Analytical Report 537479

for

Plains All American EH&S

Project Manager: Joel Lowry

Lynch Station

AR167190

06-OCT-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Table of Contents

06-OCT-16

Project Manager: **Joel Lowry**
Plains All American EH&S
1301 S. COUNTY ROAD 1150
Midland, TX 79706

Reference: XENCO Report No(s): **537479**
Lynch Station
Project Address:

Joel Lowry:

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) 537479. 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. 537479 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 537479

Plains All American EH&S, Midland, TX

Lynch Station

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WC #1	S	09-22-16 15:00		537479-001

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 537479

Plains All American EH&S, Midland, TX

Project Name: Lynch Station

Project Id: AR167190
Contact: Joel Lowry
Project Location:

Date Received in Lab: Fri Sep-23-16 02:57 pm
Report Date: 06-OCT-16
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	537479-001					
	Field Id:	WC #1					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Sep-22-16 15:00					
TCLP BTEX by SW 8260B SUB: TX104704215	***Extracted:***	Sep-29-16 13:00					
	Analyzed:	Sep-29-16 13:33					
	Units/RL:	mg/L RL					
Benzene		ND 0.00500					
TCLP Mercury by SW 7470A SUB: TX104704215	***Extracted:***	Oct-04-16 10:47					
	Analyzed:	Oct-04-16 14:52					
	Units/RL:	mg/L RL					
Mercury		ND 0.000200					
TCLP Metals by SW846 6010B SUB: TX104704215	***Extracted:***	Oct-04-16 10:30					
	Analyzed:	Oct-04-16 17:25					
	Units/RL:	mg/L RL					
Arsenic		ND 0.0500					
Barium		2.06 0.0500					
Cadmium		ND 0.0250					
Chromium		ND 0.0500					
Lead		ND 0.0500					
Selenium		ND 0.100					
Silver		ND 0.100					

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 537479

Plains All American EH&S, Midland, TX

Project Name: Lynch Station

Project Id: AR167190
Contact: Joel Lowry
Project Location:

Date Received in Lab: Fri Sep-23-16 02:57 pm
Report Date: 06-OCT-16
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	537479-001						
	Field Id:	WC #1						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Sep-22-16 15:00						
Flash Point (CC) SW-846 1010 SUB: TX104704215	***Extracted:***							
	Analyzed:	Sep-28-16 12:18						
	Units/RL:	Deg F	RL					
Flash Point		>180	75.0					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-30-16 09:00						
	Analyzed:	Sep-30-16 12:50						
	Units/RL:	mg/kg	RL					
Chloride		12.6	5.00					
Paint Filter Liquids Test by SW-9095	***Extracted:***							
	Analyzed:	Sep-30-16 10:00						
	Units/RL:							
Paint Filter		Pass	1.0					
Reactive Cyanide by SW 846-Section7.3.3 SUB: TX104704215	***Extracted:***	Sep-27-16 11:30						
	Analyzed:	Sep-27-16 14:10						
	Units/RL:	mg/kg	RL					
Cyanide		ND	0.250					
Reactive Sulfide by SW9034 SUB: TX104704215	***Extracted:***							
	Analyzed:	Sep-27-16 12:43						
	Units/RL:	mg/kg	RL					
Reactive Sulfide		ND	25.0					
pH by SM4500-H SUB: TX104704215	***Extracted:***							
	Analyzed:	Sep-29-16 16:42						
	Units/RL:	SU	RL					
pH		8.24						

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Lynch Station

Work Orders : 537479,

Project ID: AR167190

Lab Batch #: 3001010 **Sample:** 537479-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 09/29/16 13:33

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0534	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0548	0.0500	110	63-144	
Toluene-D8	0.0463	0.0500	93	80-117	

Lab Batch #: 3001010 **Sample:** 714369-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/29/16 13:14

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0566	0.0500	113	63-144	
Toluene-D8	0.0475	0.0500	95	80-117	

Lab Batch #: 3001010 **Sample:** 714369-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/29/16 11:38

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0504	0.0500	101	63-144	
Toluene-D8	0.0492	0.0500	98	80-117	

Lab Batch #: 3001010 **Sample:** 714369-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/29/16 11:57

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0500	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0543	0.0500	109	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Lynch Station

Work Orders : 537479,

Project ID: AR167190

Lab Batch #: 3001010 **Sample:** 537479-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 09/29/16 14:50

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0524	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0528	0.0500	106	63-144	
Toluene-D8	0.0495	0.0500	99	80-117	

Lab Batch #: 3001010 **Sample:** 537479-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/L **Date Analyzed:** 09/29/16 15:09

SURROGATE RECOVERY STUDY

TCLP BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0528	0.0500	106	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Lynch Station

Work Order #: 537479 **Project ID:** AR167190

Analyst: MNR **Date Prepared:** 09/30/2016 **Date Analyzed:** 09/30/2016

Lab Batch ID: 3001120 **Sample:** 714399-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	233	93	250	234	94	0	90-110	20	

Analyst: KCS **Date Prepared:** 09/27/2016 **Date Analyzed:** 09/27/2016

Lab Batch ID: 3000812 **Sample:** 714242-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Reactive Cyanide by SW 846-Section7.3.3 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
Cyanide	<1.25	20.0	2.34	12	20.0	2.39	12	2	5-40	20	

Analyst: YAV **Date Prepared:** 09/27/2016 **Date Analyzed:** 09/27/2016

Lab Batch ID: 3000836 **Sample:** 3000836-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Reactive Sulfide by SW9034 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
Reactive Sulfide	<25.0	50.0	48.0	96	50.0	44.0	88	9	30-120	20	

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

BS / BSD Recoveries

Project Name: Lynch Station

Work Order #: 537479 **Project ID:** AR167190

Analyst: JTR **Date Prepared:** 09/29/2016 **Date Analyzed:** 09/29/2016

Lab Batch ID: 3001010 **Sample:** 714369-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP BTEX by SW 8260B 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	<0.00500	0.500	0.508	102	0.500	0.503	101	1	66-142	20	

Analyst: DEP **Date Prepared:** 10/04/2016 **Date Analyzed:** 10/04/2016

Lab Batch ID: 3001318 **Sample:** 714523-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A 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
Mercury	<0.000200	0.00200	0.00208	104	0.00200	0.00205	103	1	80-120	20	

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

BS / BSD Recoveries

Project Name: Lynch Station

Work Order #: 537479 **Project ID:** AR167190

Analyst: DEP **Date Prepared:** 10/04/2016 **Date Analyzed:** 10/04/2016

Lab Batch ID: 3001348 **Sample:** 714529-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B 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
Arsenic	<0.0100	1.00	1.01	101	1.00	0.999	100	1	80-120	20	
Barium	<0.0100	1.00	1.03	103	1.00	1.02	102	1	80-120	20	
Cadmium	<0.00500	1.00	0.985	99	1.00	0.973	97	1	80-120	20	
Chromium	<0.0100	1.00	1.06	106	1.00	1.05	105	1	80-120	20	
Lead	<0.0100	1.00	1.01	101	1.00	1.00	100	1	80-120	20	
Selenium	<0.0200	1.00	1.02	102	1.00	1.02	102	0	80-120	20	
Silver	<0.0200	0.500	0.517	103	0.500	0.510	102	1	80-120	20	

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

Form 3 - MS / MSD Recoveries

Project Name: Lynch Station

Work Order # : 537479 **Project ID:** AR167190

Lab Batch ID: 3001120 **QC- Sample ID:** 536657-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2016 **Date Prepared:** 09/30/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	920	250	1160	96	250	1150	92	1	90-110	20	

Lab Batch ID: 3001120 **QC- Sample ID:** 537439-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2016 **Date Prepared:** 09/30/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 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
Chloride	4120	2500	6760	106	2500	6650	101	2	90-110	20	

Lab Batch ID: 3001010 **QC- Sample ID:** 537479-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/29/2016 **Date Prepared:** 09/29/2016 **Analyst:** JTR

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP BTEX by SW 8260B 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	<0.00500	0.500	0.502	100	0.500	0.493	99	2	66-142	20	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not 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: Lynch Station

Work Order # : 537479 **Project ID:** AR167190

Lab Batch ID: 3001318 **QC- Sample ID:** 537394-001 S **Batch #:** 1 **Matrix:** Solid

Date Analyzed: 10/04/2016 **Date Prepared:** 10/04/2016 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A 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
Mercury	<0.000200	0.00200	0.00223	112	0.00200	0.00206	103	8	75-125	20	

Lab Batch ID: 3001348 **QC- Sample ID:** 537781-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/04/2016 **Date Prepared:** 10/04/2016 **Analyst:** DEP

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B 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
Arsenic	<0.0500	5.00	5.23	105	5.00	5.18	104	1	75-125	20	
Barium	0.689	5.00	5.83	103	5.00	5.80	102	1	75-125	20	
Cadmium	<0.0250	5.00	5.04	101	5.00	5.00	100	1	75-125	20	
Chromium	<0.0500	5.00	5.46	109	5.00	5.50	110	1	75-125	20	
Lead	<0.0500	5.00	4.94	99	5.00	4.93	99	0	75-125	20	
Selenium	<0.100	5.00	5.37	107	5.00	5.39	108	0	75-125	20	
Silver	<0.100	2.50	2.66	106	2.50	2.64	106	1	75-125	20	

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

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

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

Sample Duplicate Recovery

Project Name: Lynch Station

Work Order #: 537479

Lab Batch #: 3000918 **Project ID:** AR167190
Date Analyzed: 09/28/2016 12:18 **Date Prepared:** 09/28/2016 **Analyst:** YAV
QC- Sample ID: 537213-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: Deg F

Flash Point (CC) SW-846 1010 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Flash Point	>180	>180	0	25	U

Lab Batch #: 3001106
Date Analyzed: 09/30/2016 10:00 **Date Prepared:** 09/30/2016 **Analyst:** WRU
QC- Sample ID: 537479-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units:

Paint Filter Liquids Test by SW-9095 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Paint Filter	Pass	Pass	0	20	U

Lab Batch #: 3000812
Date Analyzed: 09/27/2016 14:11 **Date Prepared:** 09/27/2016 **Analyst:** KCS
QC- Sample ID: 537479-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Reactive Cyanide by SW 846-Section7.3.3 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Cyanide	<0.250	<0.250	0	20	U

Lab Batch #: 3000836
Date Analyzed: 09/27/2016 12:43 **Date Prepared:** 09/27/2016 **Analyst:** YAV
QC- Sample ID: 537479-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Reactive Sulfide by SW9034 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Reactive Sulfide	<25.0	<25.0	0	20	U

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

Sample Duplicate Recovery

Project Name: Lynch Station

Work Order #: 537479

Lab Batch #: 3001020 **Project ID:** AR167190

Date Analyzed: 09/29/2016 16:42 **Date Prepared:** 09/29/2016 **Analyst:** YAV

QC- Sample ID: 537479-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: SU

pH by SM4500-H Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	8.24	8.21	0		

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

BRL - Below Reporting Limit

537479

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock
Project Manager: Joel Lowry
Sampler's Name: Joel Lowry
Project Number: AR167190
Project Name: Lynch Station

Laboratory: Xenco Laboratories
Address: 1211 W. Florida Ave. Midland, TX 79701 432-563-1800
Phone:
Contact: Joel Lowry
PO/SO #: Plains SRS No. 2016-135
Sampler's Signature: Joel Lowry

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 4.9 °C

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 4 oz Glass				ANALYSIS REQUESTED: TCLP 8RCRA Metals	TCLP Benzene 8021b	Ignitability	PCB	Paint Filter	Chloride E300		Lab Sample ID
S	9/22/2016	15:00	X		WC #1			2				X	X	X	X	X	X		

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Joel Lowry	9/22/16	9:00		9-23-16	9:00
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	9-23-16	1457		9.23.16	1457
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:
Please Email Results to
erin.loyd@terracon.com
joel.lowry@terracon.com

cjbryant@paapl.com

Matrix: WW-Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge
Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml = Glass wide mouth P/O - Plastic or other _____

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Plains All American EH&S

Date/ Time Received: 09/23/2016 02:57:00 PM

Work Order #: 537479

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.9	
#2 *Shipping container in good condition?	**N/A**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seal present on shipping container/ cooler?	**N/A**	
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#6 Custody Seals intact on sample bottles?	**N/A**	
#7 *Custody Seals Signed and dated?	**N/A**	
#8 *Chain of Custody present?	**Yes**	
#9 Sample instructions complete on Chain of Custody?	**Yes**	
#10 Any missing/extra samples?	**No**	
#11 Chain of Custody signed when relinquished/ received?	**Yes**	
#12 Chain of Custody agrees with sample label(s)?	**Yes**	
#13 Container label(s) legible and intact?	**Yes**	
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**	
#15 Samples in proper container/ bottle?	**Yes**	
#16 Samples properly preserved?	**Yes**	
#17 Sample container(s) intact?	**Yes**	
#18 Sufficient sample amount for indicated test(s)?	**Yes**	
#19 All samples received within hold time?	**Yes**	
#20 Subcontract of sample(s)?	**Yes**	Houston
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**	
#22 <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**	
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**	

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 09/26/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 09/26/2016

Plains All American EH&S
ATTN: Joel Lowry
1301 S. COUNTY ROAD 1150
Midland, TX 79706
432-683-5392

Sample Type:	Soil	Sample Date:	09/22/16
Sample Condition:	Intact/ Ambient deg C	Sample Time:	15:00
Lab ID#:	537479-001	Receiving Date:	09/23/16
Project Name:	Lynch Station	Analysis Date:	09/29/16
Project # :	AR167190	Analysis Time:	11:22
Project Location:		Field Code:	WC #1

Analysis Description	Analysis Results pCi/G	Analysis Error +/- 2s	Analysis Results Bq/G	Analysis Error +/- 2s	Analysis Test Method	Analysis Technician
Ra-226	<2.41	N/A	<.08	N/A	EPA 901.1M	KEB
Ra-228	<.96	N/A	<.03	N/A	EPA 901.1M	KEB
Pb-210	<3.76	N/A	<.07	N/A	EPA 901.1M	KEB
Th-228	<6.08	N/A	<.17	N/A	EPA 901.1M	KEB
Total Activity	0.00	N/A	0.00	N/A	EPA 901.1M	KEB

Notes:

Quality Assurance Review