District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Plains Pipeline, LP	Contact	Daniel Bryant
Address	3705 E. Hwy 158 Midland, TX 79706	Telephone No.	(432) 557-5865
Facility Name	Red Byrd #4	Facility Type	Pipeline

Surface Owner	Mineral Owner	Lease No.
Red Byrd		

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	12	20S	36E					Lea

Latitude N 32° 35' 33.3" **Longitude** W 103° 18' 50.1"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release Unknown	Volume Recovered Unknown
Source of Release 4" steel idled line	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 5/1/00
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
DEC 04 2008
HOBBS OCD

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

NOTE: This information was obtained from historical EOTT files, Plains acquired EOTT/Link on April 1, 2004 and Plains assumes this information to be correct.

LEGACY TRASH PIT

Describe Area Affected and Cleanup Action Taken.* .

Please see the attached Terracon *Soil Closure Compliance Report* for details of remedial activities conducted for site closure.

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

Signature: Daniel Bryant	OIL CONSERVATION DIVISION
Printed Name: Daniel Bryant	Approved by District Supervisor: ENVIRONMENTAL ENGINEER
Title: Environmental R/C Specialist	Approval Date: 12.4.08 Expiration Date: —
E-mail Address: dmbryant@paalp.com	Conditions of Approval: Attached ☐
Date: 12/4/08 Phone: (432) 557-5865	

* Attach Additional Sheets If Necessary

1RP-1873

Soil Closure Compliance Report

Red Byrd #4 - Monument
NW ¼ of NW ¼ Section 12, Township 20 South, Range 36 East
Lea County, New Mexico

Plains All American Leak Number 2000-10479
Terracon Project Number A4087064
Railroad Commission Job #1643

December 1, 2008

Prepared for:

Plains Pipeline, L.P.
3112 West US Highway 82
Lovington, New Mexico 88260

Prepared by:

Terracon

Midland, Texas

Distribution:

Copy 1: Plains – Midland, TX
Copy 2: Plains – Houston, TX
Copy 3: NMOCD – Hobbs, NM
Copy 4: Terracon – Midland, TX

Terracon
Consulting Engineers & Scientists

Terracon Consultants, Inc
24 Smith Road, Suite 261
Midland, Texas 79705
Phone 432.684.9600
Fax 432.684.9608
www terracon.com

December 1, 2008

Plains Pipeline, L.P.
3112 West US Highway 82
Lovington, NM 88260
Attn: Mr. Daniel Bryant

Telephone: (432) 686-1769

Re: Red Byrd # 4 - Monument
NW ¼ of NW ¼ Section 12, Township 20 South, Range 36 East
Plains Pipeline SRS Number 2000-10479
Lea County, New Mexico
Terracon Project Number A4087064

Dear Mr. Bryant:

Terracon is pleased to submit four copies of the Closure Compliance Report for the above referenced site.

We appreciate the opportunity to participate in the site remediation project at Red Byrd #4 - Monument site for Plains Pipeline, L.P. Please contact either of the undersigned at (432) 684-9600 if you have questions regarding the information provided in the report.

Sincerely,

Terracon

Prepared by:

Catharine Loudon

Clay McDonald
Office Manager

for Clay McDonald

Reviewed by:

Barrett W. Bole, P.G.
Operations Manager

Terracon

TABLE OF CONTENTS

LIST OF APPENDICES

Soil Closure Compliance Report

Red Byrd #4 - Monument
NW ¼ of NW ¼ Section 12, Township 20 South, Range 36 East
Plains Pipeline SRS Number 2000-10479
Lea County, New Mexico

Terracon Project Number A4087064

1.0 INTRODUCTION

The Red Byrd #4 - Monument project site is located approximately 6 miles west of Highway 8 near the town of Monument in Lea County, New Mexico and approximately 2 miles west of Maddox Road on Byrd Ranch Road. The leak site was located on property owned by Byrd Ranches. The site was discovered on May 1, 2000, with a reported ¼ acre of pastureland impacted by asphaltine material. At the time of the discovery, the three inch diameter pipeline was owned by Link Energy Partners, L. P. (Link) and was reported to be abandoned in place. The impacted area was deemed as a historical crude oil spill site.

A visual site assessment was conducted on April 29, 2008 by Plains and Terracon representatives. The decision was made to conduct a limited site investigation using a backhoe, prior to remedial activities, in an effort to evaluate the vertical and horizontal extent of soil contamination. A utility notification call was placed to identify unknown facilities in the area and a backhoe and crew was scheduled.

1.1 Site Description

Site Name	Red Byrd #4 - Monument
Site Location/GPS	The legal description of the site is the NW ¼ of the NW ¼, Section 12, Township 20 South, Range 36 East.
General Site Description	The immediate area surrounding the pipeline right-of-way is native pasture land.

A topographic map is included as Figure 1, a Site Investigation & Sample Locations map is included as Figure 2 and a Site Map & Sample Locations map is included as Figure 3 of Appendix A.

1.2 Scope of Services

The Scope of Services for Terracon as requested by Plains Pipeline included:

- Investigation and remediation of impacted soil;

- Subsequent to analytical data indicating adherence to NMOCD closure requirements, backfill and site restoration; and

- Submittal of a Soil Closure Compliance Report detailing field activities, site maps and photographs.

1.3 Regulatory Framework

Crude oil facilities in New Mexico are generally regulated by the NMOCD. Contamination of soil due to a surface release of crude oil is addressed within a NMOCD guideline titled *Guidelines for Remediation of Leaks, Spills and Releases*, dated August 13, 1993.

Soils which are impacted by petroleum constituents are scored according to the ranking criteria to determine their relative threat to public health, fresh water, and the environment. Such limits are defined by the depth to groundwater, wellhead protection area, and distance to surface water. Based on these ranking criteria, the remediation action level at this site is as follows:

Depth to Ground Water <50 feet Ranking Score = 20
(As defined as vertical distance from lowermost contaminants to seasonal high water level). Groundwater was not encountered during excavation activities; confirmation soil samples were collected approximately 24 to 36 inches below ground surface. According to information obtained from the New Mexico Tech groundwater database groundwater at the site is approximately 25 to 30 feet bgs.

Wellhead Protection Area	>1000' to water source >200' to domestic well	Ranking Score = 0
Distance to Surface Water	>1000 horizontal feet	Ranking Score = 0
		Total Ranking Score = 20

Based on total ranking criteria of 10, the remediation levels are as follows:

Benzene = 10 ppm
BTEX = 50 ppm
TPH = 100 ppm

Terracon

1.4 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report.

1.5 Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this remediation activities. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

1.6 Reliance

This report has been prepared for the exclusive use of Plains Pipeline, LP, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Plains Pipeline, LP and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in this report, and Terracon's Terms and Conditions. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

Terracon

2.0 FIELD ACTIVITIES

2.1 Site Investigation

On May 6, 2008 a backhoe was transported to the site to begin site investigation of the vertical and horizontal extent of the impacted surface soil. A series of test trenches, approximately 20 inches wide and ranging from 50 to 100 feet in length, were excavated through an area approximately 180 feet wide and 150 long. Total depth of the trenches ranged from 18 to 30 inches below ground surface (bgs). Based on a visual inspection of the trenches, it appeared the impact to surface soils ranged in depth from 12 to 18 inches bgs. Confirmation soil samples were collected from the bottom of each of the five test trenches and labeled T-1 through T-5. The soil samples were placed in laboratory provided glass jars with a custody seal, placed on ice and relinquished to Environmental Labs of Texas for analysis of BTEX (using EPA Method 8021B) and total petroleum hydrocarbons (TPH, using EPA Method 8015M). Laboratory results indicated TPH concentrations ranging from below laboratory detection limits in samples T-4 and T-5, to 85.4 mg/kg in sample T-3. The laboratory summary and data sheets are included in Appendix B & C.

2.2 Site Remediation

Based on the laboratory results from the site investigation activities, it appeared the impact to surface soil was limited to approximately 1,000 cubic yards of surface soil in an area approximately 115 feet long, 160 feet wide and 18 inches bgs. In consultation with the Plains representative, it was decided to excavate the impacted soil, transport it to the Plains Lea Station land-farm for remediation, and complete the site restoration activities using ambient soil provided by the landowner, Byrd Ranches. A soil sample of the impacted material was collected on May 30, 2008, placed in laboratory provided glass jars with a custody seal, placed on ice and relinquished to Environmental Labs of Texas for analysis of TCLP SVOC's, TCLP VOA's, flashpoint, chlorides, mercury, paint filter, moisture content, RCRA Metals, Cyanide, sulfates and ph (laboratory summary and data sheets are included in Appendix B & C). Laboratory results indicated the soil was acceptable to be transported to and remediated in a NMOCD approved land-farm.

On June 16, 2008, a front-loader and two 14-cubic yard dump trucks were mobilized to the site and excavation and transport of the impacted soil commenced. There was approximately 1,022 cubic yards of soil excavated and transported to the Plains, Lea Station land-farm. On June 17, 2008, confirmation soil samples were collected from the bottom of the excavated area and labeled CS-1 through CS-4. The soil samples were placed in laboratory provided glass jars with a custody seal, placed on ice and relinquished to Environmental Labs of Texas for analysis of BTEX and TPH. Laboratory results indicated TPH concentrations below laboratory detection limits in samples CS-1 and CS-2, 24.1 mg/kg in sample CS-3 and 19.9 mg/kg in sample CS-4. Laboratory results also

indicated benzene and BTEX concentrations below laboratory detection limits in samples CS-1 through CS-4 (laboratory summary and data sheets are included in Appendix B & C).

2.2 Site Restoration

Based on laboratory results indicating adherence to the NMOCD remediation levels, approximately 1,050 cubic yards of ambient soil from the Byrd Ranch was transported to the site. A front loader was utilized to backfill the excavated area and the site was restored as near possible to the surrounding topography.

3.0 FINDINGS AND CONCLUSIONS

The Plains Pipeline, Red Byrd #4 – Monument project site was investigated and remediated following the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, dated August 13, 1993. Based on a total ranking criteria of 20, the remediation levels were established as Benzene - 10 ppm, BTEX - 50 ppm and TPH - 100 ppm.

Terracon respectfully submits this closure compliance report to Plains Pipeline, L.P. as documentation of the site soil closure activities. Based on the results of our field activities and laboratory analyses, Terracon recommends that Plains Pipeline, L.P. submit this report to the New Mexico Oil Conservation Division as documentation that remediation was completed to NMOCD standards. Terracon further recommends Plains requests a "no further action" letter for closure of this project site.

Terracon

DISTRIBUTION

Copy 1:
Mr. Larry Johnson
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1625 French Drive
Hobbs, NM 88240

Copy 2:
Mr. Daniel Bryant
Plains Pipeline, L.P.
3705 E. State Highway 158
Midland, Texas 79706
dmbryant@paalp.com

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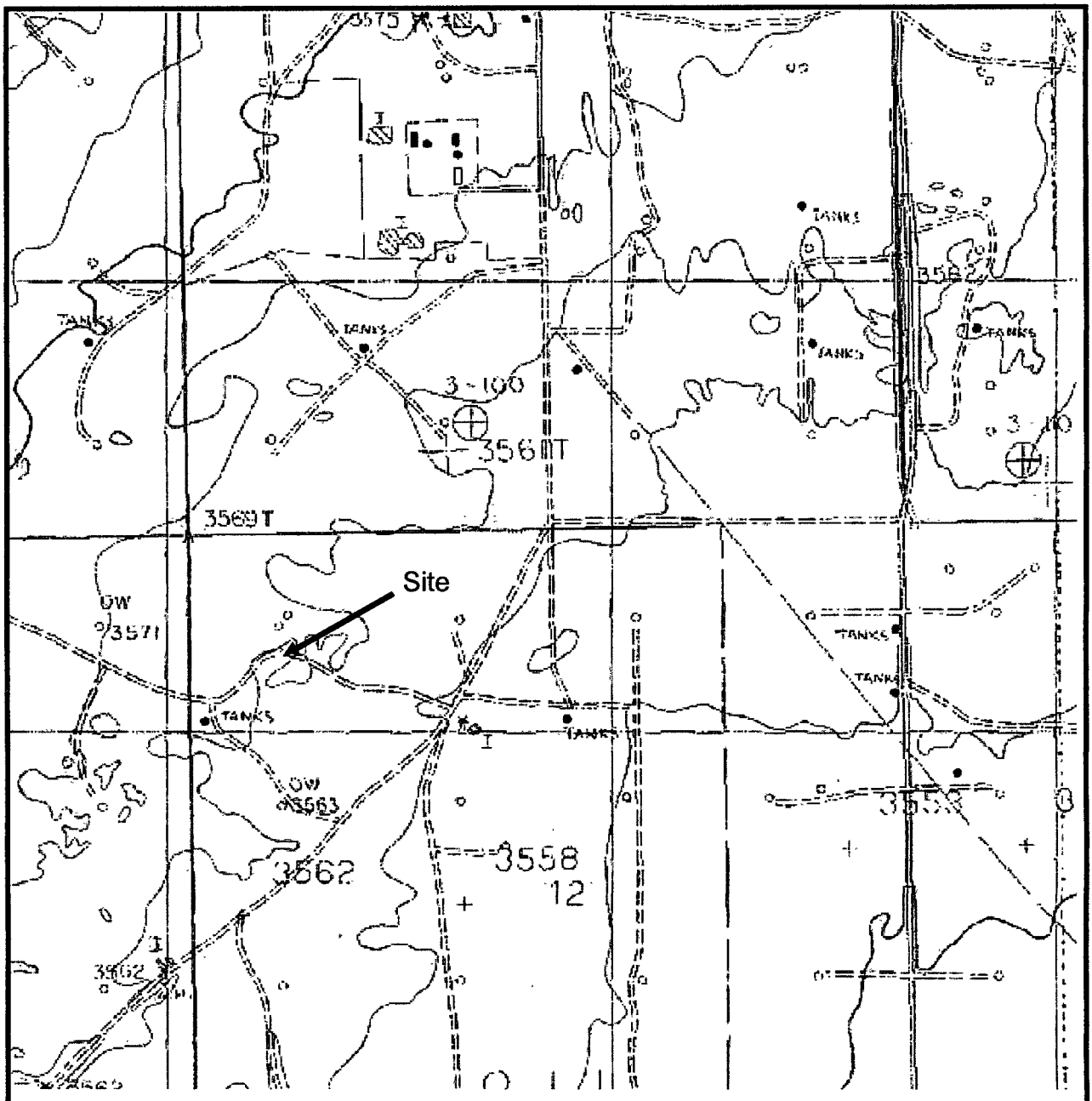
Copy 4:
Mr. Clay McDonald
Terracon Consultants, Inc.
24 Smith Road, Suite 261
Midland, TX 79705
camcdonald@terracon.com

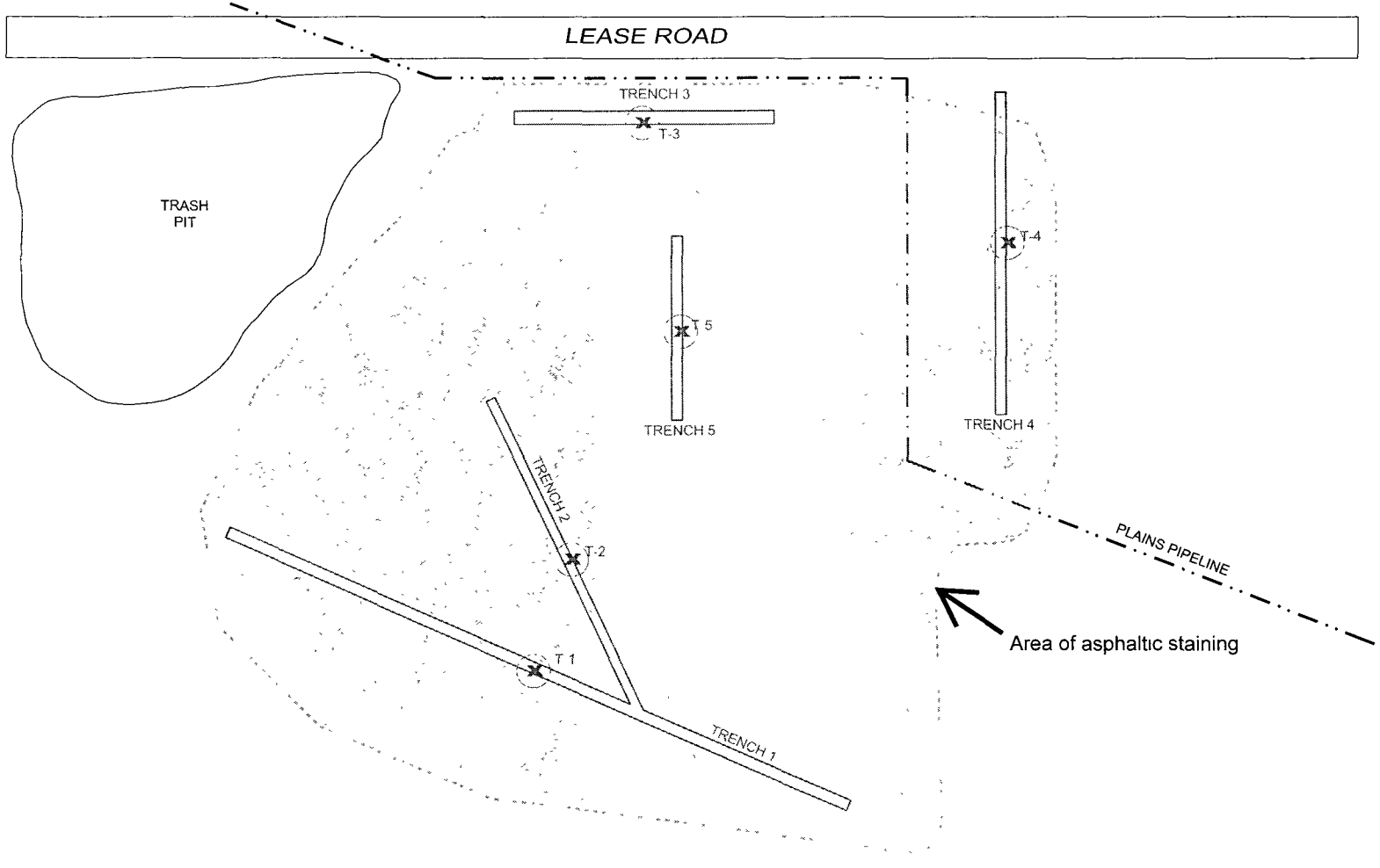
APPENDIX A

Figure 1 – Topographic Map
Figure 2 – Site Investigation and Confirmation Sample Location Map
Figure 3 – Site Plan and Confirmation Sample Location Map



USGS TOPOGRAPHIC QUADRANGLE MAP Monument South, NM			**Red Byrd #4 - Monument** Plains Pipeline, L.P. Lee County, NM
Dated: 1975 SCALE: 1" = 1,600'	N	Terracon	
Terracon Project No. A4087064			**FIGURE 1: Site Location Map**

Date: 11/10/08 O \HBC\MIDLAND\A4087064 dwg Layout F2



THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT

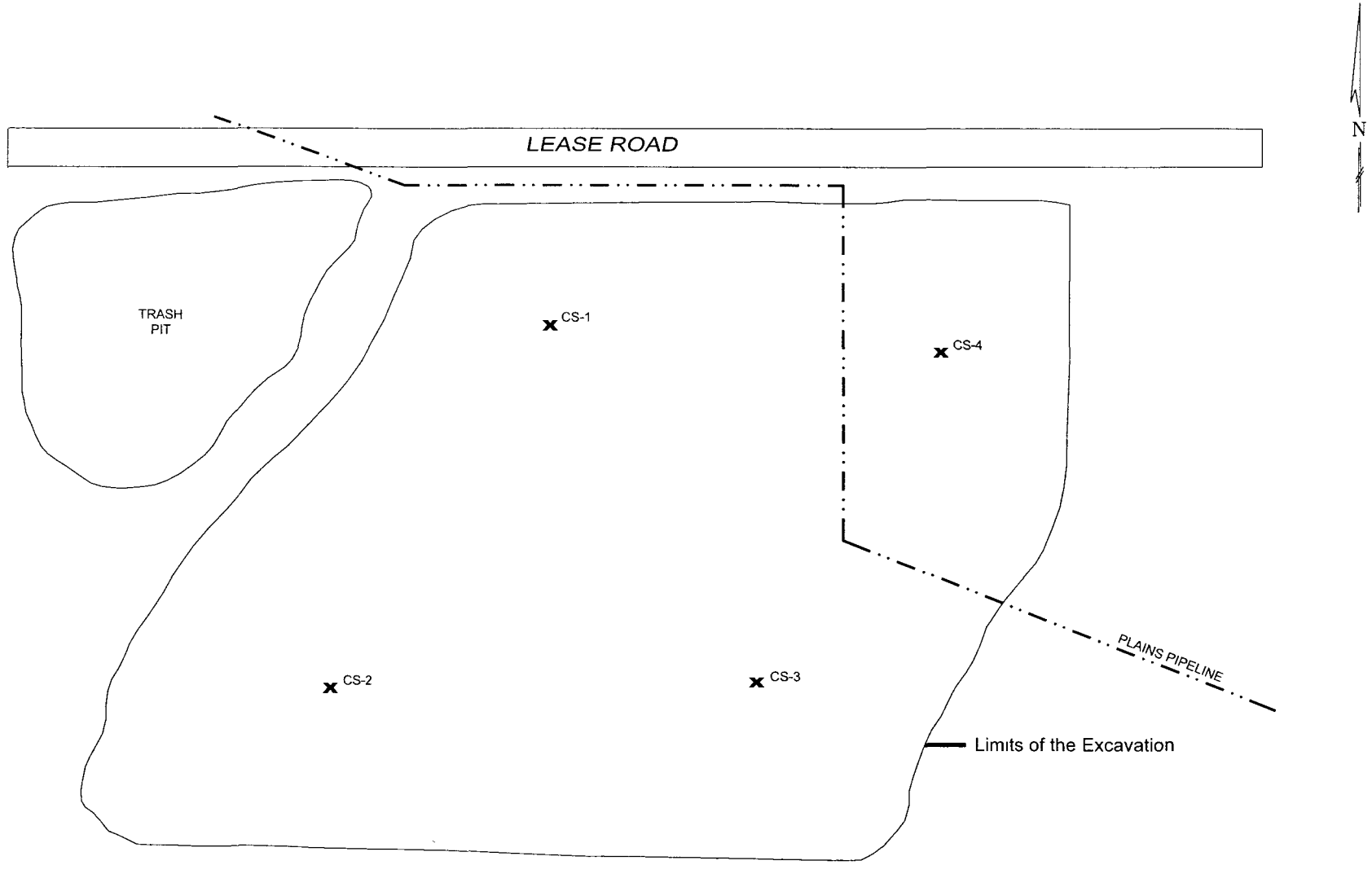
0 15 30 FEET
APPROXIMATE SCALE

PLAINS PIPELINE L.P.
RED BYRD #4 - MONUMENT
LEA COUNTY, NEW MEXICO
SRS# 2000-10479

Terracon **Project No.: A4087064**

FIGURE 2: SITE INVESTIGATION & SAMPLE LOCATIONS MAP

Date 11/10/08 O \HBC\MIDLAND\A4087064 dwg Layout F1



THIS DRAWING SHOULD NOT BE USED SEPARATELY FROM ORIGINAL REPORT.

0 15 30 FEET
APPROXIMATE SCALE

PLAINS PIPELINE L.P.
RED BYRD #4 - MONUMENT
LEA COUNTY, NEW MEXICO
SRS# 2000-10479

Terracon **Project No.: A4087064**

FIGURE 3: SITE & SAMPLE LOCATIONS MAP

APPENDIX B

Tables

TABLE 1

SUMMARY OF SOIL BTEX AND TPH ANALYTICAL RESULTS
Red Byrd #4 - Monument
Monument Lea County, New Mexico
Plains Pipeline, L. P. SRS Number 2000-10479
Terracon Project Number A4087064

(all concentrations are in milligrams per kilogram)

Sample ID	Sample Date	Sample Depth	Soil Status	BTEX EPA Method 8021B						Total Petroleum Hydrocarbons EPA Method 8015M			
				Benzene	Toluene	Ethylbenzene	Xylene (p/m)	Xylene (o)	Total BTEX	Carbon Ranges C_6 - C_{12}	Carbon Ranges C_{12} - C_{28}	Carbon Ranges C_{28} - C_{35}	Total Hydrocarbons
T-1	05/06/08	24"	In-Situ	na	na	na	na	na	na	<17.4	41.2	35.3	76.5
T-2	05/06/08	24"	In-Situ	na	na	na	na	na	na	<18 2	50.8	34.9	85.7
T-3	05/06/08	24"	In-Situ	na	na	na	na	na	na	<18.9	50.8	34.6	85.4
T-4	05/06/08	24"	In-Situ	na	na	na	na	na	na	<16.4	<16.4	<16.4	ND
T-5	05/06/08	24"	In-Situ	<0.014	<0.028	<0 014	<0.028	<0.014	ND	<21.3	<21 3	<21.3	ND
CS-1	06/01/07	24"	In-Situ	<0.011	<0 022	<0.011	<0 022	<0.011	ND	<16 8	<16.8	<16.8	ND
CS-2	06/01/07	24"	In-Situ	<0.011	<0 022	<0 011	<0.022	<0 011	ND	<16.7	<16 7	<16.7	ND
CS-3	06/01/07	24"	In-Situ	<0.011	<0 023	<0.011	<0.023	<0 011	ND	<17.1	24.1	<17.1	24.1
CS-4	06/01/07	24"	In-Situ	<0.011	<0.021	<0 011	<0 021	<0.011	ND	<15 9	19 9	<15.9	19 9
NMOCD Remediation Limits				**10**					**50**				**100**

EPA - United States Environmental Protection Agency
NMOCD - New Mexico Oil Conservation Division
na - Sample not analyzed for this consituent
Soil Remediation Limits were determined using the NMOCD Guidelines for Remediation of Leaks, Spills and Releases dated August 13, 1993.
ND - Analyte not detected above laboratory detection limits

*Prepared by/date*_____
*Checked by/date*_____

TABLE 2

SUMMARY OF LAND-FARM SOIL ANALYTICAL RESULTS
SAMPLE ID: LF smpl
Red Byrd #4 - Monument
Monument Lea County, New Mexico
Plains Pipeline, L. P. SRS Number 2000-10479
Terracon Project Number A4087064

Analysis	Results
TCLP SVOC'S by EPA 8270C	
1,4 Dichlorobenzene	ND
2,4 Dinitrotolunene	ND
Hexachlorobenzene	ND
Hexachlorobutadiene	ND
Hexachloroethane	ND
2-methylphenol	ND
3&4-methylphenol	ND
Nitrobenzene	ND
Pentachlorophenol	ND
Pyridine	ND
2,4,5-Trichlorophenol	ND
2,4,6-Trichlorophenol	ND

Analysis	Results
TCLP VOA'S by EPA 8260B	
Benzene	0.431
2-Butanone	ND
Carbon Tetrachloride	ND
Chlorobenzene	ND
Chloroform	ND
1,4 Dichlorobenzene	0.313
1,2- Dichloroethane	ND
1,1- Dichloroethene	ND
Tetrachloroethene	ND
Vinylchloride	ND

Analysis	Results
Flash Point (CC) SW-846 1010	>150
Inorganic Anions by EPA 300	ND
Mercury by SW 7471A	ND
Paint Filter Liquid Test, SW-9095	PASS
Percent Moisture	0.24
Reactive Cyanide by EPA 9010	ND
Reactive Sulfide by W-9030B	ND
Soil ph by EPA 9045C	6.17

RCRA Metals by SW846-6010B	
Lead	ND
Barium	16.00
Selenium	ND
Arsenic	2.82
Chromium	4.33
Cadmium	ND
Silver	ND

ND - Analyte not detected above laboratory detection limits

APPENDIX C

Laboratory Data Sheets

Analytical Report 303351

for

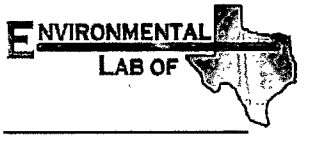
PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Red Byrd # 4 - Monument

2000-10479

14-MAY-08



12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

14-MAY-08

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

Reference: XENCO Report No: **303351**
Red Byrd # 4 - Monument
Project Address:

Camille Reynolds:

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 303351. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 303351 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 303351

PLAINS ALL AMERICAN EH&S, Midland, TX

Red Byrd # 4 - Monument

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1	S	May-06-08 13:00		303351-001
T-2	S	May-06-08 13:20		303351-002
T-3	S	May-06-08 13:40		303351-003
T-4	S	May-06-08 14:00		303351-004
T-5	S	May-06-08 14:20		303351-005

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 303351

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Red Byrd # 4 - Monument

Project Id: 2000-10479
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Wed May-07-08 04:30 pm
Report Date: 14-MAY-08
Project Manager: Brent Barron, II

Analysis Requested											
	Lab Id:	303351-001		303351-002		303351-003		303351-004		303351-005	
	Field Id:	T-1		T-2		T-3		T-4		T-5	
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-06-08 13:00		May-06-08 13:20		May-06-08 13:40		May-06-08 14:00		May-06-08 14:20	
BTEX by EPA 8021B	*Extracted:*									May-14-08 09:57	
	Analyzed:									May-14-08 16:04	
	Units/RL:									mg/kg	RL
Benzene										ND	0.0014
Toluene										ND	0.0028
Ethylbenzene										ND	0.0014
m,p-Xylenes										ND	0.0028
o-Xylene										ND	0.0014
Xylenes, Total										ND	
Total BTEX										ND	
Percent Moisture	*Extracted:*										
	Analyzed:	May-08-08 17:00		May-08-08 17:00		May-08-08 17:00		May-08-08 17:00		May-08-08 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		14		17.4		20.4		8.48		29.4	
TPH by SW8015 Mod	*Extracted:*	May-08-08 12:03		May-08-08 12:03		May-08-08 12:03		May-08-08 12:03		May-08-08 12:03	
	Analyzed:	May-08-08 12:10		May-08-08 12:36		May-08-08 13:02		May-08-08 13:28		May-08-08 13:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	17.4	ND	18.2	ND	18.9	ND	16.4	ND	21.3
C12-C28 Diesel Range Hydrocarbons		41.2	17.4	50.8	18.2	50.8	18.9	ND	16.4	ND	21.3
C28-C35 Oil Range Hydrocarbons		35.3	17.4	34.9	18.2	34.6	18.9	ND	16.4	ND	21.3
Total TPH		76.5		85.7		85.4		ND		ND	

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Red Byrd # 4 - Monument

Work Order #: 303351 **Project ID:** 2000-10479

Lab Batch #: 722613 **Sample:** 303351-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 722613 **Sample:** 509029-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 722613 **Sample:** 509029-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 722613 **Sample:** 509029-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 722227 **Sample:** 303351-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	100	77	70-135	
o-Terphenyl	41.6	50.0	83	70-135	

** 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: Red Byrd # 4 - Monument

Work Order #: 303351 **Project ID:** 2000-10479

Lab Batch #: 722227 **Sample:** 303351-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.8	100	82	70-135	
o-Terphenyl	39.0	50.0	78	70-135	

Lab Batch #: 722227 **Sample:** 303351-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-135	
o-Terphenyl	42.2	50.0	84	70-135	

Lab Batch #: 722227 **Sample:** 303351-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	100	76	70-135	
o-Terphenyl	40.7	50.0	81	70-135	

Lab Batch #: 722227 **Sample:** 303351-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.6	100	77	70-135	
o-Terphenyl	41.4	50.0	83	70-135	

Lab Batch #: 722227 **Sample:** 303351-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.7	100	72	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

** 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: Red Byrd # 4 - Monument

Work Order #: 303351 **Project ID:** 2000-10479

Lab Batch #: 722227 **Sample:** 303351-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	75.6	100	76	70-135	
o-Terphenyl	40.7	50.0	81	70-135	

Lab Batch #: 722227 **Sample:** 508805-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	100	77	70-135	
o-Terphenyl	36.7	50.0	73	70-135	

Lab Batch #: 722227 **Sample:** 508805-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	71.0	100	71	70-135	
o-Terphenyl	38.8	50.0	78	70-135	

Lab Batch #: 722227 **Sample:** 508805-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.3	100	77	70-135	
o-Terphenyl	36.4	50.0	73	70-135	

** 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: Red Byrd # 4 - Monument

Work Order #: 303351 **Project ID:** 2000-10479

Analyst: SHE **Date Prepared:** 05/14/2008 **Date Analyzed:** 05/14/2008

Lab Batch ID: 722613 **Sample:** 509029-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	ND	0.1000	0.0863	86	0.1	0.0764	76	12	70-130	35	
Toluene	ND	0.1000	0.0908	91	0.1	0.0800	80	13	70-130	35	
Ethylbenzene	ND	0.1000	0.1006	101	0.1	0.0884	88	13	71-129	35	
m,p-Xylenes	ND	0.2000	0.2111	106	0.2	0.1859	93	13	70-135	35	
o-Xylene	ND	0.1000	0.1011	101	0.1	0.0893	89	12	71-133	35	

Analyst: ASA **Date Prepared:** 05/08/2008 **Date Analyzed:** 05/08/2008

Lab Batch ID: 722227 **Sample:** 508805-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	ND	1000	987	99	1000	997	100	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	869	87	1000	864	86	1	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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: Red Byrd # 4 - Monument

Work Order # : 303351 **Project ID:** 2000-10479

Lab Batch ID: 722227 **QC- Sample ID:** 303351-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/08/2008 **Date Prepared:** 05/08/2008 **Analyst:** ASA

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	ND	1160	1160	100	1160	1270	109	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	41.2	1160	986	81	1160	1080	90	11	70-135	35	

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

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

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

Sample Duplicate Recovery

Project Name: Red Byrd # 4 - Monument

Work Order #: 303351

Lab Batch #: 722164 **Project ID:** 2000-10479

Date Analyzed: 05/08/2008 **Date Prepared:** 05/08/2008 **Analyst:** JLG

QC- Sample ID: 303351-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	14.0	14.4	3	20	

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

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX
Project Manager: C M
Sampler's Name: Lance Lightfoot
Sampler's Signature: [signature]

Laboratory: ELOT
Address:
Contact:
Phone:
PO/SO #: 2000-10479

Lab use only
Due Date:
Temp of coolers when received (C°): -1.0
Page 1 of 1

Proj. No.: A4087064
Project Name: Red Byrd #4-Monument
No/Type of Containers: 5 40z/glass

ANALYSIS REQUESTED: TPH 8015 Mod. | BTEX 8021 b

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	P/O	Lab Sample ID (Lab Use Only)
S	5-7-08	13:00		X	T-1							303521-01
		13:20		X	T-2							-02
		13:40		X	T-3							-03
		14:00		X	T-4							-04
		14:20		X	T-5							-05

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	5-7-08	16:30			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) [signature]	Date: 5-7-08	Time: 16 30

NOTES: Camiel B. w/plats
Terracon
w/labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SD - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office
11555 Clay Road, Suite 100
Houston, Texas 77043
(713) 690-8989 Fax (713) 690-8787

Dallas Office
8901 Carpenter Freeway, Suite 100
Dallas, Texas 75247
(214) 630-1010 Fax (214) 630-7070

Fort Worth Office
2601 Gravel Drive
Fort Worth, Texas 76118
(817) 268-8600 Fax (817) 268-8602

Austin Office
5307 Industrial Oaks Blvd. # 160
Austin, Texas 78735
(512) 442-1122 Fax (512) 442-1181

Midland Office
24 Smith Rd., # 261
Midland, Texas 79705
(432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon / Plains

Date/ Time: 5 10 08 10 30

Lab ID #: 303351

Initials: CL

Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	-1.0 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Analytical Report 305015

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Red Byrd # 4

2000-10479

10-JUN-08

ENVIRONMENTAL LAB OF

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

10-JUN-08

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

Reference: XENCO Report No: **305015**
Red Byrd # 4
Project Address:

Camille Reynolds:

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 305015. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 305015 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 305015

PLAINS ALL AMERICAN EH&S, Midland, TX

Red Byrd # 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
LF Smpl	S	May-30-08 12:40		305015-001

Version: 1.016

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 305015
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Red Byrd # 4

Project Id: 2000-10479
Contact: Camille Reynolds
Project Location:

Date Received in Lab: May-30-08 04:15 pm
Report Date: 10-JUN-08
Project Manager: Brent Barron, II

Analysis Requested					
	Lab Id:	305015-001			
	Field Id:	LF Smpl			
	Depth:				
	Matrix:	SOIL			
	Sampled:	May-30-08 12:40			
TCLP SVOCs by EPA 8270C	***Extracted:***	Jun-05-08 08:18			
	Analyzed:	Jun-05-08 17:12			
	Units/RL:	mg/L	RL		
1,4-Dichlorobenzene		ND	0.020		
2,4-Dinitrotoluene		ND	0.020		
Hexachlorobenzene		ND	0.020		
Hexachlorobutadiene		ND	0.020		
Hexachloroethane		ND	0.020		
2-methylphenol		ND	0.020		
3&4-Methylphenol		ND	0.020		
Nitrobenzene		ND	0.020		
Pentachlorophenol		ND	0.020		
Pyridine		ND	0.020		
2,4,5-Trichlorophenol		ND	0.020		
2,4,6-Trichlorophenol		ND	0.020		
TCLP VOAs by EPA 8260B	***Extracted:***	Jun-05-08 10:20			
	Analyzed:	Jun-05-08 17:36			
	Units/RL:	mg/L	RL		
Benzene		0.431	0.250		
2-Butanone		ND	2.50		
Carbon Tetrachloride		ND	0.250		
Chlorobenzene		ND	0.250		
Chloroform		ND	0.250		
1,4-Dichlorobenzene		0.313	0.250		
1,2-Dichloroethane		ND	0.250		
1,1-Dichloroethene		ND	0.250		
Tetrachloroethylene		ND	0.250		
Trichloroethene		ND	0.250		
Vinyl Chloride		ND	0.100		

Brent Barron
Odessa Laboratory Director

ENVIRONMENTAL LAB OF

Certificate of Analysis Summary 305015
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Red Byrd # 4

Project Id: 2000-10479
Contact: Camille Reynolds
Project Location:

Date Received in Lab: May-30-08 04:15 pm
Report Date: 10-JUN-08
Project Manager: Brent Barron, II

Analysis Requested					
	Lab Id:	305015-001			
	Field Id:	LF Smpl			
	Depth:				
	Matrix:	SOIL			
	Sampled:	May-30-08 12:40			
Flash Point (CC) SW-846 1010	***Extracted:***				
	Analyzed:	Jun-03-08 11:41			
	Units/RL:	Deg F	RL		
Flash Point		> 150	50.0		
Inorganic Anions by EPA 300	***Extracted:***				
	Analyzed:	Jun-05-08 09:29			
	Units/RL:	mg/kg	RL		
Chloride		ND	5.00		
Mercury by SW 7471A	***Extracted:***				
	Analyzed:	Jun-05-08 12:38			
	Units/RL:	ug/kg	RL		
Mercury		ND	12.50		
Paint Filter Liquids Test by SW-9095	***Extracted:***				
	Analyzed:	Jun-03-08 13:35			
	Units/RL:				
Paint Filter		PASS			
Percent Moisture	***Extracted:***				
	Analyzed:	Jun-06-08 17:00			
	Units/RL:	%	RL		
Percent Moisture		.241			
RCRA Metals by SW846-6010B	***Extracted:***				
	Analyzed:	Jun-05-08 12:57			
	Units/RL:	mg/kg	RL		
Lead		ND	0.600		
Barium		16.0	0.500		
Selenium		ND	0.500		
Arsenic		2.82	0.500		
Chromium		4.33	0.250		
Cadmium		ND	0.250		
Silver		ND	0.200		
Reactive Cyanide by EPA 9010	***Extracted:***				
	Analyzed:	Jun-10-08 10:00			
	Units/RL:	mg/kg	RL		
Cyanide		ND	0.200		

Brent Barron
Odessa Laboratory Director

Certificate of Analysis Summary 305015
PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Red Byrd # 4

Project Id: 2000-10479
Contact: Camille Reynolds
Project Location:

Date Received in Lab: May-30-08 04:15 pm
Report Date: 10-JUN-08
Project Manager: Brent Barron, II

Analysis Requested					
	Lab Id:	305015-001			
	Field Id:	LF Smpl			
	Depth:				
	Matrix:	SOIL			
	Sampled:	May-30-08 12:40			
Reactive Sulfide by SW 9030B	***Extracted:***				
	Analyzed:	Jun-05-08 11:15			
	Units/RL:	mg/kg	RL		
Sulfide		ND	50.0		
Soil pH by EPA 9045C	***Extracted:***				
	Analyzed:	Jun-03-08 13:50			
	Units/RL:	SU	RL		
pH		6.17			

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Lab Batch #: 724606 **Sample:** 305015-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L

TCLP SVOCs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.045	0.100	45	43-116	
2-Fluorophenol	0.031	0.100	31	21-100	
Nitrobenzene-d5	0.040	0.100	40	35-114	
Phenol-d6	0.026	0.100	26	10-94	
Terphenyl-D14	0.077	0.100	77	33-141	
2,4,6-Tribromophenol	0.079	0.100	79	10-123	

Lab Batch #: 724606 **Sample:** 510146-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

TCLP SVOCs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.039	0.050	78	43-116	
2-Fluorophenol	0.020	0.050	40	21-100	
Nitrobenzene-d5	0.039	0.050	78	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.047	0.050	94	33-141	
2,4,6-Tribromophenol	0.047	0.050	94	10-123	

Lab Batch #: 724606 **Sample:** 510146-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

TCLP SVOCs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.093	0.100	93	43-116	
2-Fluorophenol	0.068	0.100	68	21-100	
Nitrobenzene-d5	0.093	0.100	93	35-114	
Phenol-d6	0.052	0.100	52	10-94	
Terphenyl-D14	0.101	0.100	101	33-141	
2,4,6-Tribromophenol	0.108	0.100	108	10-123	

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.016

Form 2 - Surrogate Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Lab Batch #: 724606 **Sample:** 510146-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L

TCLP SVOCs by EPA 8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.041	0.050	82	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.039	0.050	78	35-114	
Phenol-d6	0.014	0.050	28	10-94	
Terphenyl-D14	0.045	0.050	90	33-141	
2,4,6-Tribromophenol	0.043	0.050	86	10-123	

Lab Batch #: 724700 **Sample:** 305015-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/L

TCLP VOAs by EPA 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	86-115	
Dibromofluoromethane	0.0484	0.0500	97	86-118	
1,2-Dichloroethane-D4	0.0529	0.0500	106	80-120	
Toluene-D8	0.0466	0.0500	93	88-110	

Lab Batch #: 724700 **Sample:** 305015-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/L

TCLP VOAs by EPA 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0474	0.0500	95	86-115	
Dibromofluoromethane	0.0541	0.0500	108	86-118	
1,2-Dichloroethane-D4	0.0513	0.0500	103	80-120	
Toluene-D8	0.0570	0.0500	114	88-110	**

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.016

Form 2 - Surrogate Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Lab Batch #: 724700 **Sample:** 305015-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/L

TCLP VOAs by EPA 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0537	0.0500	107	86-115	
Dibromofluoromethane	0.0554	0.0500	111	86-118	
1,2-Dichloroethane-D4	0.0537	0.0500	107	80-120	
Toluene-D8	0.0492	0.0500	98	88-110	

Lab Batch #: 724700 **Sample:** 510201-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L

TCLP VOAs by EPA 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0466	0.0500	93	86-115	
Dibromofluoromethane	0.0501	0.0500	100	86-118	
1,2-Dichloroethane-D4	0.0494	0.0500	99	80-120	
Toluene-D8	0.0462	0.0500	92	88-110	

Lab Batch #: 724700 **Sample:** 510201-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L

TCLP VOAs by EPA 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0520	0.0500	104	86-115	
Dibromofluoromethane	0.0493	0.0500	99	86-118	
1,2-Dichloroethane-D4	0.0542	0.0500	108	80-120	
Toluene-D8	0.0460	0.0500	92	88-110	

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.016

Blank Spike Recovery

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Lab Batch #: 724479 **Sample:** 724479-1-BKS **Matrix:** Solid
Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** LATCOR
Reporting Units: mg/kg **Batch #:** 1

Inorganic Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Chloride	ND	10.0	9.02	90	75-125	

Lab Batch #: 724550 **Sample:** 724550-1-BKS **Matrix:** Solid
Date Analyzed: 06/10/2008 **Date Prepared:** 06/10/2008 **Analyst:** WRU
Reporting Units: mg/kg **Batch #:** 1

Reactive Cyanide by EPA 9010 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Cyanide	ND	5.00	4.38	88	80-120	

Lab Batch #: 724536 **Sample:** 724536-1-BKS **Matrix:** Solid
Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** WRU
Reporting Units: mg/kg **Batch #:** 1

Reactive Sulfide by SW 9030B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
		BLANK /BLANK SPIKE RECOVERY STUDY				
Sulfide	ND	1000	1120	112	60-120	

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

Version: 1.016

Blank Spike Recovery

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Lab Batch #: 724700 **Sample:** 510201-1-BKS **Matrix:** Water

Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:**

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

TCLP VOAs by EPA 8260B Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.050	0.054	108	66-142	
2-Butanone	ND	0.500	0.494	99	60-140	
Carbon Tetrachloride	ND	0.050	0.049	98	62-125	
Chlorobenzene	ND	0.050	0.054	108	60-133	
Chloroform	ND	0.050	0.050	100	74-125	
1,4-Dichlorobenzene	ND	0.050	0.051	102	75-125	
1,2-Dichloroethane	ND	0.050	0.050	100	68-127	
1,1-Dichloroethene	ND	0.050	0.050	100	59-172	
Tetrachloroethylene	ND	0.050	0.047	94	71-125	
Trichloroethene	ND	0.050	0.048	96	62-137	
Vinyl Chloride	ND	0.050	0.051	102	75-125	

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

Version: 1.016

BS / BSD Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Analyst: LATCOR **Date Prepared:** 06/05/2008 **Date Analyzed:** 06/05/2008

Lab Batch ID: 724517 **Sample:** 724517-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: ug/kg

Mercury by SW 7471A	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Mercury	ND	1.000	1.010	101	1	1.080	108	7	75-125	25	

Analyst: LATCOR **Date Prepared:** 06/05/2008 **Date Analyzed:** 06/05/2008

Lab Batch ID: 724520 **Sample:** 724520-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

RCRA Metals by SW846-6010B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Arsenic	ND	0.800	0.793	99	0.8	0.796	100	0	75-125	20	
Barium	ND	0.200	0.191	96	0.2	0.198	99	4	75-125	20	
Cadmium	ND	0.200	0.191	96	0.2	0.200	100	5	75-125	20	
Chromium	ND	0.200	0.195	98	0.2	0.197	99	1	75-125	20	
Lead	ND	1.10	1.12	102	1.1	1.11	101	1	75-125	20	
Selenium	ND	0.400	0.434	109	0.4	0.418	105	4	75-125	20	
Silver	ND	0.080	0.075	94	0.08	0.076	95	1	75-125	20	

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

Version: 1.016

BS / BSD Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015 **Project ID:** 2000-10479

Analyst: QIB **Date Prepared:** 06/05/2008 **Date Analyzed:** 06/05/2008

Lab Batch ID: 724606 **Sample:** 510146-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

TCLP SVOCs by EPA 8270C Analytes	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
	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
1,4-Dichlorobenzene	ND	0.050	0.035	70	0.05	0.037	74	6	19-121	28	
2,4-Dinitrotoluene	ND	0.050	0.044	88	0.05	0.047	94	7	22-135	38	
Hexachlorobenzene	ND	0.050	0.041	82	0.05	0.040	80	2	46-133	25	
Hexachlorobutadiene	ND	0.050	0.036	72	0.05	0.038	76	5	44-125	25	
Hexachloroethane	ND	0.050	0.034	68	0.05	0.036	72	6	25-153	25	
2-methylphenol	ND	0.050	0.030	60	0.05	0.031	62	3	14-176	25	
3&4-Methylphenol	ND	0.100	0.057	57	0.1	0.059	59	3	14-176	25	
Nitrobenzene	ND	0.050	0.036	72	0.05	0.038	76	5	65-135	25	
Pentachlorophenol	ND	0.050	0.040	80	0.05	0.040	80	0	17-117	50	
Pyridine	ND	0.050	0.011	22	0.05	0.012	24	9	16-86	28	
2,4,5-Trichlorophenol	ND	0.050	0.041	82	0.05	0.042	84	2	65-135	25	
2,4,6-Trichlorophenol	ND	0.050	0.040	80	0.05	0.043	86	7	65-135	25	

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

Version: 1.016

Form 3 - MS Recoveries

Project Name: Red Byrd # 4

Work Order #: 305015

Lab Batch #: 724479 **Project ID:** 2000-10479

Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** LATCOR

QC- Sample ID: 304950-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	130	125	96	75-125	

Lab Batch #: 724517

Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** LATCOR

QC- Sample ID: 305015-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: ug/kg

Mercury by SW 7471A	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Mercury	ND	50.00	58.50	117	75-125	

Lab Batch #: 724520

Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** LATCOR

QC- Sample ID: 305015-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

RCRA Metals by SW846-6010B	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Silver	ND	4.00	ND	0	75-125	X
Chromium	4.33	10.0	9.32	50	75-125	X
Lead	ND	55.0	41.2	75	75-125	
Selenium	ND	20.0	21.1	106	75-125	
Barium	16.0	10.0	25.5	95	75-125	
Arsenic	2.82	40.0	32.4	74	75-125	X
Cadmium	ND	10.0	7.88	79	75-125	

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

Version: 1.016

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Form 3 - MS / MSD Recoveries

Project Name: Red Byrd # 4

ACCREDITED IN ACCORDANCE WITH nelac

Work Order # : 305015 **Project ID:** 2000-10479

Lab Batch ID: 724700 **QC- Sample ID:** 305015-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:**

Reporting Units: mg/L

TCLP VOAs by EPA 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.431	2.50	5.83	216	2.50	5.83	216	0	66-142	21	X
2-Butanone	ND	25.0	26.6	106	25.0	26.9	108	2	60-140	20	
Carbon Tetrachloride	ND	2.50	2.62	105	2.50	2.70	108	3	62-125	20	
Chlorobenzene	ND	2.50	4.64	186	2.50	4.81	192	3	60-133	21	X
Chloroform	ND	2.50	2.94	118	2.50	2.81	112	5	74-125	20	
1,4-Dichlorobenzene	0.313	2.50	5.43	205	2.50	4.37	162	23	75-125	20	XF
1,2-Dichloroethane	ND	2.50	3.09	124	2.50	2.85	114	8	68-127	20	
1,1-Dichloroethene	ND	2.50	3.13	125	2.50	2.70	108	15	59-172	22	
Tetrachloroethylene	ND	2.50	2.83	113	2.50	2.61	104	8	71-125	20	
Trichloroethene	ND	2.50	2.94	118	2.50	2.47	99	18	62-137	24	
Vinyl Chloride	ND	2.50	2.81	112	2.50	2.56	102	9	75-125	20	

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

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

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

Version: 1.016

Sample Duplicate Recovery

Project Name: Red Byrd # 4

Work Order #: 305015

Lab Batch #: 724270 **Project ID:** 2000-10479
Date Analyzed: 06/03/2008 **Date Prepared:** 06/03/2008 **Analyst:** JLG
QC- Sample ID: 305015-001 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	> 150	> 150	0	25	

Lab Batch #: 724479
Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** LATCOR
QC- Sample ID: 304950-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 724278
Date Analyzed: 06/03/2008 **Date Prepared:** 06/03/2008 **Analyst:** JLG
QC- Sample ID: 305015-001 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	ND	ND	NC		

Lab Batch #: 724739
Date Analyzed: 06/06/2008 **Date Prepared:** 06/06/2008 **Analyst:** JLG
QC- Sample ID: 305299-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	0.523	0.546	4	20	

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

Version: 1.016

Sample Duplicate Recovery

Project Name: Red Byrd # 4

Work Order #: 305015

Lab Batch #: 724550 **Project ID:** 2000-10479
Date Analyzed: 06/10/2008 **Date Prepared:** 06/10/2008 **Analyst:** WRU
QC- Sample ID: 305015-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Reactive Cyanide by EPA 9010	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Cyanide	ND	ND	NC	20	

Lab Batch #: 724536
Date Analyzed: 06/05/2008 **Date Prepared:** 06/05/2008 **Analyst:** WRU
QC- Sample ID: 305015-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Reactive Sulfide by SW 9030B	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Sulfide	ND	ND	NC	20	

Lab Batch #: 724274
Date Analyzed: 06/03/2008 **Date Prepared:** 06/03/2008 **Analyst:** JLG
QC- Sample ID: 305015-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: SU

Soil pH by EPA 9045C	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	6.17	6.09	1	20	

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

Version: 1.016

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A **Xenco** Company

Plains All American EH & S
ATTN: Camille Reynolds
1301 S. CR 1150
Midland, TX 79706
FAX: 432-687-4914

Sample Type: Soil
Sample Condition: Intact/ 5.5 deg C
Lab ID # 305015-001
Project Name Red Byrd # 4
Project # 2000-10479
Project Location: None Given

Sample Date: 05/30/08
Sample Time. 12:40
Receiving Date: 05/30/08
Analysis Date: 06/04/08
Analysis Time: 08:02
Field Code: LF Smpl

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226	<6.40	N/A	<0.24	N/A	EPA 901.1M	IR
Ra-228	<1.66	N/A	<0.06	N/A	EPA 901.1M	IR
Pb-210	<5.63	N/A	<0.21	N/A	EPA 901.1M	IR
Th-228	<14.58	N/A	<0.54	N/A	EPA 901.1M	IR
Total Activity	NSLF	N/A	NSLF	N/A	EPA 901.1M	IR

Notes: NSLF - No Spectral Lines Found

Jeanne Hicks 06-04-08
Quality Assurance Review

Notes:

Comments

1 Soil and Sludge analysis results are reported on a wet basis or as received basis unless otherwise indicated
2. The data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified
3 Modified analysis procedures are procedures that are modified to meet certain specifications. An example would be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix
4 Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
5. Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring decay chains and other prominent radioactive isotopes. Total activity may be lower than actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of isotopes that emit solely alpha or beta radiation.
6 Ra-228 is determined via secular equilibrium with its daughter, Actinium 228. (Gamma Spectroscopy only)
7 U-238 is determined via secular equilibrium with its daughter, Thorium 234. (Gamma Spectroscopy only).
8 All Gamma Spectroscopy was performed using high purity germanium detectors (HPGE).

Method References

1. EPA 600/4-80-032, Prescribed Procedures for the Measurement of Radioactivity in Drinking Water, August 1980
2. Standard Methods for the Examination of Water and Waste Water, 18th, 1992.
3 EPA SW-846, Test Methods for Evaluating Solid Waste, Third Edition, (9/86) (Updated through 1995)
4 EPA 600/4/79-020, Methods for Chemical Analysis of Water and Waste, March 1983.
5. HASL 300

Definitions

1.	BDL	Analyte not detected because the value was below the detection limit.
2	ND	Not detected above the detection limit.
3	Detection Limit	The minimum amount of the analyte that can be detected utilizing the specific analysis.
4	B	Method Blank
5	D	Method Duplicate
6	MS	Matrix Spike
7.	S	Spike
8.	RS	Reference Spike
9.	SC	Subcontracted to qualified laboratory
10.	NR	Not Referenced
11.	N/A	Not applicable
12.	MDA	Minimum detectable activity

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

HBC Terracon
Consulting Engineers & Scientists

Office Location: Midland

Laboratory: ELOT
Address: on file
Contact:
Phone:

Project Manager: Clay McDonald
PO/SO #: A4087064

Sampler's Name: Clay McDonald
Sampler's Signature: [signature]

Proj No: 20090-102409
Project Name: Red Byrd #4
No/Type of Containers: 5-4oz glass

ANALYSIS REQUESTED

Lab use only
Due Date
Temp of coolers when received (C): 5.5
Page of

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	VOA	A/G 1L	250	P/O	No.	Chloride	BTEX	RCI	Total Metals (8)	TCLP Volatiles	TCLP Semi-Vol	Paint Filter	Lab Sample ID (Lab Use Only)
S	5/30/06	12:40		X	LF Smpl					5	X	X	X	X	X	X	X	305015-01

Turnaround time: X Normal ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	5-30-06	4:15			
			[signature]	5-30-06	4:15

Please email results to: Camille Reynolds-Bryant, Clay McDonald

w/ intact seals

4oz glass

Matrix: WW - Wastewater, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil
Container: VOA - 40 ml vial, A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other

Houston Office | Dallas Office | Fort Worth Office | Austin Office | Atlanta Office

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon / Plains

Date/ Time: 5.30.08 4:15

Lab ID #: 305015

Initials: CL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	5.5 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

Carrie Kelly

From: McDonald, Clayton Alan [camcdonald@terracon com]
Sent: Monday, June 02, 2008 6 33 PM
To: Carrie Kelly
Subject: RE: Red Byrd #4

Carrie

Thank you for the heads up. We need to run all of the analysis listed ... Brent helped me with the required lab work. I am in houston but please call me in the mornng so that we can discuss and move forward.

Thanks again,
Clay Mc
432-631-2205

From: Carrie Kelly [mailto:carrie.kelly@xenco.com]
Sent: Mon 6/2/2008 2:23 PM
To: McDonald, Clayton Alan
Subject: Red Byrd #4

Clay- I was out Friday so I am a little confused in trying to figure out what you wanted on your Red Byrd #4 COC?

On the COC it has Chloride, NORM, RCI, Total Metals, TCLP VOC, TCLP Semi-VOC, and paint filter; however, nothing is marked on the COC to actually run these tests.

Please let me know via phone or e-mail which tests you would like for us to run and we will get them started. Thanks!

Thanks- Carrie Kelly

Project Manager

Environmental Lab of Texas- A Xenco Company

12600 W. I-20 E.

1

Analytical Report 306047

for

PLAINS ALL AMERICAN EH&S

Project Manager: Camille Reynolds

Red Byrd # 4

2000-10479

24-JUN-08

ENVIRONMENTAL LAB OF

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers:
Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers:
Norcross(Atlanta), GA 98015

North Carolina certification numbers:
Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America
Midland - Corpus Christi - Atlanta

24-JUN-08

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

Reference: XENCO Report No: **306047**
Red Byrd # 4
Project Address:

Camille Reynolds:

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 306047. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 306047 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 306047

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

Red Byrd # 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS-1	S	Jun-17-08 15:00		306047-001
CS-2	S	Jun-17-08 15:05		306047-002
CS-3	S	Jun-17-08 15:10		306047-003
CS-4	S	Jun-17-08 15:15		306047-004

Certificate of Analysis Summary 306047

PLAINS ALL AMERICAN EH&S, Midland, TX

Project Name: Red Byrd # 4

Project Id: 2000-10479
Contact: Camille Reynolds
Project Location:

Date Received in Lab: Wed Jun-18-08 09:15 am
Report Date: 24-JUN-08
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	306047-001		306047-002		306047-003		306047-004					
	Field Id:	CS-1		CS-2		CS-3		CS-4					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Jun-17-08 15:00		Jun-17-08 15:05		Jun-17-08 15:10		Jun-17-08 15:15					
BTEX by EPA 8021B	*Extracted:*	Jun-20-08 10:05		Jun-20-08 10:05		Jun-20-08 10:05		Jun-20-08 10:05					
	Analyzed:	Jun-21-08 02:11		Jun-21-08 02:35		Jun-21-08 02:58		Jun-21-08 03:22					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011				
Toluene		ND	0.0022	ND	0.0022	ND	0.0023	ND	0.0021				
Ethylbenzene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011				
m,p-Xylenes		ND	0.0022	ND	0.0022	ND	0.0023	ND	0.0021				
o-Xylene		ND	0.0011	ND	0.0011	ND	0.0011	ND	0.0011				
Total Xylenes		ND		ND		ND		ND					
Total BTEX		ND		ND		ND		ND					
Percent Moisture	*Extracted:*												
	Analyzed:	Jun-19-08 08:25		Jun-19-08 08:25		Jun-19-08 08:25		Jun-19-08 08:25					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		10.7	1.00	10.1	1.00	12.0	1.00	5.38	1.00				
TPH by SW8015 Mod	*Extracted:*	Jun-18-08 14:30		Jun-18-08 14.30		Jun-18-08 14:30		Jun-18-08 14:30					
	Analyzed:	Jun-19-08 10:48		Jun-19-08 11:44		Jun-19-08 12:11		Jun-19-08 12:39					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	16.8	ND	16.7	ND	17.1	ND	15.9				
C12-C28 Diesel Range Hydrocarbons		ND	16.8	ND	16.7	24.1	17.1	19.9	15.9				
C28-C35 Oil Range Hydrocarbons		ND	16.8	ND	16.7	ND	17.1	ND	15.9				
Total TPH		ND		ND		24.1		19.9					

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron
Odessa Laboratory Director

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).

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.

* Outside XENCO'S scope of NELAC Accreditation

Form 2 - Surrogate Recoveries

Project Name: Red Byrd # 4

Work Order #: 306047 **Project ID:** 2000-10479

Lab Batch #: 726132 **Sample:** 306047-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

Lab Batch #: 726132 **Sample:** 306047-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 726132 **Sample:** 306047-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0340	0.0300	113	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 726132 **Sample:** 306047-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 726132 **Sample:** 511015-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0323	0.0300	108	80-120	

** 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: Red Byrd # 4

Work Order #: 306047 **Project ID:** 2000-10479

Lab Batch #: 726132 **Sample:** 511015-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 726132 **Sample:** 511015-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 726092 **Sample:** 306047-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	100	91	70-135	
o-Terphenyl	51.3	50.0	103	70-135	

Lab Batch #: 726092 **Sample:** 306047-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	100	98	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

Lab Batch #: 726092 **Sample:** 306047-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	100	91	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

** 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: Red Byrd # 4

Work Order #: 306047 **Project ID:** 2000-10479

Lab Batch #: 726092 **Sample:** 306047-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.8	100	88	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 726092 **Sample:** 306047-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	100	89	70-135	
o-Terphenyl	50.4	50.0	101	70-135	

Lab Batch #: 726092 **Sample:** 306047-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	100	88	70-135	
o-Terphenyl	49.0	50.0	98	70-135	

Lab Batch #: 726092 **Sample:** 510987-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.9	100	87	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 726092 **Sample:** 510987-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	100	81	70-135	
o-Terphenyl	46.7	50.0	93	70-135	

** 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: Red Byrd # 4

Work Order #: 306047 **Project ID:** 2000-10479

Lab Batch #: 726092 **Sample:** 510987-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

** 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: Red Byrd # 4

Work Order #: 306047 **Project ID:** 2000-10479

Analyst: SHE **Date Prepared:** 06/20/2008 **Date Analyzed:** 06/21/2008

Lab Batch ID: 726132 **Sample:** 511015-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	ND	0.1000	0.1072	107	0.1	0.1125	113	5	70-130	35	
Toluene	ND	0.1000	0.1025	103	0.1	0.1092	109	6	70-130	35	
Ethylbenzene	ND	0.1000	0.1123	112	0.1	0.1203	120	7	71-129	35	
m,p-Xylenes	ND	0.2000	0.2245	112	0.2	0.2416	121	7	70-135	35	
o-Xylene	ND	0.1000	0.1138	114	0.1	0.1200	120	5	71-133	35	

Analyst: ASA **Date Prepared:** 06/18/2008 **Date Analyzed:** 06/18/2008

Lab Batch ID: 726092 **Sample:** 510987-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH by SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	ND	1000	821	82	1000	828	83	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	807	81	1000	805	81	0	70-135	35	

Relative Percent Difference RPD = 200*|(D-F)/(D+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

ENVIRONMENTAL LAB OF

Form 3 - MS / MSD Recoveries

ACCREDITED IN ACCORDANCE WITH nelac

Project Name: Red Byrd # 4

Work Order # : 306047 **Project ID:** 2000-10479

Lab Batch ID: 726092 **QC- Sample ID:** 306047-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/19/2008 **Date Prepared:** 06/18/2008 **Analyst:** ASA

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH by SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	ND	1120	967	86	1120	933	83	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1120	953	85	1120	931	83	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200*(D-G)/(D+G)

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

Sample Duplicate Recovery

Project Name: Red Byrd # 4

Work Order #: 306047

Lab Batch #: 725843 **Project ID:** 2000-10479

Date Analyzed: 06/19/2008 **Date Prepared:** 06/19/2008 **Analyst:** IRO

QC- Sample ID: 306047-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.7	11.0	3	20	

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

ENVIRONMENTAL, GEOTECHNICAL AND CONSTRUCTION MATERIALS SERVICES

CHAIN OF CUSTODY RECORD

Terracon
Consulting Engineers & Scientists

Office Location: Midland TX
Project Manager: Clay Mcdonald

Laboratory: ELOT
Address:
Contact:
Phone:
PO/SO #: 2000-10479

Lab use only
Due Date.
Temp. of coolers when received (C°): 2.5
Page 1 of 1

Sampler's Name: Lance Lightfoot
Sampler's Signature: Lance Lightfoot

Proj. No.: A4087064
Project Name: Rod Byrd #4
No/Type of Containers: 4/ 40zglass

ANALYSIS REQUESTED: TPH (8015 mod.), BTEX (8021B)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	P/O	Lab Sample ID (Lab Use Only)
S	6/17/08	15:00		X	CS-1							306047-01
		16:05			CS-2							-02
		15:10			CS-3							-03
		15:15			CS-4							-04

Turn around time: ☑ Normal ☐ 25% Rush ☐ 50% Rush ☐ 100% Rush

Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Lance Lightfoot	6/18/08	9:15			
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature) Andrea Fox	Date: 6/18/08	Time: 9:15

NOTES: Camiel Bryant / Plains Terracon

w/labels & seals

Matrix: WW - Wastewater; W - Water; S - Soil; SO - Solid; L - Liquid; A - Air Bag; C - Charcoal tube; SL - sludge; O - Oil
Container: VOA - 40 ml vial; A/G - Amber / Or Glass 1 Liter; 250 ml - Glass wide mouth; P/O - Plastic or other

Houston Office: 11555 Clay Road, Suite 100, Houston, Texas 77043, (713) 690-8989 Fax (713) 690-8787
Dallas Office: 8901 Carpenter Freeway, Suite 100, Dallas, Texas 75247, (214) 630-1010 Fax (214) 630-7070
Fort Worth Office: 2601 Gravel Drive, Fort Worth, Texas 76118, (817) 268-8600 Fax (817) 268-8602
Austin Office: 5307 Industrial Oaks Blvd. # 160, Austin, Texas 78735, (512) 442-1122 Fax (512) 442-1181
Midland Office: 24 Smith Rd., # 261, Midland, Texas 79705, (432) 684-9600 Fax (432) 684-9608

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Terracon / Plains

Date/ Time: 6.18.08 9.15

Lab ID #: 306047

Initials: AL

Sample Receipt Checklist

				Client Initials
#1 Temperature of container/ cooler?	(Yes)	No	2.5 °C	
#2 Shipping container in good condition?	(Yes)	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4 Custody Seals intact on sample bottles/ container?	(Yes)	No	Not Present	
#5 Chain of Custody present?	(Yes)	No		
#6 Sample instructions complete of Chain of Custody?	(Yes)	No		
#7 Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8 Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont / Lid	
#9 Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11 Containers supplied by ELOT?	(Yes)	No		
#12 Samples in proper container/ bottle?	(Yes)	No	See Below	
#13 Samples properly preserved?	(Yes)	No	See Below	
#14 Sample bottles intact?	(Yes)	No		
#15 Preservations documented on Chain of Custody?	(Yes)	No		
#16 Containers documented on Chain of Custody?	(Yes)	No		
#17 Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18 All samples received within sufficient hold time?	(Yes)	No	See Below	
#19 Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20 VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

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

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

APPENDIX D

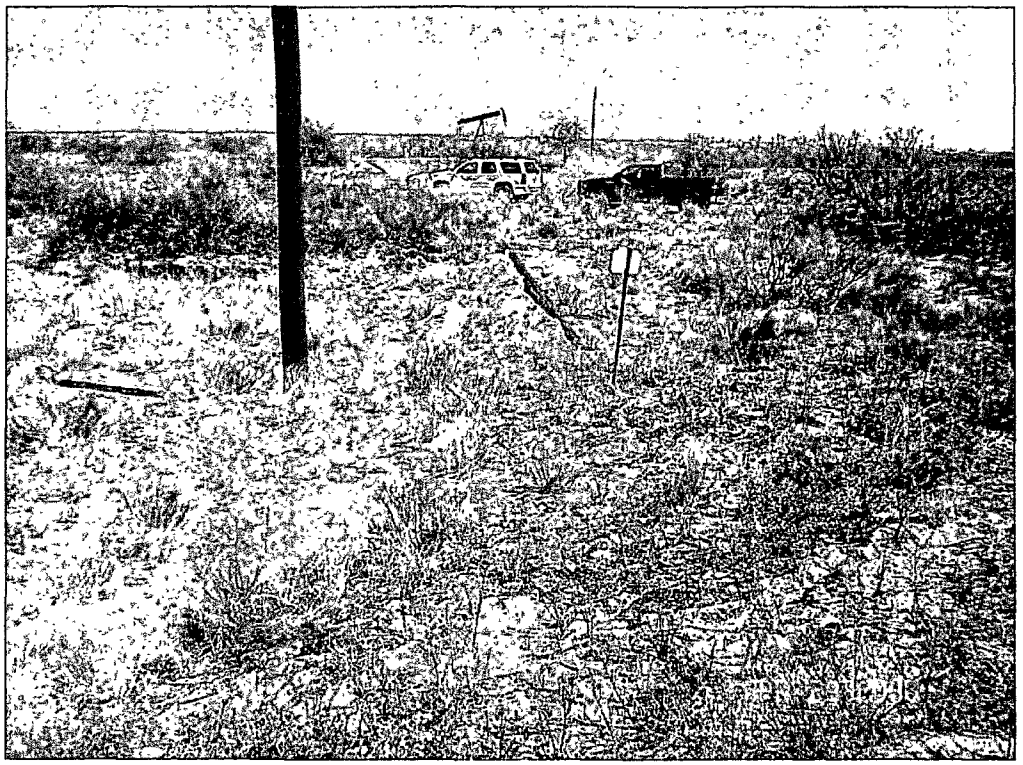
Site Photographs

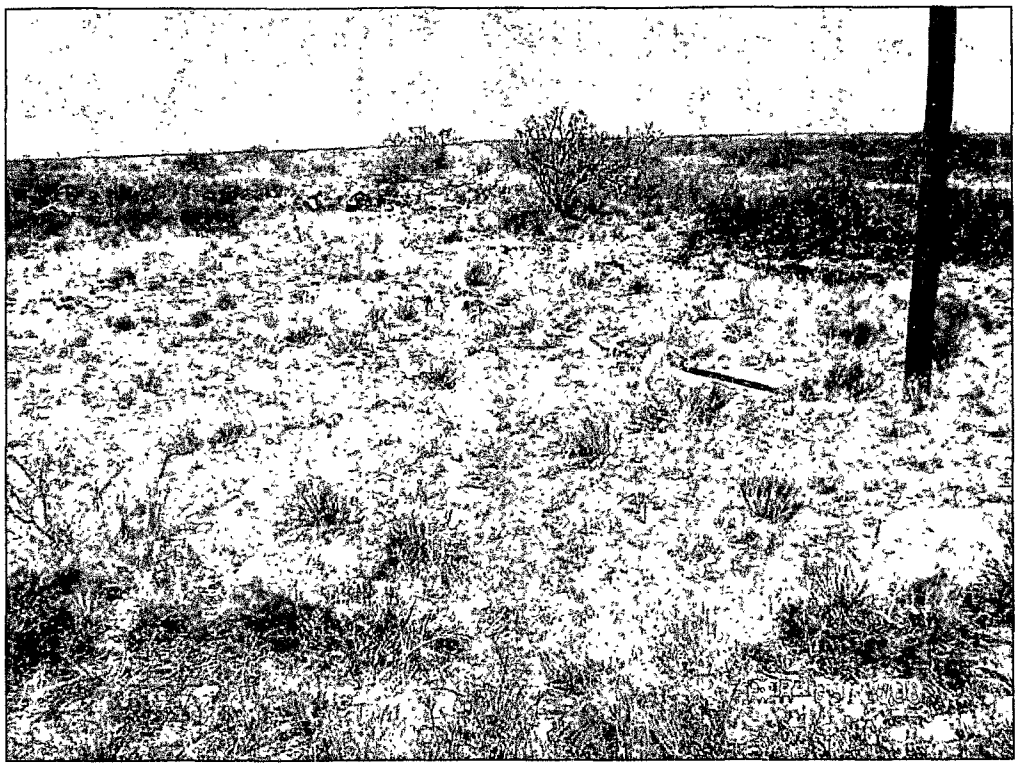
Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479

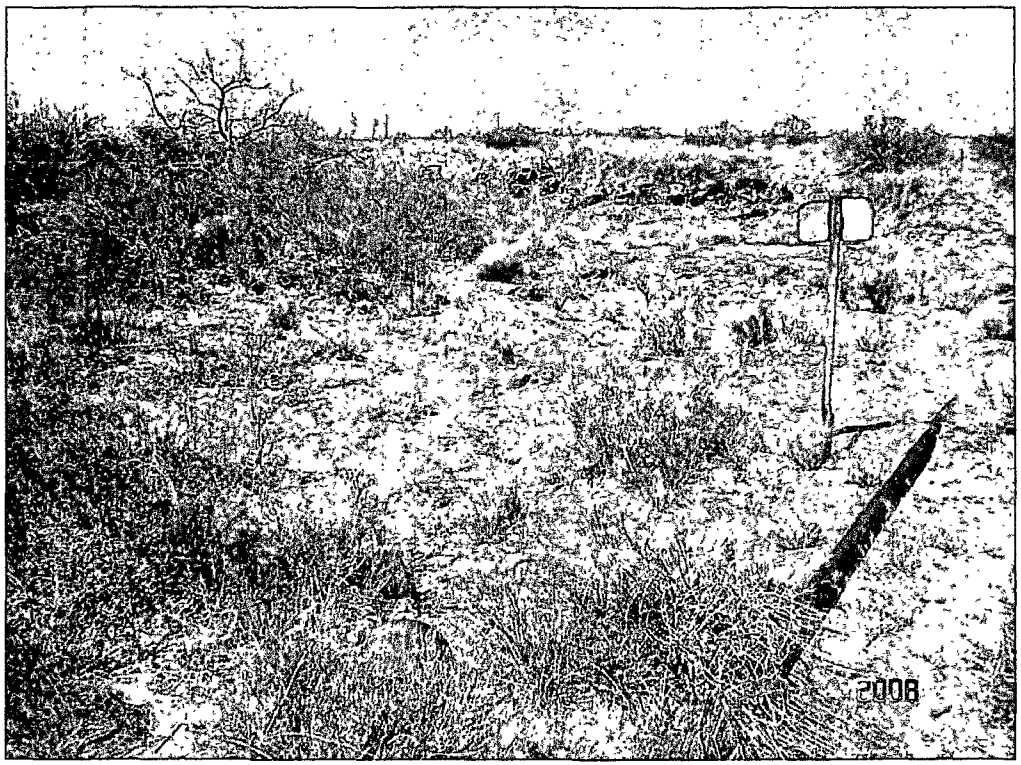


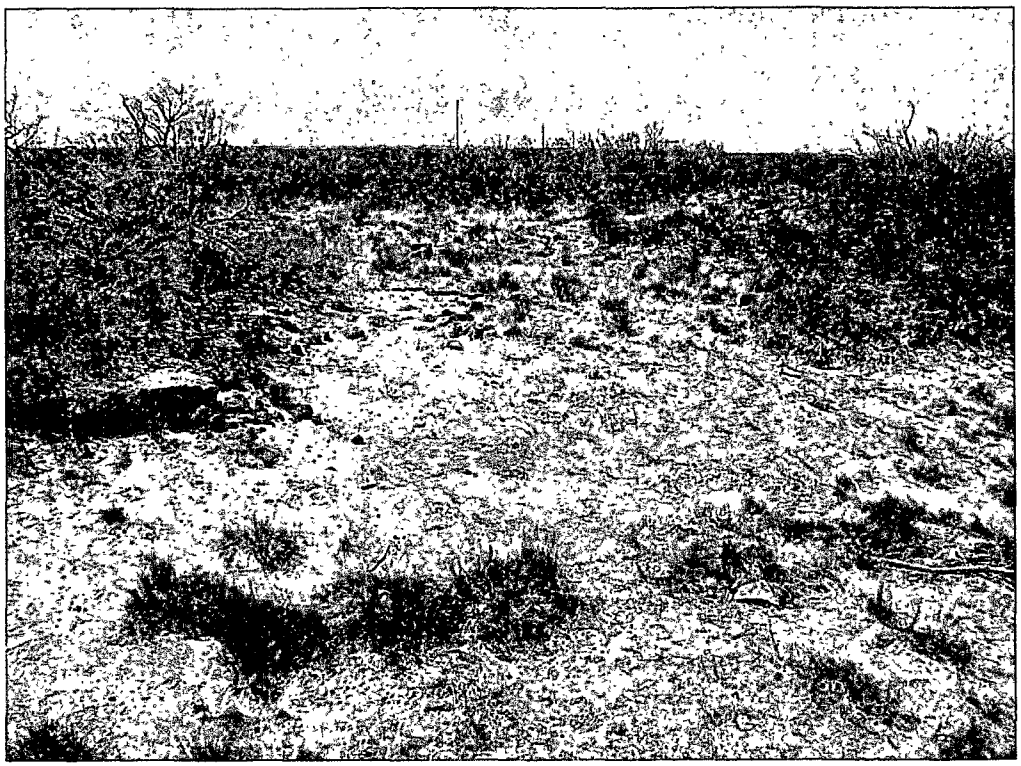


Initial assessment photographs. Southeast corner looking north and Southeast corner looking west.

Plains Pipeline, L.P.

Red Byrd #4 – Monument
Monument, Lea County, New Mexico
SRS # 200-10479

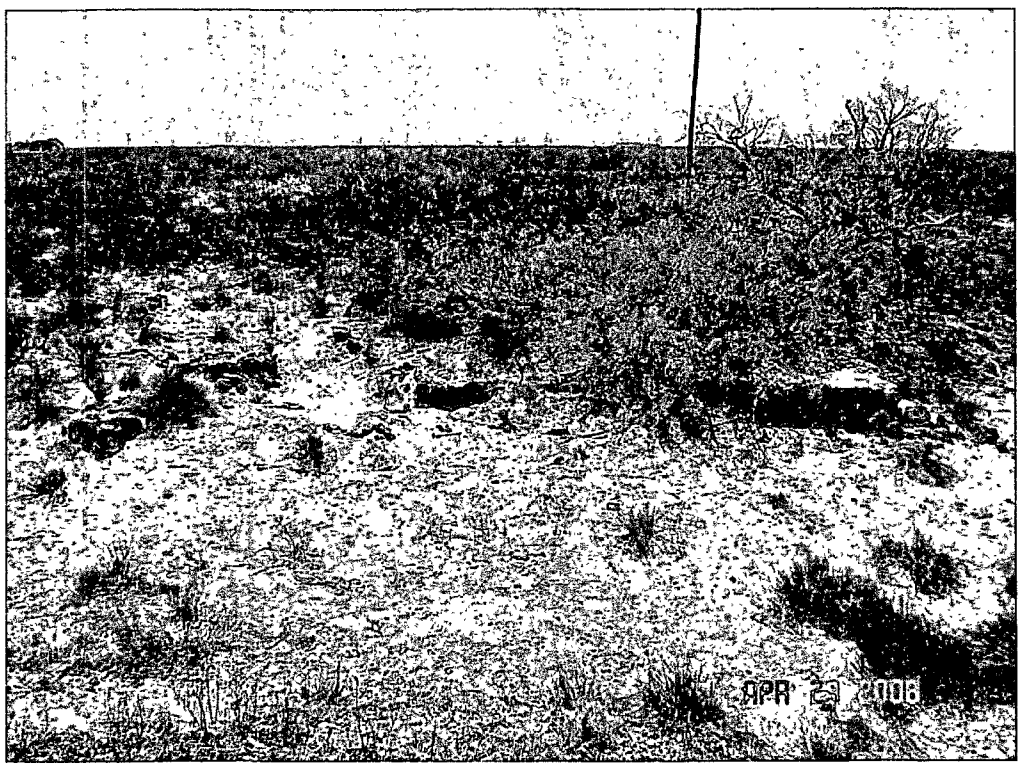




Initial assessment photographs. Southwest corner looking north and Southwest corner looking east.

Plains Pipeline, L.P.

Red Byrd #4 – Monument
Monument, Lea County, New Mexico
SRS # 200-10479



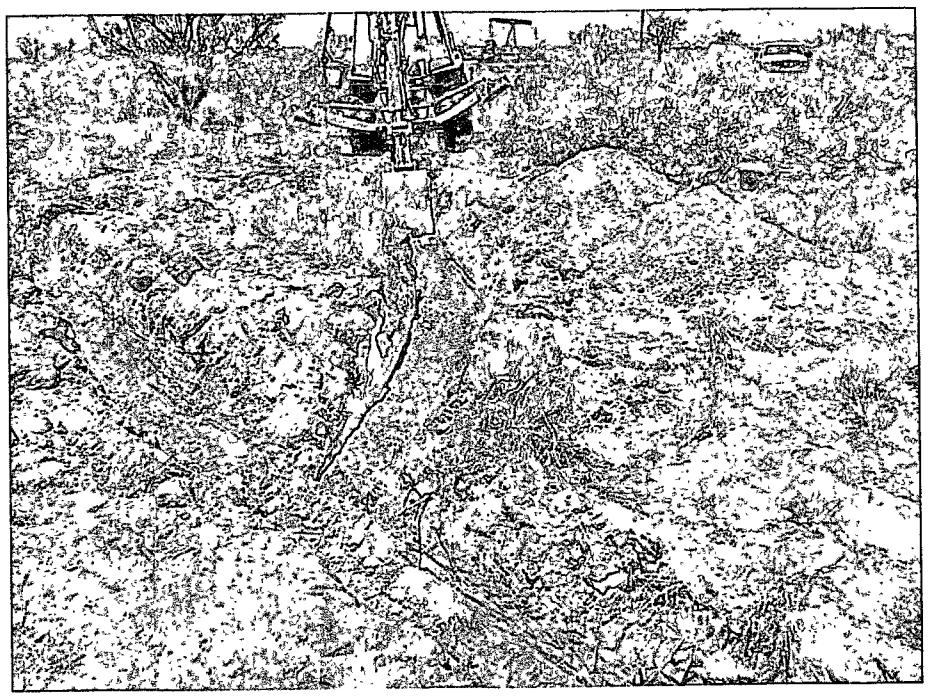
Initial assessment photographs. North side looking south and north side corner looking east.

Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479



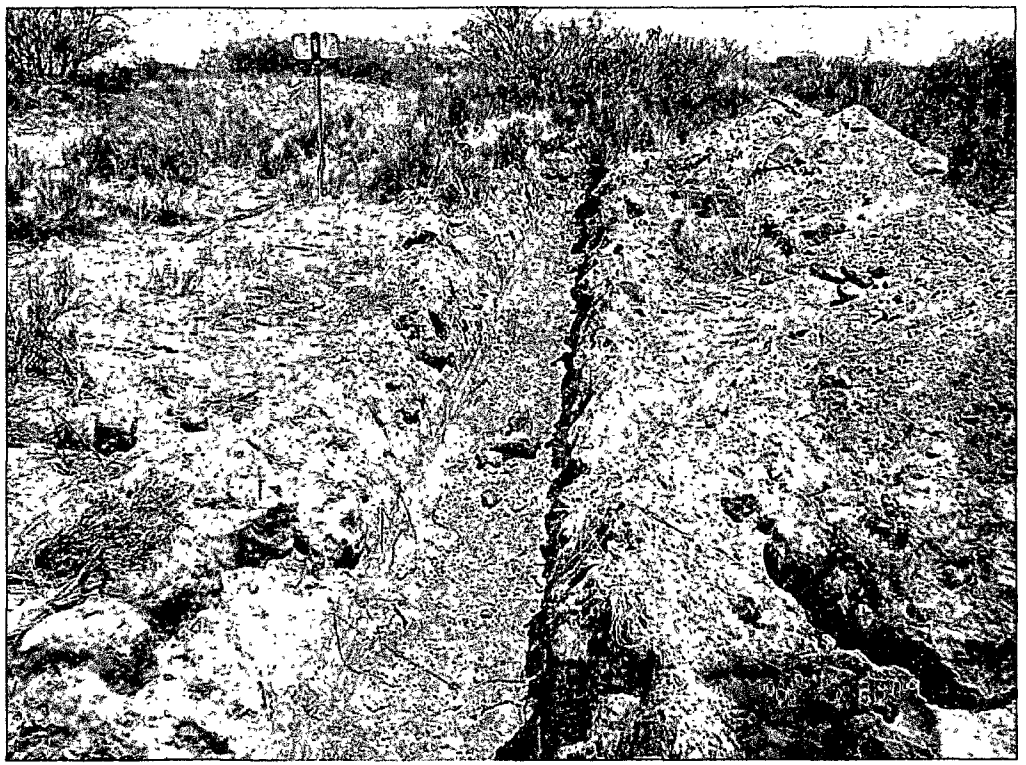
Photographs of site delineation trenches. Trenches were approximately 24 inches wide and 24 inches below ground surface.

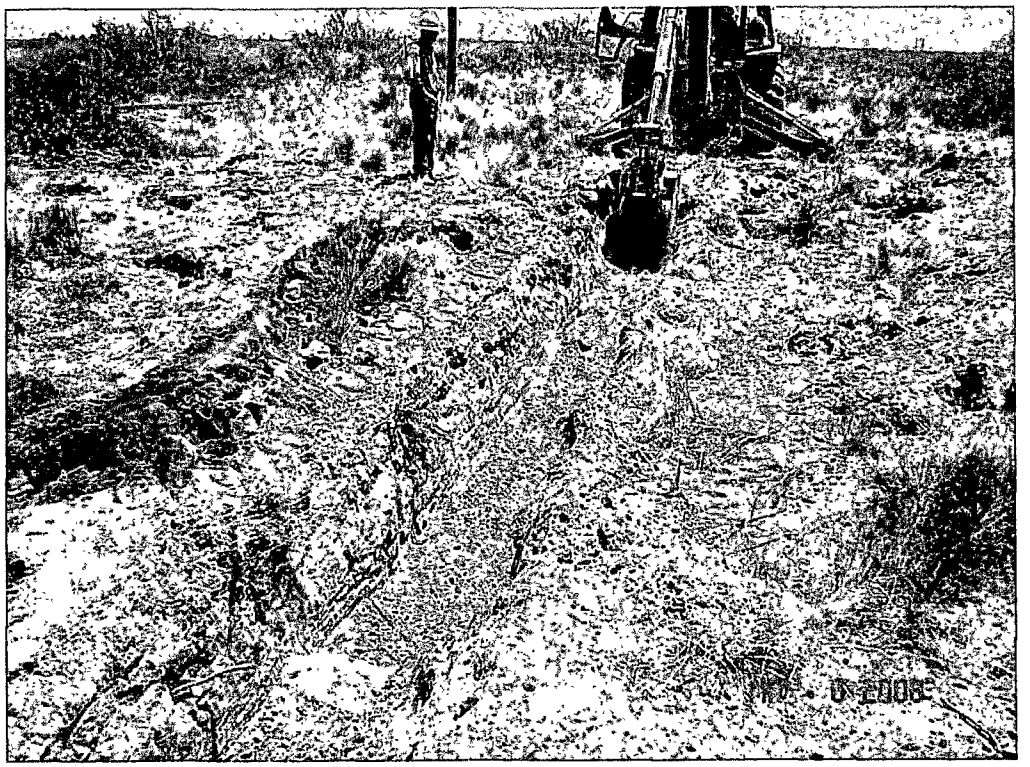
Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479





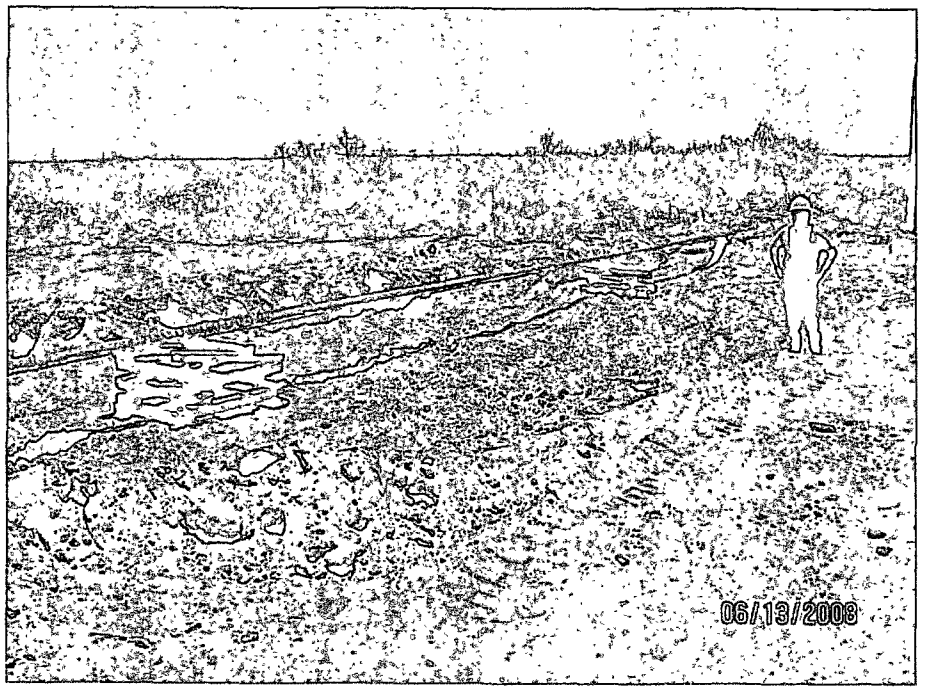
Photographs of site delineation trenches. Trenches were approximately 24 inches wide and 24 inches below ground surface.

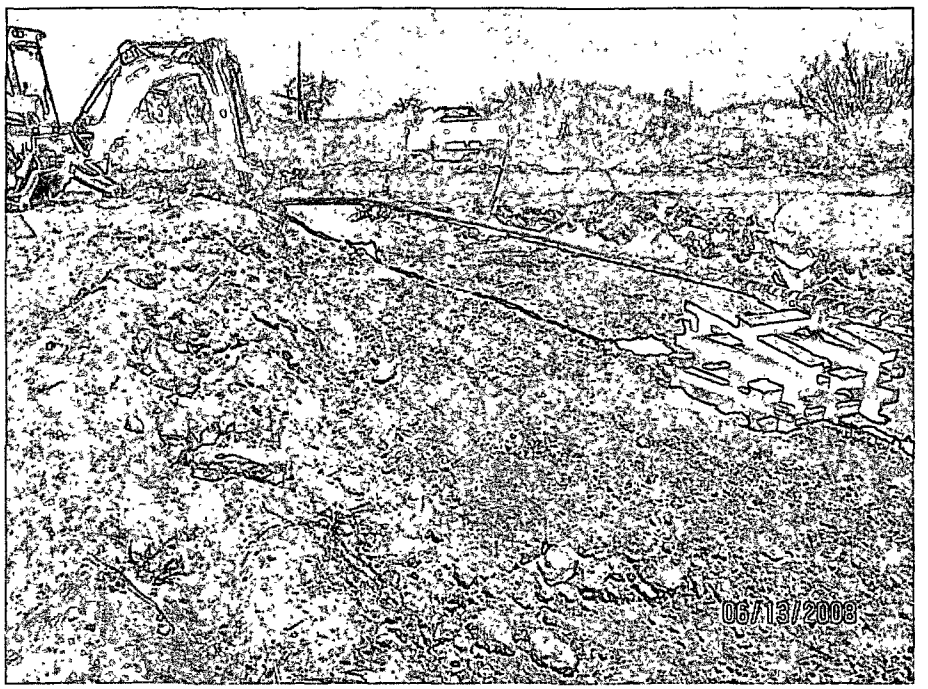
Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479





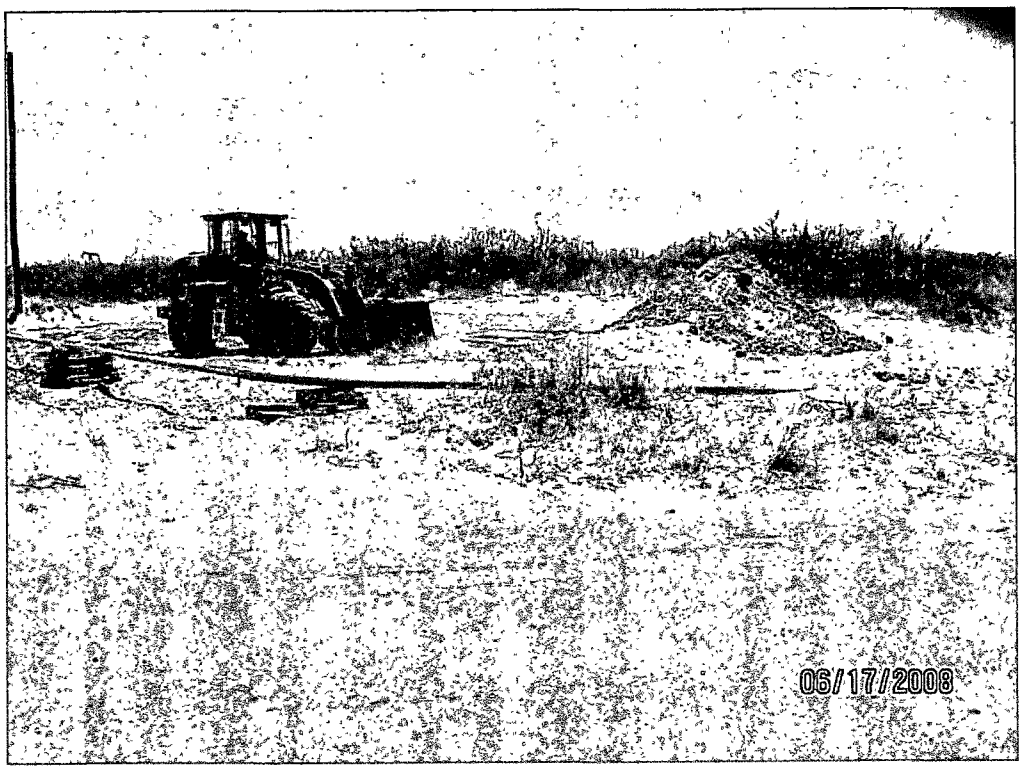
Photographs of site excavation activities.

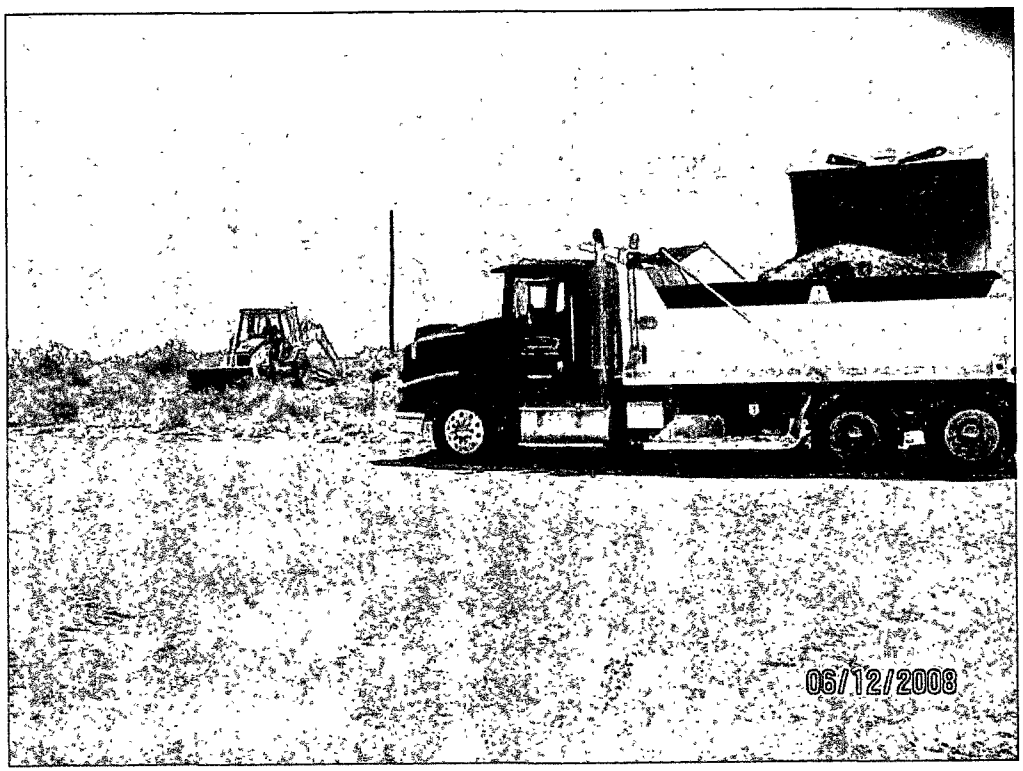
Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479





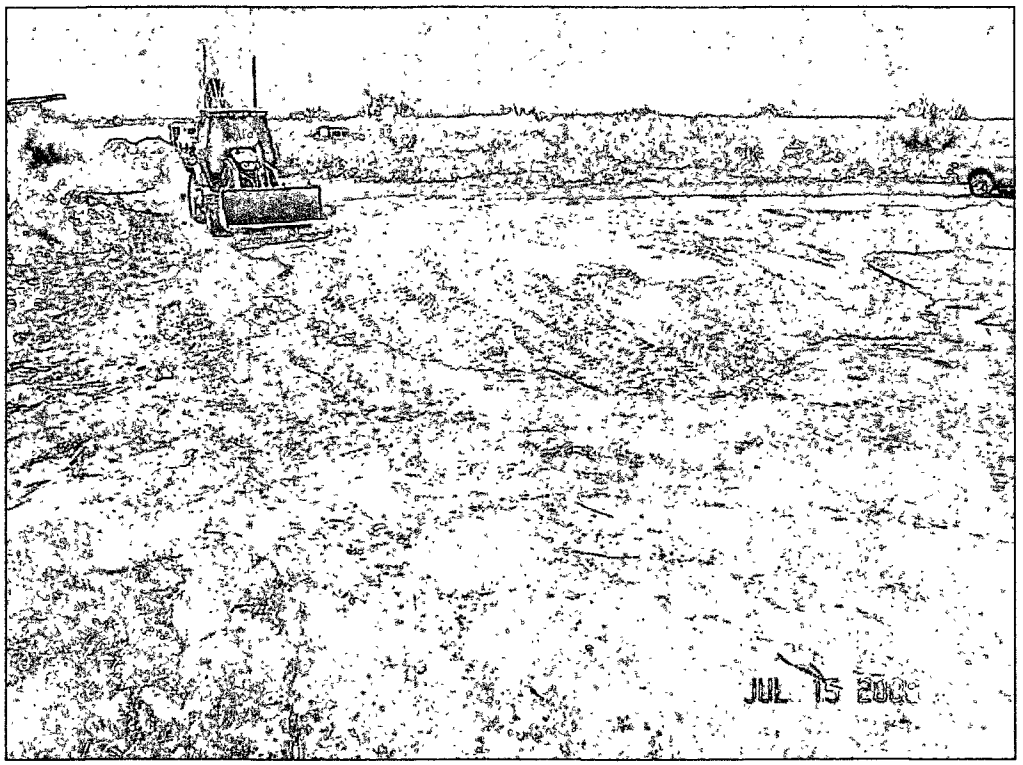
Photographs of site excavation activities and transport of excavated material to Plains Lea Station Land Farm.

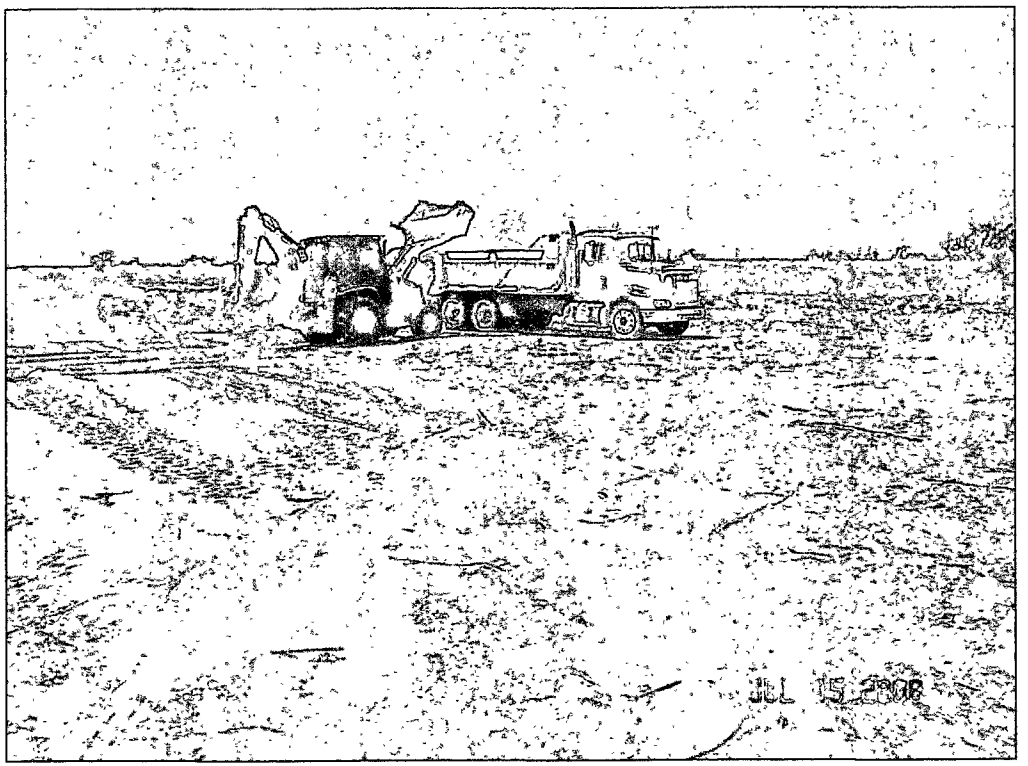
Plains Pipeline, L.P.

Red Byrd #4 – Monument

Monument, Lea County, New Mexico

SRS # 200-10479

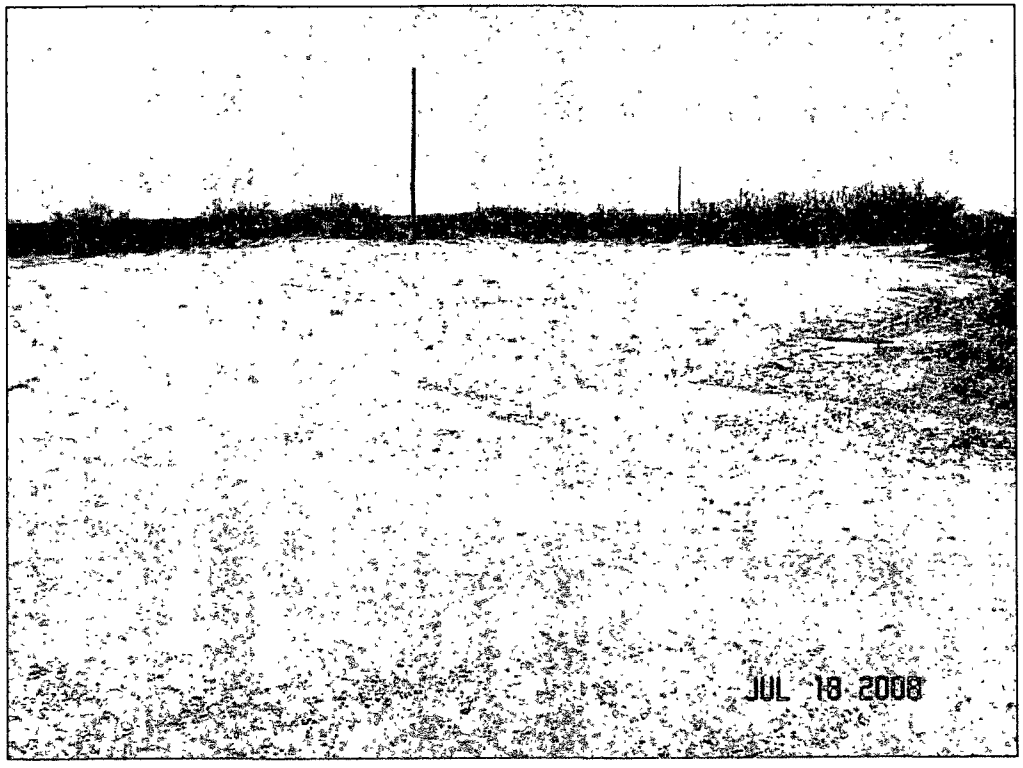


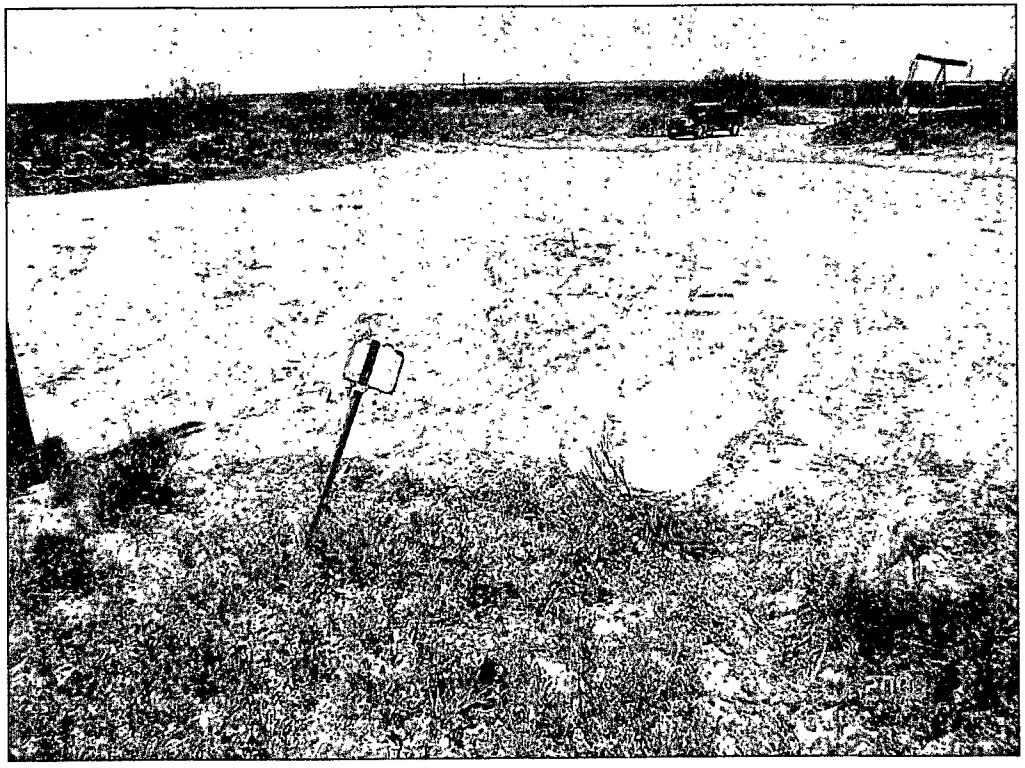


Photographs of site restoration activities and excavation / transport of ambient soil from landowner approved area.

Plains Pipeline, L.P.

Red Byrd #4 – Monument
Monument, Lea County, New Mexico
SRS # 200-10479





Photographs of site following restoration activities.