	Project ID:SRS HD0-95-61Batch:1Matrix:Soil						
Units:	ng/kg	Date Analyzed: 10/25/14 01:58	SU	SURROGATE RECOVERY STUDY					
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1,4-Difluoroben	zene		0.0292	0.0300	97	80-120			
4-Bromofluorob	enzene		0.0302	0.0300	101	80-120			
Lab Batch #:	953900	Sample: 495800-001 / SMP	P Batch: 1 Matrix: Soil						
Units: 1	ng/kg	Date Analyzed: 10/25/14 03:54	SURROGATE RECOVERY STUDY						
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		Analytes	115	99.7	115	70-135			
o-Terphenyl			39.1	49.9	78	70-135			
Lab Batch #:	953900	Sample: 495800-002 / SMP	Batc			10 100			
Units:	ng/kg	Date Analyzed: 10/25/14 04:26	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod			Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage		
		Analytes			[D]				
1-Chlorooctane			128	99.9	128	70-135			
o-Terphenyl			63.8	50.0	128	70-135			
Lab Batch #:	953900	Sample: 495800-003 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	ng/kg	Date Analyzed: 10/25/14 04:58	SU	RROGATE R	ECOVERY S	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1 Chlorocotono		Analytes	102	00.0		70.125			
1-Chlorooctane o-Terphenyl			103	99.9	103	70-135			
Lab Batch #:	953900	Sample: 495800-004 / SMP	52.8 Batc	50.0 h: 1 Matrix	106	70-135			
	ng/kg	Date Analyzed: 10/25/14 06:37		RROGATE R		STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag		
		Analytes			[D]				
1-Chlorooctane			96.8	100	97	70-135			
o-Terphenyl			49.6	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



## **Project Name: Former Maljimar Station**

Work Orders Lab Batch #: 95		0, Sample: 495800-005 / SMP	Batch		: SRS HD0-9 : Soil	3-01		
Units: mg	g/kg	Date Analyzed: 10/25/14 07:09	SU	RROGATE R	ECOVERYS	STUDY		
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes			[D]			
1-Chlorooctane			105	99.9	105	70-135		
o-Terphenyl			53.3	50.0	107	70-135		
Lab Batch #: 95	53900	Sample: 495800-006 / SMP	Batch	n: 1 Matrix	: Soil			
Units: mg	g/kg	Date Analyzed: 10/25/14 07:41	SURROGATE RECOVERY STUDY					
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane			99.0	99.6	99	70-135		
o-Terphenyl			49.6	49.8	100	70-135		
Lab Batch #: 95	53900	Sample: 495800-007 / SMP	Batch	n: 1 Matrix	: Soil			
Units: mg	g/kg	Date Analyzed: 10/25/14 08:14	SU	RROGATE R	ECOVERY	STUDY		
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
		Analytes	[]		[D]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
1-Chlorooctane			99.4	99.6	100	70-135		
o-Terphenyl			51.3	49.8	103	70-135		
Lab Batch #: 95	53900	Sample: 495800-008 / SMP	Batch	n: 1 Matrix	: Soil			
Units: mg	g/kg	Date Analyzed: 10/25/14 08:50	SU	RROGATE R	ECOVERYS	STUDY		
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		1111119 005	128	99.8	128	70-135		
o-Terphenyl			63.8	49.9	128	70-135		
Lab Batch #: 95	53900	Sample: 495800-009 / SMP	Batch					
Units: mg	g/kg	<b>Date Analyzed:</b> 10/25/14 09:32		RROGATE R		STUDY		
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
1.011		Analytes			[D]	_		
1-Chlorooctane			97.2	99.8	97	70-135		
o-Terphenyl			49.3	49.9	99	70-135		

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Ord Lab Batch #	lers: 49580 : 953900	0, Sample: 495800-011 / SMP	Project ID: SRS HD0-95-61 Batch: 1 Matrix: Soil						
Units:	mg/kg	Date Analyzed: 10/25/14 16:11	SU	RROGATE R	ECOVERYS	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		129	99.7	129	70-135			
o-Terphenyl			64.6	49.9	129	70-135			
Lab Batch #	: 953900	Sample: 495800-012 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 16:36	SU	RROGATE R	ECOVERYS	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne	1 <b>11111 1 1 1</b>	124	99.7	124	70-135			
o-Terphenyl			62.9	49.9	126	70-135			
Lab Batch #	: 953900	Sample: 495800-013 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 17:00	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		128	99.7	128	70-135			
o-Terphenyl			64.0	49.9	128	70-135			
Lab Batch #	: 953900	Sample: 495800-015 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 17:47	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne		111	99.6	111	70-135			
o-Terphenyl			54.1	49.8	109	70-135			
Lab Batch #	: 953900	Sample: 495800-016 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 18:10	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne		115	99.8	115	70-135			
			115	77.0	115	10-155			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Ore Lab Batch #	<b>lers :</b> 49580 : 953900	0, Sample: 495800-017 / SMP	Project ID: SRS HD0-95-61 Batch: 1 Matrix: Soil						
Units:	mg/kg	Date Analyzed: 10/25/14 18:33	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		109	99.9	109	70-135			
o-Terphenyl			55.5	50.0	111	70-135			
Lab Batch #	: 953900	Sample: 495800-018 / SMP	Batel	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 18:57	SU	RROGATE R	<b>ECOVERY</b>	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne		127	100	127	70-135			
o-Terphenyl			63.4	50.0	127	70-135			
Lab Batch #	: 953900	Sample: 495800-019 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 19:20	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		105	99.7	105	70-135			
o-Terphenyl			52.9	49.9	106	70-135			
Lab Batch #	: 953900	Sample: 495800-020 / SMP	Batcl	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 19:44	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne		117	99.7	117	70-135			
o-Terphenyl			56.9	49.9	117	70-135			
Lab Batch #	: 953902	Sample: 495800-021 / SMP	Batc			1			
Units:	mg/kg	Date Analyzed: 10/25/14 22:05	SU	RROGATE R	ECOVERY S	STUDY			
		By SW8015 Mod	Amount	True	Recovery	Control Limits	Flags		
	TPH I		Found [A]	Amount [B]	%R	%R			
1-Chloroocta		Analytes			•				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Ore Lab Batch #	lers: 49580 : 953902	0, Sample: 495800-022 / SMP	Project ID: SRS HD0-95-61 Batch: 1 Matrix: Soil						
Units:	mg/kg	Date Analyzed: 10/25/14 23:15	SU	RROGATE R	ECOVERY S	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		106	99.9	106	70-135			
o-Terphenyl			52.8	50.0	106	70-135			
Lab Batch #	: 953902	Sample: 495800-023 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/25/14 23:40	SU	RROGATE R	ECOVERY S	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne		125	99.8	125	70-135			
o-Terphenyl			62.1	49.9	124	70-135			
Lab Batch #	: 953902	Sample: 495800-024 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/26/14 00:04	SU	RROGATE R	ECOVERY	STUDY			
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
		Analytes			[D]				
1-Chloroocta	ne		106	99.9	106	70-135			
o-Terphenyl			52.1	50.0	104	70-135			
Lab Batch #	: 953902	Sample: 495800-025 / SMP	Batc	h: 1 Matrix	: Soil				
Units:	mg/kg	Date Analyzed: 10/26/14 00:27	SU	RROGATE R	ECOVERY S	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne	•	116	99.6	116	70-135			
o-Terphenyl			39.9	49.8	80	70-135			
Lab Batch #	: 953902	Sample: 495800-026 / SMP	Batc	h: 1 Matrix	: Soil	I			
Units:	mg/kg	Date Analyzed: 10/26/14 00:50	SU	RROGATE R	ECOVERY S	STUDY			
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chloroocta	ne	· · · · · · · · · · · · · · · · · · ·	110	99.8	110	70-135			
o-Terphenyl			110	/7.0	110	10-135			

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Ore Lab Batch #	<b>lers :</b> 49580 : 953902	0, Sample: 495800-027 / SMP	Batc		: SRS HD0-9 : Soil	5-61	
Units:	mg/kg	<b>Date Analyzed:</b> 10/26/14 01:14	SU	RROGATE R	ECOVERYS	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		105	99.8	105	70-135	
o-Terphenyl			52.1	49.9	104	70-135	
Lab Batch #	<b>:</b> 953902	Sample: 495800-028 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/26/14 01:39	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		103	99.8	103	70-135	
o-Terphenyl			53.6	49.9	107	70-135	
Lab Batch #	: 953902	Sample: 495800-029 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/26/14 02:02	SURROGATE RECOVERY STUDY				
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		112	99.7	112	70-135	
o-Terphenyl			56.5	49.9	113	70-135	
Lab Batch #	<b>:</b> 953902	Sample: 495800-030 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/26/14 02:25	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne		127	99.7	127	70-135	
o-Terphenyl			64.2	49.9	129	70-135	
Lab Batch #	: 953902	Sample: 495800-031 / SMP	Batc	h: 1 Matrix	: Soil	1	
Units:	mg/kg	Date Analyzed: 10/26/14 03:40	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta	ne	· · · · · · · · · · · · · · · · · · ·	119	99.6	119	70-135	
			117	77.0	117	10-155	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Work Order Lab Batch #: 9		Sample: 495800-032 / SMP	Batc		: SRS HD0-9 : Soil	-		
U <b>nits:</b>	mg/kg	Date Analyzed: 10/26/14 04:04	SU	RROGATE R	ECOVERY	STUDY		
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage	
		Analytes			[D]			
1-Chlorooctane			124	99.9	124	70-135		
o-Terphenyl			61.1	50.0	122	70-135		
Lab Batch #:	953900	Sample: 495800-010 / SMP	Bate	h: 1 Matrix	: Soil			
Units: 1	mg/kg	Date Analyzed: 10/27/14 10:14	SURROGATE RECOVERY STUDY					
	TPH I	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage	
1-Chlorooctane		Anarytes	111	99.9	111	70-135		
o-Terphenyl			51.2	50.0	102	70-135		
Lab Batch #:	953900	Sample: 495800-014 / SMP	Batc	h: 1 Matrix	: Soil			
Units:	mg/kg	Date Analyzed: 10/27/14 10:38	SURROGATE RECOVERY STUDY					
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage	
		Analytes			[D]			
1-Chlorooctane			111	99.8	111	70-135		
o-Terphenyl			54.6	49.9	109	70-135		
Lab Batch #: 9	953973	Sample: 495800-028 / SMP	Batc	h: 1 Matrix	: Soil	<u> </u>		
Units:	mg/kg	Date Analyzed: 10/28/14 03:31	SU	RROGATE R	ECOVERY S	STUDY		
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1.4-Difluoroben	zene	Anarytes	0.0311	0.0300	104	80-120		
4-Bromofluorob			0.0311	0.0300	104	80-120		
Lab Batch #:		Sample: 495800-024 / SMP	Bate			00120		
	mg/kg	Date Analyzed: 10/28/14 08:53		RROGATE R		STUDY		
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag	
		Analytes			[D]			
1,4-Difluoroben			0.0287	0.0300	96	80-120		
4-Bromofluorob	007000		0.0323	0.0300	108	80-120		

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

T ] *4 ~ .	···· - /]	Deta Amelina di 10/04/14.10.20								
Units:	mg/kg	Date Analyzed: 10/24/14 19:30	SU	SURROGATE RECOVERY STUDY						
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag			
		Analytes			[D]					
1,4-Difluorober	nzene		0.0312	0.0300	104	80-120				
4-Bromofluorol	oenzene		0.0272	0.0300	91	80-120				
Lab Batch #:	953900	Sample: 663514-1-BLK / B	LK Bate	ch: 1 Matrix	: Solid					
Units:	mg/kg	Date Analyzed: 10/25/14 02:16	SU	URROGATE R	ECOVERY	STUDY				
	TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		Analytes	00.5	100		70.125				
			99.5	100	100	70-135				
o-Terphenyl Lab Batch #:	053002	Sample: 663515-1-BLK / B	52.5 LK Bate	50.0 ch: 1 Matrix	105	70-135				
		•								
Units:	mg/kg	Date Analyzed: 10/25/14 20:55	St	URROGATE R	ECOVERY S	STUDY				
	<b>TPH</b>	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
		Analytes			[D]					
1-Chlorooctane			111	100	111	70-135				
o-Terphenyl			59.9	50.0	120	70-135				
Lab Batch #:	953973	Sample: 663562-1-BLK / B	LK Bate	ch: 1 Matrix	: Solid					
Units:	mg/kg	Date Analyzed: 10/28/14 00:33	SU	URROGATE R	ECOVERY S	STUDY				
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage			
4.4.5.0.1		Analytes								
1,4-Difluorober			0.0301	0.0300	100	80-120				
4-Bromofluorol		Sample: 663502-1-BKS / B	0.0259	0.0300 ch: 1 Matrix	86	80-120				
Lab Batch #:		•								
Units:	mg/kg	Date Analyzed: 10/24/14 19:46	SU	URROGATE R	ECOVERY	STUDY				
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
		Analytes			[D]					
1,4-Difluorober			0.0311	0.0300	104	80-120				
4-Bromofluorol	benzene		0.0293	0.0300	98	80-120				

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Lab Batch #:		Sample: 663514-1-BKS / BF					
Units:	mg/kg	<b>Date Analyzed:</b> 10/25/14 02:48	SU	URROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane	•		116	100	116	70-135	
o-Terphenyl			37.0	50.0	74	70-135	
Lab Batch #:	953902	Sample: 663515-1-BKS / BF	KS Bate	ch: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/25/14 21:18	SU	URROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	;		117	100	117	70-135	
o-Terphenyl			39.2	50.0	78	70-135	
Lab Batch #:	953973	Sample: 663562-1-BKS / BK	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/28/14 00:50	st	JRROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobe	nzene		0.0319	0.0300	106	80-120	
4-Bromofluoro			0.0304	0.0300	101	80-120	
Lab Batch #:	953877	<b>Sample:</b> 663502-1-BSD / BS	D Bate	ch: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/24/14 20:02	SU	URROGATE R	ECOVERY S	STUDY	
	втеу	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobe	nzene		0.0305	0.0300	102	80-120	
4-Bromofluoro	benzene		0.0291	0.0300	97	80-120	
Lab Batch #:	953900	Sample: 663514-1-BSD / BS	D Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 10/25/14 03:21	SU	URROGATE R	ECOVERY S	STUDY	
	TPHI	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooctane	;		119	100	119	70-135	
o-Terphenyl			36.4	50.0	73	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Units: n	ng/kg	Date Analyzed: 10/25/14 21:41	~	SURROGATE RECOVERY ST								
	ig/kg	Date Analyzeu: 10/23/14 21.41	SU	JRROGATE R	ECOVERYS	STUDY						
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage					
		Analytes	[]		[D]	,						
1-Chlorooctane			128	100	128	70-135						
o-Terphenyl			38.4	50.0	77	70-135						
Lab Batch #: 9	53973	Sample: 663562-1-BSD / BSI	D Batc	h: 1 Matrix	: Solid							
Units: n	ng/kg	Date Analyzed: 10/28/14 01:06	st	RROGATE R	ECOVERY S	STUDY						
	втеу	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1.4-Difluorobenz	ene		0.0320	0.0300	107	80-120						
4-Bromofluorobe	enzene		0.0293	0.0300	98	80-120						
Lab Batch #: 9		Sample: 495800-003 S / MS	Batc			00 120						
Units: n	ng/kg	Date Analyzed: 10/24/14 20:19	su	JRROGATE R	ECOVERY S	STUDY						
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag					
		Analytes			[D]							
1,4-Difluorobenz	ene		0.0331	0.0300	110	80-120						
4-Bromofluorobe			0.0328	0.0300	109	80-120						
Lab Batch #: 9		Sample: 495800-003 S / MS	Batc	h: 1 Matrix	: Soil							
Units: n	ng/kg	Date Analyzed: 10/25/14 05:31	SU	JRROGATE R	ECOVERY S	STUDY						
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane			122	99.7	122	70-135						
o-Terphenyl			38.7	49.9	78	70-135						
Lab Batch #: 9	53902	Sample: 495800-021 S / MS	Batc									
	ng/kg	<b>Date Analyzed:</b> 10/25/14 22:29		JRROGATE R		STUDY						
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag					
		Analytes			[D]							
1-Chlorooctane			121	99.6	121	70-135						
o-Terphenyl			39.8	49.8	80	70-135						

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

	rders: 49580 #: 953973	0, Sample: 495929-001 S / M	S Batcl		: SRS HD0-9 : Soil	5-61	
Units:	mg/kg	<b>Date Analyzed:</b> 10/28/14 01:22		RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluor	obenzene		0.0325	0.0300	108	80-120	
4-Bromoflu	iorobenzene		0.0309	0.0300	103	80-120	
Lab Batch	#: 953877	Sample: 495800-003 SD / M	MSD Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/24/14 20:35	SU	RROGATE R	ECOVERY	STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	obenzene		0.0337	0.0300	112	80-120	
4-Bromoflu	iorobenzene		0.0341	0.0300	114	80-120	
Lab Batch	#: 953900	Sample: 495800-003 SD / N	MSD Batcl	h: 1 Matrix	: Soil	1	
Units:	mg/kg	Date Analyzed: 10/25/14 06:03	SU	RROGATE R	ECOVERY	STUDY	
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		119	99.7	119	70-135	
o-Terpheny	r <b>l</b>		35.4	49.9	71	70-135	
Lab Batch	#: 953973	Sample: 495929-001 SD / N	MSD Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 10/28/14 01:39	SU	RROGATE R	ECOVERY	STUDY	
	BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	obenzene	•	0.0315	0.0300	105	80-120	
4-Bromoflu	orobenzene		0.0298	0.0300	99	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **BS / BSD Recoveries**



#### **Project Name: Former Maljimar Station**

Work Order #: 495800							Proj	ect ID:	SRS HD0-9	5-61	
Analyst: ARM	D	ate Prepai	red: 10/24/201	4			Date A	nalyzed:	10/24/2014		
Lab Batch ID: 953877 Sample: 663502-1-1	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / 1	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0934	93	0.100	0.0903	90	3	70-130	35	
Toluene	< 0.00200	0.100	0.100	100	0.100	0.0960	96	4	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.105	105	0.100	0.100	100	5	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.215	108	0.200	0.205	103	5	70-135	35	
o-Xylene	< 0.00100	0.100	0.0995	100	0.100	0.0956	96	4	71-133	35	
Analyst: ARM	D	ate Prepai	red: 10/27/201	.4			Date A	nalyzed: 1	10/28/2014		
Lab Batch ID: 953973 Sample: 663562-1-	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	DY	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0830	83	0.100	0.0858	86	3	70-130	35	
Toluene	< 0.00200	0.100	0.0871	87	0.100	0.0902	90	3	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.0887	89	0.100	0.0919	92	4	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.182	91	0.200	0.189	95	4	70-135	35	
o-Xylene	< 0.00100	0.100	0.0883	88	0.100	0.0908	91	3	71-133	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



## **BS / BSD Recoveries**



#### **Project Name:** Former Maljimar Station

Work Orde	er #: 495800							Pro	ject ID:	SRS HD0-9	95-61	
Analyst:	JUM	D	ate Prepar	red: 10/27/201	14			Date A	nalyzed:	10/27/2014		
Lab Batch II	<b>D:</b> 953968 <b>Sample:</b> 663541-1-1	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Inorg	ganic Anions by EPA 300/300.1 lytes	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	46.1	92	50.0	47.1	94	2	80-120	20	
Analyst:	ARM	D	ate Prepar	red: 10/24/201	14		·	Date A	nalyzed:	0/25/2014		+
Lab Batch II	<b>D:</b> 953900 <b>Sample:</b> 663514-1-1	BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 2	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Anal	lytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12	Gasoline Range Hydrocarbons	<15.0	1000	930	93	1000	942	94	1	70-135	35	
C12-C28	B Diesel Range Hydrocarbons	<15.0	1000	1200	120	1000	1170	117	3	70-135	35	
Analyst:	ARM	D	ate Prepar	red: 10/24/201	14			Date A	nalyzed:	0/25/2014		
Lab Batch II	<b>D:</b> 953902 <b>Sample:</b> 663515-1-1	BKS	Batc	<b>h #:</b> 1					Matrix: S	Solid		
Units:	mg/kg		BLAN	K /BLANK	SPIKE / 1	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Anal	TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12	Gasoline Range Hydrocarbons	<15.0	1000	1060	106	1000	959	96	10	70-135	35	
C12-C28	B Diesel Range Hydrocarbons	<15.0	1000	1250	125	1000	1270	127	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 Projec	_ 0	3 - MS		•==•≈		South Con	
110/00	t Name:	Former M	aljimar	Station			
Work Order #: 495800				D		RS HD0-05-0	61
Lab Batch #: 953968				v		RS HD0-95-0	01
<b>Date Analyzed:</b> 10/27/2014		repared: 10/2	7/2014		nalyst: J		
<b>QC- Sample ID:</b> 495800-011 S		<b>Batch #:</b> 1		Γ	Matrix: S	oil	
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		6.72	53.8	58.6	96	80-120	
Lab Batch #: 953968				1 1			1
<b>Date Analyzed:</b> 10/27/2014	Date P	repared: 10/2	7/2014	Α	nalyst: J	UM	
QC- Sample ID: 495894-001 S		Batch #: 1		r	Matrix: S	oil	
Reporting Units: mg/kg	[	MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		682	4000	4470	95	80-120	
Lab Batch #: 953902		002	1000	1170	,,,	00 120	
Date Analyzed: 10/25/2014	Date P	repared: 10/2	4/2014	A	nalyst: A	RM	
QC- Sample ID: 495800-021 S		Batch #: 1		Γ	Matrix: S	oil	
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
TPH by SW8015 Mod Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons		<16.3	1090	1110	102	70-135	
C12-C28 Diesel Range Hydrocarbons		34.9	1090	1370	122	70-135	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative 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: Former Maljimar Station**



<b>Work Order # :</b> 495800						Project II	: SRS H	D0-95-61			
Lab Batch ID: 953877	QC- Sample ID:	495800	-003 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 10/24/2014	Date Prepared:	10/24/2	014	An	alyst: A	ARM					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[ <b>B</b> ]		[D]	[E]		[G]				
Benzene	<0.00113	0.113	0.0917	81	0.113	0.0908	80	1	70-130	35	
Toluene	<0.00225	0.113	0.0980	87	0.113	0.0961	85	2	70-130	35	
Ethylbenzene	<0.00113	0.113	0.101	89	0.113	0.0977	86	3	71-129	35	
m,p-Xylenes	<0.00225	0.225	0.206	92	0.225	0.201	89	2	70-135	35	
o-Xylene	<0.00113	0.113	0.0971	86	0.113	0.0952	84	2	71-133	35	
Lab Batch ID: 953973	QC- Sample ID:	495929	-001 S	Ba	tch #:	1 Matrix	<b>k:</b> Soil				
<b>Date Analyzed:</b> 10/28/2014	Date Prepared:	10/27/2	014	An	alyst: A	ARM					
Reporting Units: mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0656	65	0.101	0.0595	59	10	70-130	35	X
Toluene	<0.00202	0.101	0.0660	65	0.101	0.0593	59	11	70-130	35	X
Ethylbenzene	<0.00101	0.101	0.0620	61	0.101	0.0540	53	14	71-129	35	X
m,p-Xylenes	<0.00202	0.202	0.124	61	0.202	0.109	54	13	70-135	35	X
o-Xylene	<0.00101	0.101	0.0587	58	0.101	0.0513	51	13	71-133	35	X

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference RPD =  $200^{*}|(C-F)/(C+F)|$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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



## Form 3 - MS / MSD Recoveries

#### **Project Name: Former Maljimar Station**



Work Order # :	495800						Project II	): SRS H	D0-95-61			
Lab Batch ID:	953900	QC- Sample ID:	495800	-003 S	Ba	tch #:	1 Matrix	: Soil				
Date Analyzed:	10/25/2014	Date Prepared:	10/24/2	014	An	alyst: A	ARM					
<b>Reporting Units:</b>	mg/kg		Μ	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA'	TE REC	OVERY S	STUDY		
ſ	<b>FPH By SW8015 Mod</b>	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline	e Range Hydrocarbons	20.1	1130	1130	98	1130	1020	88	10	70-135	35	
C12-C28 Diesel	Range Hydrocarbons	65.0	1130	1480	125	1130	1310	110	12	70-135	35	

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



Work Order #: 495800



### **Project Name: Former Maljimar Station**

Lab Batch #: 953965 Date Analyzed: 10/27/2014 16:40 Da QC- Sample ID: 495912-001 D	te Preparo Batch	e <b>d:</b> 10/27/2014		<b>Project I</b> I <b>yst:</b> WRU trix: Soil	D: SRS HD	0-95-61
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		19.2	19.1	1	20	
Lab Batch #: 953965 Date Analyzed: 10/27/2014 16:40 Da QC- Sample ID: 495931-002 D	te Prepar Batch	ed: 10/27/2014 #: 1		l <b>yst:</b> WRU trix: Soil		
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte						
Percent Moisture		13.0	12.7	2	20	
Lab Batch #: 953969	_	10/05/0014				
-	-	ed: 10/27/2014		lyst:WRU		
<b>QC- Sample ID:</b> 495800-008 D	Batch	-		trix: Soil	ATE DEC	OVEDV
Reporting Units: %		SAMPLE /		DUPLIC		OVERY
Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		10.3	11.1	7	20	
Lab Batch #: <sup>953969</sup>				1		
	te Prepar	ed: 10/27/2014	Ana	lyst:WRU		
QC- Sample ID: 495800-018 D	Batch			trix: Soil		
Reporting Units: %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		12.1	13.0	7	20	

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

BRL - Below Reporting Limit





#### **Project Name: Former Maljimar Station**

Work Order #: 495800

Lab Batch #: 953972			Project I	D: SRS HD	)-95-61
Date Analyzed: 10/27/2014 16:40	Date Prepared: 10/27/2014	4 Ana	lyst: WRU		
QC- Sample ID: 495800-028 D	<b>Batch #:</b> 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	28.5	29.9	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

CTLs       TRRP       DW       NPDES       LPST       DryCin       FL       TX       GA       NC       SC       NJ       PA       OK       LA       1       2       3       4       CLP       AFCEE       QAPT       SEDD       ERPIMS       Match       Incomplete       Absent       Unclear       1       3       5       2       1.5       3       Non-Conformances found?	Compa	19: Basin Environmental Service Te	chnologies, LL	с	Phone:	(575	)396-2	378	TAT W	ork Day	/s = D	Need re	esults b	Field b			Tim	ie:		PA Plastic Amber PC P PC Plastic Clear Other	lastic Clear
MARKET     Ben Algulo     Email:     bysopiol/Baserier     Control Type     GC     GC     GC     GC     GC     GC     GC     Anklet Ses REQUested       Project ID:     Former Maljanar Station SRS H00-95-61     Pake. Bryant     Plains All American     Control #     I <td< th=""><th>Address</th><th>3100 Plains Hwy.</th><th></th><th></th><th>Fax:</th><th>(575</th><th>)396-1</th><th>429</th><th>]</th><th>Std (5-</th><th>7D) 5H</th><th>rs 1D 2</th><th>D 3D</th><th>40 50</th><th>70 100</th><th>D 14D</th><th>Other_</th><th>84</th><th></th><th>Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,</th><th>1Gal Other</th></td<>	Address	3100 Plains Hwy.			Fax:	(575	)396-1	429	]	Std (5-	7D) 5H	rs 1D 2	D 3D	40 50	70 100	D 14D	Other_	84		Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	1Gal Other
Delt Right Dur Right Dur Right Right Dur Right Ri	City:	Lovington		State: NM	Zip:	8826	60		N.C.		and the	AN	ALYSI	ES RE	QUES	TED	10 12	200	6400	** Preservative Typ	pe Codes
Open End Maljamar Station ISBR Housda-61       POIR: ISBR Housda-61       PAA-C. Bryant       Pres Tree*       I <t< td=""><td></td><td>Ben Algujo</td><td>_</td><td>Email:</td><td>bjarguijo</td><td>@basir</td><td>nenv.co</td><td>m</td><td></td><td>GC</td><td>GC</td><td>GC</td><td></td><td></td><td></td><td></td><td></td><td></td><td>and the second</td><td>A. None E. HCL I. Ice</td><td></td></t<>		Ben Algujo	_	Email:	bjarguijo	@basir	nenv.co	m		GC	GC	GC							and the second	A. None E. HCL I. Ice	
Verole To: Camille Bryant       Plains All American       Quote #: Semi-Arnual Arnual N/A       Quote #: Collect       Quot	roject				PO#:	PAA-	-C. Brya	int	Pres Type**		1								1992	H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAcl	&NaOH
ampler Name: on J. Aquijo:       Circle One Event: Daly Weekly Semi-Arnual Arnual NiA       Monthly Ouartely Weekly Berger Date       Monthly Ouartely Berger Date       Monthl	voice	To:	merican		Quote #	1			0	<u>'</u>	-								PAH by H	0	
Group       Andread       Point       B Cont       Lab Only:       REMARKS        1       SB-1 @ 5'       10/16/2014       1105       S       1       X </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>Mont</td> <td>hly Q</td> <td>uartely</td> <td>ple by 826</td> <td>- T</td> <td>×</td> <td>epi</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8 50</td> <td>GW Ground Water S Soll</td> <td>VSediment/Solid</td>						Mont	hly Q	uartely	ple by 826	- T	×	epi							8 50	GW Ground Water S Soll	VSediment/Solid
Image: Second			Collect	Collect	Matrix	Field Filtered	Integrity OK (Y/N)	Total # of containers	Exam Volatiles I	TPI	BTE	Chlor							ALL	DW Drinking Water A Air SW Surface Water O Oil OW Occan/Sea Water T Tiss PL Product-Liquid U Urin PS Product-Solid B Bloo	100
2       SB-1 @ 10'       10'16/2014       1110       S       1       X <td>Sa</td> <td></td> <td></td> <td></td> <td>C. M. D</td> <td></td> <td></td> <td>111</td> <td># Cont</td> <td>Lab Onl</td> <td>r.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Cither.</td> <td>S</td>	Sa				C. M. D			111	# Cont	Lab Onl	r.									Cither.	S
_3       SB-1 @ 20'       10/16/2014       1120       S       1       X       X       Image: Signature	_1	SB-1 @ 5'	10/16/2014	1105	S			1		х											
4       SB-1@30'       10/16/2014       1130       S       1       X       X       Image: Signature state s	_2	SB-1 @ 10'	10/16/2014	1110	S			1		х	x	х									
5       SB-1 @ 50'       10/16/2014       1150       S       1       X <td>_3</td> <td>SB-1 @ 20'</td> <td>10/16/2014</td> <td>1120</td> <td>s</td> <td></td> <td></td> <td>1</td> <td></td> <td>х</td> <td>x</td> <td></td>	_3	SB-1 @ 20'	10/16/2014	1120	s			1		х	x										
6       SB-1 @ 70'       10/16/2014       1250       S       1       X	_4	SB-1 @ 30'	10/16/2014	1130	s			1	22	х	х										
_7       SB-1 @ 80'       10/16/2014       1300       S       1       X <td>_5</td> <td>SB-1 @ 50'</td> <td>10/16/2014</td> <td>1150</td> <td>S</td> <td></td> <td></td> <td>1</td> <td>1.00</td> <td>х</td> <td>х</td> <td>х</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	_5	SB-1 @ 50'	10/16/2014	1150	S			1	1.00	х	х	х									
8       SB-2 @ 5'       10/16/2014       1350       S       1       X       Image: SB-2 @ 10'       Image: SB-2 @ 25'	_6	SB-1 @ 70'	10/16/2014	1250	s			1		х											
9       SB-2 @ 10'       10/16/2014       1355       S       1       X       X       X       I <thi< th="">       I       I       I<td>_7</td><td>SB-1 @ 80'</td><td>10/16/2014</td><td>1300</td><td>s</td><td></td><td></td><td>1</td><td></td><td>х</td><td>х</td><td>х</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thi<>	_7	SB-1 @ 80'	10/16/2014	1300	s			1		х	х	х									
O       SB-2 @ 25'       10/16/2014       1410       S       1       X       Image: Constraint of the constraint of	_8	SB-2 @ 5'	10/16/2014	1350	S			1		х									1200		
Reg. Program / Clean-up Std       STATE for Certs & Regs       QA/QC Level & Certification       EDDs       COC & Labels       Coolers Temp °C       Lab Use Only       YES         TLs       TRRP       DW       NPDES       LPST       DryCin       FL       TX GA NC SC NJ PA OK LA       1 2 3 4 CLP AFCEE QAPP       ADaPT SEDD       Repline       1 2 3 4 CLP AFCEE QAPP       ADaPT SEDD       Repline       1 3 9 2 1.5 3       Non-Conformances found?       Samples intect upon arrival?       Samples	9	SB-2 @ 10'	10/16/2014	1355	S			1	145	х	х	х							1.1870		
TLS TRRP DW NPDES LPST DryCln Relinquished by Affiliation Date Time Received by Received	0	SB-2 @ 25'	10/16/2014	1410	S			1		х									19		
ther: AL NM Other: NELAC DoD-ELAP Other: XLS Other: Absent Unclear 1-0-021-03 Samples intact upon arrival? Relinquished by Affiliation Date Time Received by Affiliation Date Time Received on Wet Ice?			the second second second	A REAL PROPERTY AND	and the second se	and the second second				and the second second	Calle -					1	Coolers	Temp *	с	Lab Use Only	YES NO N/
		RRP DW NPDES LPST DryCln			A OK LA					PP			RPIMS			1-3.8	21.5	3	_		
	1	Relinquished by	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		11		-	7.0	Tim	e	Re	ceived I	Vy /	Affili	iation						
I ALL ALL ALL ALL ALL ALL ALL ALL ALL AL	-	HH I I		1				19	43	P	4 2	4SI	ak	er i	PASIN			16	50	Received within holding time?	===
2 Proper containers used?	3					_		_			M	KIG	2	XUVL	0	IDE	23/14	1 14	05	pH verified-acceptable, excl VDCs? Received on time to meet HTs?	
PH verified-acceptable, excl VDCs7		horstories: Hobbs 575 302 751							5												

 B&A Laboratories: Hobbs 575-392-7550
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 Houston 281-242-4200
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Statistics of the	Houston: 4143 Greent protorics Maente Malentering	briar Dr. Stafford,		1)240-4200				DY RE	0.000	Sec. 1	432)563-1	800		Pag W.O # illable H		of 4 40	158	00	VC Vial Clear TS T VP Vial Pre-preserved AC A GA Glass Amber TB T GC Glass Clear ZB 2	e Codes Incore Sampler erraCore Sampler Nr Canister Gedar Bag Zip Lock Bag Plastic Clear
Compa	ny: Basin Environmental Service To	echnologies, LL	С	Phone:	(575	396-2	378	TAT W	ork Day	s = D	Need r	esults b	y:	AST	-	Tim	ie:		Other	
Addres	3100 Plains Hwy.			Fax:	(575	396-1	429		Std (5-	7D) 5Hr	rs 1D 2	2D 3D	4D 50	70 100	D 14D	Other_		_	Size(s): 202, 402, 802, 1602, 3202 40ml, 125 ml, 250 ml, 500 ml, 1L,	, Other
City:	Lovington		State: NM	Zip:	8826	0		all the		2	AN	ALYSI	ES RE	QUES	TED		The		** Preservative Ty	pe Codes
PM/Attr	<sup>1:</sup> Ben Arguijo		Email:	bjarguijo	@basir	nenv.co	m	Cont Type * VC	GC	GC	GC								A. None E. HCL I. Io B. HNO, F. MeOH J. M	e ICAA C
Project	ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA-	C. Brya	ant	Pres Type**	1	1	1								H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAi D. NaOH H. NaHSO <sub>4</sub> L A O.	c&NaOH
nvoice	To: Camille Bryant Plains All A	merican		Quote #				260										nple Run PAH _ Only If	^ Matrix Type	Codes
Sample Ben J. /	r Name: Arguijo	Circle One Semi-Annua		Weekly N/A	Mont	nthly Quartely		ample s by 82	HdT	BTEX	Chloride							d Sampl Ru TPH	GW Ground Water S So WW Waste Water W W DW Drinking Water A Ali	oil/Sediment/Solid lpe r
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of certainers	Example Volatiles by 8260		æ	Ð							(CALL 00 Highest	SW Surface Water O Oil OW Ocean/Sea Water T Tis PL Product-Liquid U Ur PS Product-Solid B Bio SL Sludge	sue
San		and and solar	and the		1			# Cont	Lab Only	:			L					00	REMARK	(S
1	SB-2 @ 45'	10/16/2014	1430	s			1		х	Х	х							Rich		
2	SB-2 @ 65'	10/16/2014	1450	S			1		X									1		
_3	SB-2 @ 80'	10/16/2014	1505	S			1		х	х								Sec. Co.		
_4	SB-2 @ 100'	10/16/2014	1525	S			1		х	х	Х									
_5	SB-3 @ 5'	10/17/2014	0920	S			1		х	х	Х									
_6	SB-3 @ 10'	10/17/2014	0925	s			1	MON B	х											
_7	SB-3 @ 20'	10/17/2014	0935	s			1	Carlos The	х	х								37836		
_8	SB-3 @ 30'	10/17/2014	0945	S			1	-	х											
_9	SB-3 @ 50'	10/17/2014	1005	S			1		х	х	х									
_0	SB-3 @ 70'	10/17/2014	1025	S			1	200-1	х									32		
	Reg. Program / Clean-up Std TRRP DW NPDES LPST DryCin	and the second se	for Certs 8		1 2		CLP	AFCEE QA		ADaPT XLS Othe	EDDs SEDD B	ERPIMS	A COLUMN TWO IS NOT	Labels ncomplete Unclear	of the local division in which the	. <	Temp '	C	Lab Use Only Non-Conformances found? Samples intact upon arrival?	YES NO N/A
Aner.	Relinquished by	Par Inn Of	Affilia		- CON	Date		Tim			ceived	by		ation	Da	_	-	ime	Received on Wet Ice?	
1	plat		Ishsin.	Env.	10	22/	14		30	15	lph	kar	26	ASN	10	-22	11	1.30	Labeled with proper preservatives? Received within holding time? Custody seals intact?	===
2	BRAlabril		Smi.	~	1	0-2	2	1:00	0 "	TR	ant	F	XA	A	D-	201	1:	N	Custody seals intact? VOCs rec'd w/o headspace? Proper containers used?	
3					_					M	KQ)	2	XU	(0)	10/9	314	14	08	pH verified-acceptable, excl VOCs? Received on time to meet HTs?	
4											- 1-									

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

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Lab	Houston: 4143 Greenbr rocol-c	iar Dr. Stafford, '	CHAII 1x 77477 (281								132)563-11	800		Pag W.O # illable H		4	580	00	VC Vial Clear TS Te VP Vial Pre-preserved AC Air GA Glass Amber TB Te GC Glass Clear ZB Zi	e Codes core Sampler rraCore Sampler r Canister clar Bag p Lock Bag lastic Clear
Compar	19: Basin Environmental Service Teo	chnologies, LL	C	Phone:	(575	)396-23	78	TAT W	ork Day	s = D	Need r	esults b	y:	BOA		Time	:		Other	
Address	3100 Plains Hwy.			Fax:	(575	)396-14	29		Std (5-	7D) 5Hr	s 1D 2	D 3D	4D 50	100	14D	Other_		_	Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	Other
City:	Lovington		State: NM	Zip:	8826	50				1	AN	ALYSE	S RE	QUES	TED	-	Edi	The second	** Preservative Ty	pe Codes
PM/Attn	: Ben Arguijo		Email:	bjarguijo	@basir	nenv.com	n	Cont Type * VC	GC	GC	GC							1992	A. None E. HCL I. Ice B. HNO, F. MeOH J. MC	
Project	D: Former Maljamar Station SRS HD0-95-61			PO#:	PAA-	C. Bryan	nt	Pres Type**	1	T	Т							1910	H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc D. NaOH H. NaHSO <sub>4</sub> L As O.	&NaOH
nvoice	To: Camille Bryant Plains All An	nerican		Quote #:				260										ale un PAH Only If	^ Matrix Type	
Sample Ben J. /	r Name: Irguijo	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Mont	hly Qu	artely	ample ss by 8	HdT	BTEX	Chloride							old Sampl	GW Ground Water S Sol WW Waste Water W Wig DW Drinking Water A Air SW Surface Water O Oll	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Fotal # of ontainers	Example Volatiles by 8260			õ							(CALL on Highest	OW Ocean/Sea Water T Tiss PL Product-Liquid U Urin PS Product-Solid B Bloc SL Studge	ne
Sam	A DECEMBER OF THE OWNER		CLAR DIG					# Cont	Lab Only	q									REMARK	S
1	SB-3 @ 85'	10/17/2014	1040	s			1		х	Х										
2	SB-3 @ 100'	10/17/2014	1055	s			1		х	х	х									
_3	SB-4 @ 5'	10/17/2014	1135	s			1		х											
4	SB-4 @ 10'	10/17/2014	1140	s			1	Ser Mal	х	х	х									
5	SB-4 @ 20'	10/17/2014	1150	S			1		х									and a		
6	SB-4 @ 30'	10/17/2014	1200	S			1	(DO THE	х	х										
7	SB-4 @ 50'	10/17/2014	1220	S			1	E	х									1		
8	SB-4 @ 70'	10/17/2014	1240	S			1		х	х	Х							122		
9	SB-4 @ 90'	10/17/2014	1300	S			1	- And	х									13 6		
0	SB-4 @ 105'	10/17/2014	1315	S			1	10	x									226		
CTLs	Reg. Program / Clean-up Std IRRP DW NPDES LPST DryCln	The Real Property lies in which the Real Property lies in the Real Pro	for Certs &		1.		CLP	AFCEE QA		ADaPT XLS Othe	EDDs SEDD	ERPIMS	Match	A Labels	25		Temp *	C	Lab Use Only Non-Conformances found? Samples intact upon arrival?	YES NO N/A
Other:	Relipquished by	Pac rim Of	Affilia			Date		Tim	ne		eceived	by		iation	and the owner where the party is not the	ate	Ti	ime	Received on Wet Ice? Labeled with proper preservatives?	
1	All lahnn	l	BASI BASI	nEnd.		0/20/	145425	12	30 B	X		the	m	B	10	22	1:	(.30	Received within holding time? Custody seals intact? VOCs rec'd wfo headspace?	===
3							_			μŪ	LLS.	)	Xoh	(0	10/0	23/14	14	08	Proper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?	===
	shorstories: Hobbs 575-392-75	50 Delles 04	4 000 020	A House	00.2	04 24	2.420	0 Odece	432.5	3.1900	San A	ntonio	210-509	-3334 6	Phoenix	602-43	7-0330		C.O.C. Serial #	

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Lab	Houston: 4143 Greenbri protorics (rocol-c	ar Dr. Stafford,	CHAII TX 77477 (281	S 198-17							432)563-18	300		Page W.O # illable Hi		440	158	605	VC Vial Clear TS Te VP Vial Pre-preserved AC Ai GA Glass Amber TB TG GC Glass Clear ZB Z PA Plastic Amber PC P	e Codes core Sampler rraCore Sampler r Canister dlar Bag p Lock Bag tastic Clear
ompa	ny: Basin Environmental Service Tec	hnologies, LL	с	Phone:	(575)	396-23	378	TAT W	ork Day	s = D	Need re	esults b	y:	A		Time	ə:		PC Plastic Clear Other	
ddres	S: 3100 Plains Hwy.			Fax:	(575)	396-14	429		Std (5-	7D) 5Hr	rs 1D 2	D 3D	4D 50	100	14D	Other_		_	Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	
ity:	Lovington		State: NM	Zip:	8826	0		Section of the		0.450	ANA	ALYSE	S RE	QUES	TED			ad and	** Preservative Ty	pe Codes
M/Att	n: Ben Arguijo		Email:	bjarguijo	@basir	nenv.co	m	Cont Type * VC	GC	GC	GC								A. None E. HCL I. Ice B. HNO, F. MeOH J. M	-
roject	ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA-	C. Brya	int	Pres Type**	I	1	Т								H <sub>2</sub> SO <sub>4</sub> G. Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K. ZnAc D. NaOH H. NaHSO <sub>4</sub> L At O.	&NaOH
voice	To: Camille Bryant Plains All An	nerican		Quote #:	:			260										Run PAH Conty If	^ Matrix Type	
	er Name: Arguijo	Circle One Semi-Annua	Event: Daily al Annual	Weekly N/A	Mont	hily Qi	uartely	Example titles by 8;	TPH	BTEX	Chloride							Nd Samp Ru TPH	GW Ground Water S So WW Waste Water W WI DW Drinking Water A Air SW Surface Water O Oil	
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260			õ							(CALL Ho on Highest	OW Ocean/Sea Water T Tis PL Product-Liquid U Uri PS Product-Solid B Bio SL Sludge	ne
San				12323				# Cont	Lab Onl	y:									REMARK	S
_1	SB-4 @ 120'	10/17/2014	1330	s			1	5263	х											
_2	SB-4 @ 140'	10/17/2014	1350	S			1	1963	X	X	Х						-			
_3					-			10.00					-							
_4			<u> </u>	-	-	-		10000	-				-							
_5		-		-	$\vdash$	-		12.44	-				-							
_6 7					$\vdash$													200		
8								Contraction of the second												
_9																				
_0														-		1.		1		150 NO. 11
CTLs	Reg. Program / Clean-up Std TRRP DW NPDES LPST DryCin	FL TX GA	for Certs &	-	1.1	2 3 4	4 CLP	AFCEE Q/		ADaPT XLS Oth	EDDs SEDO	ERPIMS	Match	& Labels Incomplete Unclear	20	2 1.	Temp *	C	Lab Use Only Non-Conformances found? Samples infact upon arrival?	YES NO N/
Other:	Relinquished by	AL NM OI	Affilia	tion	NEU	Date		Tin	ne	-	eceived	by		iation	Da		T	ime	Received on Wet Ice?	
1	Alphin 1.	1	Basia		-	10-0	-		30	A.Z.	ALL	1 an	PB.	sra	10.	22	11:	50	Labeled with proper preservatives? Received within holding time? Custody seals intact? VOCs rec'd w/o headspace?	===
3	TSPG Capper		PABI	N	Ľ	0.0	22			M	RIC	5	XUX	10	K)	331	410	108	Proper containers used? pH verified-acceptable, excl VOCs? Received on time to meet HTs?	===
4	Laboratoriae: Hobbe 575-302-75								100 5				240.500	0004		000 40	7 0220		C.O.C. Serial #	

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#### **XENCO** Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S Date/ Time Received: 10/23/2014 02:08:00 PM Work Order #: 495800

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

**Temperature Measuring device used :** 

Sample Receipt Checklis	t	Comments
#1 *Temperature of cooler(s)?	1.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 Custody Seals intact on sample bottles?	N/A	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	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#:

Date: 10/23/2014

 Checklist completed by:
 Muschoah

 Kelsey Brooks
 Kelsey Brooks

 Checklist reviewed by:
 Muschoah

 Kelsey Brooks
 Kelsey Brooks

Date: 10/23/2014

# Analytical Report 499717

## for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo

Former Maljimar Station

#### SRS HD0-95-61

#### 06-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)



06-JAN-15

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

Reference: XENCO Report No(s): 499717 Former Maljimar Station 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) 499717. 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. 499717 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.

Ams Boah

 Kelsey Brooks

 Project Manager

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## Sample Cross Reference 499717



## PLAINS ALL AMERICAN EH&S, Midland, TX

Former Maljimar Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-5 @5'	S	12-22-14 10:45	- 5 ft	499717-001
SB-5 @10'	S	12-22-14 10:50	- 10 ft	499717-002
SB-5 @50'	S	12-22-14 11:30	- 50 ft	499717-003
SB-5 @75'	S	12-22-14 11:55	- 75 ft	499717-004
SB-5 @100'	S	12-22-14 12:20	- 100 ft	499717-005
SB-5 @145'	S	12-22-14 13:10	- 145 ft	499717-006
SB-5 @150'	S	12-22-14 13:15	- 150 ft	499717-007



## CASE NARRATIVE



Client Name: PLAINS ALL AMERICAN EH&S Project Name: Former Maljimar Station

Project ID: SRS HD0-95-61 Work Order Number(s): 499717 
 Report Date:
 06-JAN-15

 Date Received:
 12/30/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



#### Project Id: SRS HD0-95-61

Contact: Ben Arguijo

**Project Location:** 

## Certificate of Analysis Summary 499717

PLAINS ALL AMERICAN EH&S, Midland, TX

**Project Name: Former Maljimar Station** 



Date Received in Lab: Tue Dec-30-14 02:17 pm

Report Date: 06-JAN-15

roject Location:								neport	Dutti	00 5111 12			
								Project Ma	nager:	Kelsey Brooks	5		
	Lab Id:	499717-0	001	499717-0	02	499717-0	03	499717-0	004	499717-0	05	499717-0	06
Analysis Requested	Field Id:	SB-5 @	5'	SB-5 @1	0'	SB-5 @5	0'	SB-5 @	75'	SB-5 @1	00'	SB-5 @14	45'
Analysis Kequestea	Depth:	5 ft		10 ft		50 ft		75 ft		100 ft		145 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Dec-22-14	10:45	Dec-22-14 1	0:50	Dec-22-14 1	1:30	Dec-22-14	11:55	Dec-22-14	12:20	Dec-22-14 1	3:10
BTEX by EPA 8021B	Extracted:	Jan-05-15	08:00					Jan-05-15	08:00				
	Analyzed:	Jan-05-15	19:21					Jan-05-15	19:38				
	Units/RL:	mg/kg	RL					mg/kg	RL				
Benzene		ND	0.00111					ND	0.00103				
Toluene		ND	0.00222					ND	0.00207				
Ethylbenzene		ND	0.00111					ND	0.00103				
m,p-Xylenes		ND	0.00222					ND	0.00207				
o-Xylene		ND	0.00111					ND	0.00103				
Total Xylenes		ND	0.00111					ND	0.00103				
Total BTEX		ND	0.00111					ND	0.00103				
Inorganic Anions by EPA 300/300.1	Extracted:	Jan-05-15	14:00					Jan-05-15	14:00				
	Analyzed:	Jan-05-15	17:17					Jan-05-15	18:02				
	Units/RL:	mg/kg	RL					mg/kg	RL				
Chloride		64.5	44.5					20.2	10.3				
Percent Moisture	Extracted:												
	Analyzed:	Dec-30-14	15:35	Dec-30-14 1	5:35	Dec-30-14 1	15:35	Dec-31-14	13:18	Dec-31-14	13:18	Dec-31-14 1	3:18
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		10.0	1.00	9.93	1.00	11.3	1.00	3.18	1.00	7.74	1.00	4.79	1.00
TPH By SW8015 Mod	Extracted:	Jan-05-15	09:00	Jan-05-15 0	9:00	Jan-05-15 0	9:00	Jan-05-15	09:00	Jan-05-15 0	9:00	Jan-05-15 0	9:00
	Analyzed:	Jan-05-15	16:44	Jan-05-15 1	7:58	Jan-05-15 1	8:21	Jan-05-15	18:44	Jan-05-15 1	9:06	Jan-06-15 1	2:58
	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		ND	16.7	ND	16.7	ND	16.9	ND	15.5	ND	16.3	ND	15.8
C12-C28 Diesel Range Hydrocarbons		ND	16.7	ND	16.7	37.9	16.9	55.5	15.5	22.5	16.3	19.5	15.8
C28-C35 Oil Range Hydrocarbons		ND	16.7	ND	16.7	ND	16.9	ND	15.5	ND	16.3	ND	15.8
Total TPH		ND	16.7	ND	16.7	37.9	16.9	55.5	15.5	22.5	16.3	19.5	15.8

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

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Huns Boah

Kelsey Brooks Project Manager



#### Project Id: SRS HD0-95-61

Contact: Ben Arguijo

**Project Location:** 

Certificate of Analysis Summary 499717

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Former Maljimar Station



Date Received in Lab: Tue Dec-30-14 02:17 pm

Report Date: 06-JAN-15

Project Manager: Kelsey Brooks

	Lab Id:	499717-007			
Analysis Pognostad	Field Id:	SB-5 @150'			
Analysis Requested	Depth:	150 ft			
	Matrix:	SOIL			
	Sampled:	Dec-22-14 13:15			
BTEX by EPA 8021B	Extracted:	Jan-05-15 08:00			
	Analyzed:	Jan-05-15 19:54			
	Units/RL:	mg/kg RL			
Benzene		ND 0.00106			
Toluene		ND 0.00211			
Ethylbenzene		ND 0.00106			
m,p-Xylenes		ND 0.00211			
o-Xylene		ND 0.00106			
Total Xylenes		ND 0.00106			
Total BTEX		ND 0.00106			
Inorganic Anions by EPA 300/300.1	Extracted:	Jan-05-15 14:00			
	Analyzed:	Jan-05-15 18:25			
	Units/RL:	mg/kg RL			
Chloride		4.51 2.11			
Percent Moisture	Extracted:				
	Analyzed:	Dec-31-14 13:18			
	Units/RL:	% RL			
Percent Moisture		5.23 1.00			
TPH By SW8015 Mod	Extracted:	Jan-05-15 09:00			
	Analyzed:	Jan-06-15 13:22			
	Units/RL:	mg/kg RL			
C6-C12 Gasoline Range Hydrocarbons		ND 15.8			
C12-C28 Diesel Range Hydrocarbons		21.2 15.8			
C28-C35 Oil Range Hydrocarbons		ND 15.8			
Total TPH		21.2 15.8		 	

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

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Huns Boah

Kelsey Brooks Project Manager

Page 6 of 18



## **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

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(210) 509-3335

(813) 620-2033

(432) 563-1713

(770) 449-5477



## **Project Name: Former Maljimar Station**

Lab Batch #	l <b>ers :</b> 49971 : 958949	Sample: 499717-001 / SMP	Batc		: SRS HD0-9 : Soil	-	
U <b>nits:</b>	mg/kg	Date Analyzed: 01/05/15 16:44	SU	RROGATE R	ECOVERY S	STUDY	
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctar	ne		73.7	100	74	70-135	
o-Terphenyl			41.3	50.0	83	70-135	
Lab Batch #	: 958949	Sample: 499717-002 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/05/15 17:58	SU	RROGATE R	ECOVERY S	STUDY	
	TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctar	ne		83.6	100	84	70-135	
o-Terphenyl			46.4	50.0	93	70-135	
Lab Batch #	: 958949	Sample: 499717-003 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/05/15 18:21	SU	RROGATE R	ECOVERY	STUDY	
	TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1-Chlorooctar	ne		82.1	100	82	70-135	
o-Terphenyl			45.3	50.0	91	70-135	
Lab Batch #	: 958949	Sample: 499717-004 / SMP	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/05/15 18:44	SU	RROGATE R	ECOVERY S	STUDY	
	TPH 1	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctar	ne	-	82.6	100	83	70-135	
o-Terphenyl			43.9	50.0	88	70-135	
Lab Batch #	: 958949	Sample: 499717-005 / SMP	Batc	h: 1 Matrix	: Soil	1	
Units:	mg/kg	Date Analyzed: 01/05/15 19:06	SU	RROGATE R	ECOVERY S	STUDY	
	TPH ]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chloroocta	ne		89.0	100	89	70-135	
2			07.0	100	37	,0155	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Lab Batch #:	958917	Sample: 499717-001 / SMP	Bate	ch: 1 Matrix	: Soil		
U <b>nits:</b>	mg/kg	Date Analyzed: 01/05/15 19:21	SU	URROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
1,4-Difluorober	nzene		0.0283	0.0300	94	80-120	
4-Bromofluoro			0.0294	0.0300	98	80-120	
Lab Batch #:	958917	Sample: 499717-004 / SMP	Bato	ch: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/05/15 19:38	SU	URROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1,4-Difluorober	nzene	Anaryus	0.0282	0.0300	94	80-120	
4-Bromofluoro	oenzene		0.0299	0.0300	100	80-120	
Lab Batch #:	958917	Sample: 499717-007 / SMP	Bato				
Units:	mg/kg	<b>Date Analyzed:</b> 01/05/15 19:54	SU	URROGATE R	ECOVERY S	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1 4 D'fleensha		Analytes	0.0077	0.0200		00.100	
1,4-Difluorober 4-Bromofluoro			0.0277	0.0300	92	80-120	
Lab Batch #:		Sample: 499717-006 / SMP	0.0308 Bate	0.0300 ch: 1 Matrix	103	80-120	
Units:	mg/kg	Date Analyzed: 01/06/15 12:58		URROGATE R		STUDY	
emus.	ing kg		50				
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane			77.3	100	77	70-135	
o-Terphenyl			40.9	50.0	82	70-135	
Lab Batch #:	958949	Sample: 499717-007 / SMP	Bate	ch: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 01/06/15 13:22	SU	URROGATE R	ECOVERY S	STUDY	
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chlorooctane			73.1	100	73	70-135	
o-Terphenyl			39.6	50.0	79	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

Units:	mg/kg	Date Analyzed: 01/05/15 15:09	ar		FCOVEDR		
omts.	iiig/kg	Date Analyzet. 01/05/15 15:07	SU	JRROGATE R	ECOVERY	STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
1-Chloroocta	ane		96.1	100	96	70-135	
o-Terphenyl			55.5	50.0	111	70-135	
Lab Batch	#: 958917	Sample: 666668-1-BLK / B	LK Batc	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/05/15 19:06	SU	JRROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
140.0	1	Analytes					
1,4-Difluoro			0.0278	0.0300	93	80-120	
4-Bromofluc			0.0273	0.0300	91	80-120	
Lab Batch		Sample: 666685-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/05/15 15:54	SU	JRROGATE R	ECOVERY S	STUDY	
	TPH I	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ane		124	100	124	70-135	
o-Terphenyl			62.8	50.0	126	70-135	
Lab Batch	#: 958917	Sample: 666668-1-BKS / B	KS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 01/05/15 17:45	SU	JRROGATE R	ECOVERY	STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Analytes					
1,4-Difluoro			0.0276	0.0300	92	80-120	
4-Bromofluc			0.0242	0.0300	81	80-120	
Lab Batch		Sample: 666685-1-BSD / BS			: Solid		
Units:	mg/kg	Date Analyzed: 01/05/15 16:19	SU	JRROGATE R	ECOVERY	STUDY	
	TPH I	By SW8015 Mod	Amount Found	True Amount	Recovery	Control Limits	Flags
		Analytes	[A]	[B]	%R [D]	%R	
1-Chloroocta	ane	٠ •	127	100	127	70-135	
o-Terphenyl			64.0	50.0	128	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution

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



## **Project Name: Former Maljimar Station**

U <b>nits:</b>	mg/kg	Date Analyzed: 01/05/15 18:01	SURROGATE RECOVERY STUDY											
		X by EPA 8021B	Amount Found	True Amount	Recovery	Control Limits	Flags							
		Analytes	[A]	[B]	%R [D]	%R								
1,4-Difluoro	obenzene		0.0330	0.0300	110	80-120								
4-Bromoflu	orobenzene		0.0240	0.0300	80	80-120								
Lab Batch	#: 958949	Sample: 499717-001 S / MS	S Bate	h: 1 Matrix	: Soil									
U <b>nits:</b>	mg/kg	Date Analyzed: 01/05/15 17:09	SU	RROGATE R	ECOVERY	STUDY								
	TPH I	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1-Chlorooct	200	Anarytes	102	100		70.125								
o-Terphenyl			103 50.3	100	103	70-135								
Lab Batch		Sample: 499717-001 S / MS				/0-155								
Units:		•	IS Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY											
Units:	mg/kg	Date Analyzed: 01/05/15 18:18	SUKKUGATE RECUVERY STUDY											
	втеу	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags							
		Analytes			[D]									
1,4-Difluoro	obenzene		0.0347	0.0300	116	80-120								
4-Bromoflu	orobenzene		0.0249	0.0300	83	80-120								
Lab Batch	#: 958949	Sample: 499717-001 SD / N	ASD Bate	h: 1 Matrix	: Soil									
Units:	mg/kg	Date Analyzed: 01/05/15 17:34	SURROGATE RECOVERY STUDY											
	TPH I	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1 Chlans at		Analytes	102	100		70.125								
1-Chlorooct			102 49.2	100	102	70-135 70-135								
	#: 958917	Sample: 499717-001 SD / N			98	10-155								
Units:	mg/kg	<b>Date Analyzed:</b> 01/05/15 18:34		RROGATE R		STUDY								
		X by EPA 8021B	Amount Found	True Amount	Recovery %R	Control Limits	Flags							
		Analytes	[A]	[B]	(D)	%R								
1,4-Difluoro	obenzene		0.0311	0.0300	104	80-120								
4-Bromoflu	anahangana		0.0251	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



## **BS / BSD Recoveries**



#### **Project Name:** Former Maljimar Station

<b>Work Order #: </b> 499717								Pro	ject ID: 🤇	SRS HD0-9	5-61				
Analyst: JUM		<b>Date Prepared:</b> 01/05/2015 <b>Date Analyzed:</b> 01/05/2015													
Lab Batch ID: 958917	BKS	Batcl	<b>h #:</b> 1					Matrix: S	Solid						
Units: mg/kg			BLAN	K/BLANK	SPIKE / ]	/ BLANK SPIKE DUPLICATE RECOVERY STUDY									
BTEX by	EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag			
Analytes			[B]	[C]	[D]	[E]	Result [F]	[G]							
Benzene		< 0.00100	0.100	0.0917	92	0.100	0.0928	93	1	70-130	35				
Toluene		< 0.00200	0.100	0.109	109	0.100	0.110	110	1	70-130	35				
Ethylbenzene		< 0.00100	0.100	0.120	120	0.100	0.119	119	1	71-129	35				
m,p-Xylenes		< 0.00200	0.200	0.232	116	0.200	0.236	118	2	70-135	35				
o-Xylene		< 0.00100	0.100	0.106	106	0.100	0.108	108	2	71-133	35				
Analyst: JUM		D	ate Prepar	ed: 01/05/201	15			Date A	nalyzed: 01/05/2015						
Lab Batch ID: 958914	Sample: 666641-1-1	BKS	AS Batch #: 1 Matrix: Solid												
Units: mg/kg			BLAN	K/BLANK	SPIKE / ]	BLANK S	SPIKE DUP	LICATE	RECOV	ERY STUI	ЭY				
Inorganic Anion 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	45.9	92	50.0	45.2	90	2	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:** Former Maljimar Station

Work Order	r #: 499717					Project ID: SRS HD0-95-61									
Analyst:	JUM	D	ate Prepar	red: 01/05/201	5	<b>Date Analyzed:</b> 01/05/2015									
Lab Batch ID	<b>Sample:</b> 666685-1-	49 Sample: 666685-1-BKS Batch #: 1						Matrix: Solid							
Units:	mg/kg		BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod		Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag			
Analy	ytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]							
C6-C12 C	Gasoline Range Hydrocarbons	<15.0	1000	907	91	1000	955	96	5	70-135	35				
C12-C28	Diesel Range Hydrocarbons	<15.0	1000	1150	115	1000	1230	123	7	70-135	35				

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

XENCO
Laboratories

## Form 3 - MS Recoveries Project Name: Former Maljimar Station



Work Order #: 499717 Project ID: SRS HD0-95-61 Lab Batch #: 958914 **Date Analyzed:** 01/05/2015 Date Prepared: 01/05/2015 Analyst: JUM QC- Sample ID: 499717-001 S Batch #: Matrix: Soil 1 Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Spike Flag Result %R Limits Result Added [C] [D] %R [A] [B] Analytes 64.5 Chloride 1110 1060 90 80-120

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative 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: Former Maljimar Station**



<b>Work Order # :</b> 499717						Project II	D: SRS H	D0-95-61			
Lab Batch ID: 958917	QC- Sample ID:	499717	-001 S	Ba	tch #:	1 Matrix	x: Soil				
<b>Date Analyzed:</b> 01/05/2015	Date Prepared:	01/05/2	015	Ar							
<b>Reporting Units:</b> mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[0]	[D]	[E]	11000110 [1 ]	[G]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	/011	,010.2	
Benzene	<0.00111	0.111	0.101	91	0.111	0.105	95	4	70-130	35	
Toluene	<0.00222	0.111	0.117	105	0.111	0.123	111	5	70-130	35	
Ethylbenzene	<0.00111	0.111	0.123	111	0.111	0.132	119	7	71-129	35	
m,p-Xylenes	<0.00222	0.222	0.237	107	0.222	0.254	114	7	70-135	35	
o-Xylene	<0.00111	0.111	0.110	99	0.111	0.118	106	7	71-133	35	
Lab Batch ID: 958949	QC- Sample ID:	499717	-001 S	Ba	tch #:	1 Matri	x: Soil				
<b>Date Analyzed:</b> 01/05/2015	Date Prepared:	01/05/2	015	Ar	alyst: J	UM					
<b>Reporting Units:</b> mg/kg		Μ	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]		/0K [D]	[E]	Acout [1']	[G]	/0	/01		
C6-C12 Gasoline Range Hydrocarbons	<16.7	1110	1040	94	1110	1040	94	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.7	1110	1110	100	1110	1130	102	2	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}|(C-F)/(C+F)|$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E





#### **Project Name: Former Maljimar Station**

Work Order #: 499717 Project ID: SRS HD0-95-61 Lab Batch #: 958708 Analyst: WRU Date Prepared: 12/30/2014 Date Analyzed: 12/30/2014 15:35 QC- Sample ID: 499691-001 D Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECOVERY **Reporting Units:** % Sample Control **Percent Moisture** Parent Sample Duplicate RPD Limits Result Flag Result %RPD [A] [B] Analyte Percent Moisture 22.5 22.9 2 20 Lab Batch #: 958708 Date Prepared: 12/30/2014 Analyst: WRU Date Analyzed: 12/30/2014 15:35 Batch #: 1 Matrix: Soil QC- Sample ID: 499711-001 D SAMPLE / SAMPLE DUPLICATE RECOVERY **Reporting Units: % Percent Moisture** Parent Sample Sample Control RPD Duplicate Limits Result Flag Result %RPD [A] [**B**] Analyte Percent Moisture 5.64 5.28 7 20 Lab Batch #: 958711 Date Prepared: 12/31/2014 Analyst: WRU Date Analyzed: 12/31/2014 13:18 Batch #: 1 Matrix: Soil QC- Sample ID: 499717-004 D **Reporting Units:** % SAMPLE / SAMPLE DUPLICATE RECOVERY Sample Control **Percent Moisture** Parent Sample Duplicate RPD Limits Result Flag Result %RPD [A] [B] Analyte

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

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

BRL - Below Reporting Limit

Percent Moisture

3.18

3.40

7

20

vironmental Athecks Badlochemistry	Greenbriar Dr. Stafford,	CHAI TX 77477 (28								(432)563-1	1800		P W.O billable			997	17	GC Glass Clear ZB Zip Lock	
ompany: Basin Environmental Serv	vice Technologies, LL	.C	Phone:	(575	5)396-2	2378	TAT W	ork Da	ys = D	Need n	esults		onabie	1113.	Ti			PA Plastic Amber PC PC Plastic Clear Other	Plastic Clear
ddress: 3100 Plains Hwy.			Fax:	(575	5)396-1	429	1 /	/	2010.000	)			70.4	0D 14D		me:		Size(s) 202 402 Boz 16oz 30	loz . 1Gal
ity: Lovington		State: NM	Zip:	882	60		C	010 (0	10, 011	and a state of the	A share water of the	SES RI	and the second second		Other	-	and the second	40ml, 125 ml, 250 ml, 500 ml, ** Preservative	1L, Other
//Attn: Ben Arguijo		Email:	bjarguijo	@basi	inenv.co	om	Cont Type *	GC	GC	GC			EQUE	SIED	1000	a series of	-		Type Codes
oject ID: Former Maljamar Station SRS HD0-95-61			PO#:	PAA	-C. Brya	ant	Pres Type**	1	1	1		$\top$	+-	+	$\vdash$	+	151		Ice MCAA Ac&NaOH Asbc Acid&NaOH
oice To: Camille Bryant Plains	s All American		Quote #	t			0					-	+	-	+	+	PAH If Mu	0	- Hold Hold Hald Hald H
mpler Name: h J. Arguijo	Circle One Semi-Annua	Event: Daily I Annual	Weekly N/A	Mont	thly Q	uartely	mple s by 826	TPH	BTEX	Chloride						lample Run PA		WW Waste Water W	Soil/Sediment/Solid Wipe
Sample ID	Collect Date	Collect Time	Matrix Code ^	Field	Integrity OK (Y/N)	Total # of containers	Example Volatiles by 8260			CHI							Hold (CALL) on Highest TP	DW Drinking Water A SW Surface Water O ( OW Ocean/Sea Water T PL Product-Liquid U PS Product-Solid B ( SL Sludge	Dil Tissue Urine
A DESCRIPTION OF A DESC	R. 1. 19 27	The Cash	S. Califa		1000		# Cont	Lab Onl	y:									REMAR	KS
1 SB-5 @ 5'	12/22/2014	1045	S			1		х	X	X									
2 SB-5 @ 10'	12/22/2014	1050	s			1	REAL R	х									1000163		
3 SB-5 @ 50'	12/22/2014	1130	S			1		х					-	-	-	+	10000		
4 SB-5 @ 75'	12/22/2014	1155	S			1		х	x	x		1	-	-		+			
5 SB-5 @ 100'	12/22/2014	1220	s			1		x	~	~		-	-	-	-	-			
6 SB-5 @ 145'	12/22/2014	1310	S			1		X				-	-	-	-				
7 SB-5 @ 150'	12/22/2014	1315	s			1		0.00	v	~		-	-	-	-	-			
3	10202014	1010	5			-		X	X	X	-		-	-		-			
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Reg. Program / Clean-up Std	STATE	or Certs & I	Rose	01	VOCI	aval	& Certifica	1100				Constantion of the	College and the second						
TRRP DW NPDES LPST DryC	Cin FL TX GA NO AL NM Other	C SC NJ PA	OK LA	1 2		CLP /	AFCEE QAP	p		EDDs SEDD ER	PIMS	12222202	Labels ncomplete Unclear	1000000000	and the second s	Temp *	-	Lab Use Only Non-Conformances found?	YES NO N/A
Relinquished b	ру	Affiliatio	on	Ser 1	Date	1	Time		and the second se	ceived by	y	1 1 1 1 1	ation	Da	_	-		Samples intact upon arrival? Received on Wet loe?	
11		Basint	AV	12	1291	14	1453	5	V1.60	shu	6	MS	5	12/20	9/14	2:5	1	abeled with proper preservatives? Received within holding time?	
				_		_			MAK	Ilk		XU	100	127:	3011	414	171	Custody seals intact? /OCs rec'd w/o headspace?	
						_				,					''			Proper containers used? H verified-acceptable, excl VOCs?	
Laboratories: Hobbs 575-392	7550 0 11 11						_										R	Received on time to meet HTs?	

 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.O.C. Serial #

Final 1.000

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Execution of this document by client creates a legal and binding agreement between client and Xanco for analytical and testing services provided by Xanco to client under Xanco'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 Xanco remain the exclusive property of Xanco 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: 12/30/2014 02:17:00 PM

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

Work Order #: 499717

**Temperature Measuring device used :** 

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.5	
#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#:

Date: 12/30/2014

 Checklist completed by:
 Muschoah

 Kelsey Brooks
 Kelsey Brooks

 Checklist reviewed by:
 Muschoah

 Kelsey Brooks
 Kelsey Brooks

Date: 12/30/2014