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## 2013 ANNUAL MONITORING REPORT & GROUNDWATER CLOSURE REQUEST

#### **RED BYRD #1**

Unit Letter "H" (SE/NE), Section 1, Township 20 South, Range 36 East Latitude 32° 36' 10.15" North, Longitude 103° 18' 00.35" West Lea County, New Mexico

Plains SRS Number: TNM Red Byrd #1 NMOCD Reference Number: 1R-0085

Prepared for:



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

Prepared By:

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Ben J. Arguijo Project Manager

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#### INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Plains Pipeline, LP (Plains), is pleased to submit this *Annual Monitoring Report & Groundwater Closure Request* in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1st of each year. This report is intended to be viewed as a complete document with text, figures, tables, and appendices. This report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2013 only. For reference, a "Site Location Map" is provided as Figure 1.

Groundwater monitoring was conducted during each quarter of 2013 to assess the levels and extent of dissolved phase constituents and Phase-Separated Hydrocarbon (PSH). The groundwater monitoring events consisted of measuring static water levels in the monitor wells, checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing a thickness of PSH greater than 0.01 feet were not sampled.

#### SITE DESCRIPTION & BACKGROUND INFORMATION

The site is located approximately four (4) miles southwest of the town of Monument, New Mexico. The legal description of the site is Unit Letter "H" (SE/NE), Section 1, Township 20 South, Range 36 East. The geographic coordinates of the site are 32° 36′ 10.15″ North latitude and 103° 18′ 00.35″ West longitude.

In January 2000, evidence of a historical release was discovered by the landowner, Mr. Red Byrd, and brought to the attention of Enron Oil Trading and Transportation (EOTT), who acquired the pipeline from Texas New Mexico Pipeline Company in 1999. On January 1, 2009, Basin assumed oversight of groundwater daily operations, sampling, and reporting at the release site.

Approximately 8,900 cubic yards (cy) of impacted soil was excavated, shredded, and blended with nutrients. Approximately 3,700 cy of the impacted soil was transported to Plains Lea Station Landfarm (Discharge Permit #GW-351) to be used as berm material. On completion of excavation activities, confirmation soil samples were collected from the excavation and stockpiles. Review of laboratory analytical results indicated soil samples collected from the excavation were less than NMOCD regulatory standards. The excavation was backfilled with the blended soil, approximately 3,500 cubic yards of topsoil was transported to the site, and the area was contoured to topographic grade.

At the Red Byrd #1 site, two areas of hydrocarbon impact related to the Plains pipeline have been identified as Red Byrd #1 and Red Byrd Ranch Historical. The first area of impact (Red Byrd #1) is centered on and around monitor well MW-1. The second area of impact (Red Byrd Ranch Historical – 1R 1299) related to the Plains pipeline is the subject of this Annual Monitoring Report and is centered on monitor well MW-12. The soil issues at the Red Byrd #1 and Red Byrd Ranch Historical sites have been have been remediated, and groundwater monitoring and sampling are ongoing. For the purpose of groundwater monitoring, the remaining activities at the site are conducted at Red Byrd #1.

On November 17, 2008, Plains assigned excavation oversight of the Red Byrd Ranch Historical release site to Basin. On December 10, 2008, Basin resumed excavation activities at the release site, and on September 9, 2009, backfilling and restoration activities at the Red Byrd Ranch Historical release site were completed.

During sampling conducted in the first quarter of 2009, additional groundwater samples were collected from each of the nineteen (19) on-site monitor wells and analyzed for concentrations of chloride and total dissolved solids (TDS). The analytical results indicated elevated TDS concentrations, in excess of 10,000 mg/L, were present in fifteen (15) monitor wells. On September 9, 2009, Plains requested NMOCD

approval to plug and abandon monitor wells exhibiting TDS concentrations exceeding 10,000 mg/L (MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-13, MW-14, MW-15, MW-16, and MW-19). Plains requested monitor wells associated with the ongoing groundwater issues at the Red Byrd Ranch Historical release (MW-6, MW-7, MW-11, MW-12, MW-17, and MW-18) be placed on a semi-annual sampling schedule to monitor the Red Byrd Ranch Historical PSH plume.

On October 2, 2009, Plains received NMOCD approval to reduce the sampling frequency for monitor wells MW-6, MW-7, MW-11, MW-12, MW-16, MW-17, MW-18, and MW-19 to a semi-annual schedule, and plug and abandon monitor wells MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-13, MW-14, and MW-15.

In October 2009, a *Red Byrd Ranch Historical Remediation Summary and Soil Closure Request* was submitted to the NMOCD Santa Fe Office. On December 9, 2009, Plains received correspondence from the NMOCD Santa Fe Office, indicating the report was accepted and no further soil remediation was required at the site.

On October 29, 2009, monitor wells MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-13, MW-14, and MW-15 were plugged and abandoned by a State of New Mexico licensed water well driller, as approved by the NMOCD. Monitor well MW-2 was plugged on November 9, 2006. Following the plugging activities, plugging reports were submitted to the NMOCD Santa Fe Office.

Currently, eight (8) monitor wells (MW-6, MW-7, MW-11, MW-12, MW-16, MW-17, MW-18, and MW-19) are located on the Red Byrd #1 site. Monitor wells MW-6, MW-7, MW-11, MW-16, MW-17, MW-18, and MW-19 are gauged quarterly and sampled on a semi-annual schedule. Monitor well MW-12 is gauged weekly but not sampled due to the presence of PSH.

#### FIELD ACTIVITIES

#### **Groundwater Monitoring**

The on-site monitor wells were gauged and sampled on May 30 and November 19, 2013. During these semi-annual sampling events, the monitoring wells were purged of a minimum of three (3) well volumes of water or until the wells were dry using a PVC bailer or electrical Grundfos pump. Groundwater was allowed to recharge, and samples were obtained using disposable Teflon bailers. Water samples were stored in clean, glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a trailer-mounted polystyrene tank and disposed of at an NMOCD-approved disposal facility near Monument, New Mexico.

Locations of the groundwater monitoring wells and the inferred groundwater elevations, which were constructed from measurements collected during each quarter of 2013, are depicted in Figures 2A through 2D. The "Groundwater Gradient Map" from the most recent gauging event (Figure 2D, November 19, 2013) indicates a general gradient of approximately 0.002 feet/foot to the southeast as measured between groundwater monitor wells MW-18 and MW-19.

On November 19, 2013, the corrected groundwater elevation ranged between 3,530.15 and 3,532.67 feet above mean sea level in monitor wells MW-19 and MW-18, respectively. The "2013 Groundwater Elevation Data" is provided as Table 1.

#### **Product Recovery Efforts**

According to historical data, a measurable thickness of PSH began being detected in monitor well MW-12 on February 14, 2007. Basin began manual, weekly gauging and recovery of PSH from MW-12 in January 2009. Approximately 455 gallons (10.8 barrels) of PSH has been recovered from MW-12 since recovery operations began in 2009, and approximately 139 gallons (3.3 barrels) of PSH was recovered from MW-12 during the 2013 reporting period. The average PSH thickness measured in MW-12 during the reporting period was 1.43 feet, and the maximum PSH thickness was 2.12 feet on April 12, 2013. All recovered fluids are disposed of at an NMOCD- approved disposal facility near Monument, New Mexico.

Pursuant to NMOCD request, a curtailment of PSH recovery activities commenced in August 2012 and continued through March 2013. The purpose of the curtailment period was to allow for the observance of the PSH level in monitor well MW-12 in the absence of weekly PSH recovery efforts. During the curtailment period, site activities were limited to a monthly groundwater gauging event. The average PSH thickness measured in MW-12 during the curtailment period was 1.90 feet. PSH thickness ranged from 1.40 feet on November 19, 2013, to 2.03 feet on December 31, 2013, and February 20, 2013. Gauging data collected during the curtailment period is provided in Table 2, "Groundwater Elevation Data - Curtailment Period".

Comparison of PSH levels observed during the curtailment period and those observed during the quarterly monitoring events (when weekly recovery was ongoing) reveals that there were no significant changes in subsurface conditions during the curtailment period, further indicating that there is likely minimal source material remaining in the subsurface. Please reference Tables 1 and 2 for additional information.

#### LABORATORY RESULTS

Groundwater samples collected from the monitor wells during the semi-annual sampling events (May and November 2013) were delivered to Xenco Laboratories in Odessa, Texas, for determination of benzene, toluene, ethylbenzene, and total xylene (BTEX) concentrations by EPA Method SW846-8021b. A summary of benzene and BTEX constituent concentrations is presented in Table 3, "2013 Concentrations of Benzene & BTEX in Groundwater". Laboratory analytical reports are provided as Appendix A. "Groundwater Concentration & Inferred PSH Extent" maps are provided as Figures 2A and 2B.

For the purposes of this annual monitoring report, laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in section 20.6.2.3103 of the New Mexico Administrative Code (NMAC). However, it should be noted that, due to the TDS concentrations in the groundwater in the immediate area, the closure criteria for this site is not based on the standards noted above.

#### **Monitor well MW-6**

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### Monitor well MW-7

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were both less than the appropriate laboratory MDL and less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### **Monitor well MW-11**

Laboratory analytical results indicated benzene concentrations ranged from 0.0052 mg/L in November 2013 to 0.0362 mg/L in May 2013. Toluene concentrations ranged from 0.0022 mg/L in November 2013 to 0.0048 mg/L in May 2013. Ethylbenzene concentrations ranged from 0.0066 mg/L in November 2013 to 0.0116 mg/L in May 2013. Total xylene concentrations ranged from 0.0091 mg/L in November 2013 to 0.0137 mg/L in May 2013. Benzene concentrations exceeded NMOCD regulatory standards in May 2013. Toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### Monitor well MW-12

Monitor well MW-12 was not sampled during the 2013 reporting period due to the presence of PSH in the monitor well.

#### **Monitor well MW-16**

Laboratory analytical results indicated benzene concentrations ranged from 0.0027 mg/L in May 2013 to 0.0053 mg/L in November 2013. Toluene concentrations were less than the laboratory MDL both the May and November 2013 sampling events. Ethylbenzene concentrations ranged from 0.0036 mg/L in May 2013 to 0.0040 mg/L in November 2013. Total xylene concentrations ranged from 0.0048 mg/L in May 2013 to 0.0064 mg/L in November 2013. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### **Monitor well MW-17**

Laboratory analytical results indicated benzene concentrations ranged from 0.007 mg/L in May 2013 to 0.029 mg/L in November 2013. Toluene concentrations were less than the laboratory MDL in both the May and November 2013 sampling events. Ethylbenzene concentrations ranged from 0.0039 mg/L in May 2013 to 0.0129 mg/L in November 2013. Total xylene concentrations ranged from 0.004 mg/L in May 2013 to 0.0132 mg/L in November 2013. Benzene concentrations exceeded NMOCD regulatory standards in November 2013. Toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### **Monitor well MW-18**

Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in November 2013 to 0.0029 mg/L in May 2013. Toluene concentrations ranged from 0.0024 mg/L in November 2013 to 0.0077 mg/L in May 2013. Ethylbenzene concentrations ranged from less than the laboratory MDL in November 2013 to 0.003 mg/L in May 2013. Total xylene concentrations ranged from less than the laboratory MDL in November 2013 to 0.0106 mg/L in May 2013. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### **Monitor well MW-19**

Laboratory analytical results indicated benzene concentrations ranged from less than the laboratory MDL in November 2013 to 0.0016 mg/L in May 2013. Toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL in both the May and November 2013 sampling events. Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in both the May and November 2013 sampling events.

#### **SUMMARY**

This report presents the results of monitoring activities for the 2013 annual monitoring period. Currently, there are eight (8) groundwater monitor wells (MW-6, MW-7, MW-11, MW-12, MW-16, MW-17, MW-18, and MW-19) on-site.

On October 29, 2009, monitor wells MW-1, MW-3, MW-4, MW-5, MW-8, MW-9, MW-10, MW-13, MW-14 and MW-15 were plugged and abandoned by a State of New Mexico licensed water well driller, as approved by the NMOCD. Following the plugging activities, plugging reports were submitted to the NMOCD Santa Fe Office. Monitor well MW-2 had previously been abandoned on November 9, 2006.

The "Groundwater Gradient Map" from the most recent gauging event (Figure 2D, November 12, 2013) indicates a general gradient of approximately 0.002 feet/foot to the southeast as measured between groundwater monitor wells MW-18 and MW-19.

A measurable thickness of PSH was detected in monitor well MW-12 throughout the 2013 reporting period. A total of 139 gallons (3.3 barrels) of PSH was recovered from MW-12 during the 2013 reporting period. The average PSH thickness measured in MW-12 during the reporting period was 1.43 feet, and the maximum PSH thickness was 2.12 feet on April 12, 2013.

Pursuant to NMOCD request, a curtailment of PSH recovery activities commenced in August 2012 and continued through March 2013 to allow for the observance of the PSH level in monitor well MW-12 in the absence of weekly PSH recovery efforts. The average PSH thickness measured in MW-12 during the curtailment period was 1.90 feet. PSH thickness ranged from 1.40 feet on November 19, 2013, to 2.03 feet on December 31, 2013, and February 20, 2013.

Comparison of PSH levels observed during the curtailment period and those observed during the quarterly monitoring events (when weekly recovery was ongoing) reveals that there were no significant changes in subsurface conditions during the curtailment period, further indicating that there is likely minimal source material remaining in the subsurface.

Review of laboratory analytical results generated from analysis of groundwater samples collected during the 2013 reporting period indicates benzene concentrations exceeded NMOCD regulatory standards in monitor wells MW-11 (May 2013) and MW-17 (November 2013).

#### GROUNDWATER CLOSURE REQUEST

Findings noted during the curtailment period, analysis of the efficacy of past PSH recovery efforts (both manual and by Mobile Dual Phase Extraction), and review of historical documentation (among other factors), indicates that continued groundwater monitoring and recovery efforts at the Red Byrd #1 release site will have little to no effect in the long-term.

Since groundwater recovery activities commenced in 2009, PSH levels in monitor well MW-12 have failed to improve and continue to fluctuate considerably. The average PSH thickness during the 2009 monitoring period was 2.09 feet, whereas the PSH thickness during the 2013 monitoring period ranged from 0.90 feet on May 24, 2013, to 2.12 on April 12, 2013.

Comparison of PSH levels observed during the curtailment period and those observed during the quarterly monitoring events (when weekly recovery was ongoing) reveals that there were no significant changes in subsurface conditions during the curtailment period, indicating that there is likely minimal source material remaining in the subsurface. Please reference Table 2 for additional information.

There is strong evidence to suggest that at least some of the groundwater contamination at the Red Byrd #1 site is attributable to an off-site source. Laboratory analytical results from groundwater samples collected during the first quarter 2009 from the nineteen (19) monitor wells on-site at the time indicated elevated TDS concentrations, in excess of 10,000 mg/L, were present in fifteen (15) monitor wells. Monitor wells located up-gradient of the Red Byrd #1 and Red Byrd Ranch Historical releases exhibited elevated TDS concentrations, as well as the monitor wells associated with the release(s). Based on the up-gradient position of the monitor wells containing elevated TDS and the presence of numerous (20-plus) pipelines in the area, abandoned pits located northwest and south of the releases, numerous facility and drilling pads, production wells, a refinery and a chemical plant all within one-half mile of the release site, there are multiple potential responsible parties contributing to the contaminant plume. The NMWQCC regulations state groundwater exhibiting TDS concentrations in excess of 10,000 mg/L is not abatable.

A search of the NMOCD's online "Imaging" system reveals at least two (2) releases that may have impacted or had the potential to impact groundwater in Unit Letter "H" (SE/NE), Section 1, Township 20 South, Range 36 East. Review of NMOCD Environmental Order #1RP-1738 indicates that vertical delineation of the 2007 release was never achieved. A "Disclosure Report" included in the documentation for NMOCD Environmental Order #1RP-427-178 (2004) states that the "NMOCD has been notified of potential groundwater impact at this location." There is no documentation or evidence to suggest that either of these releases has been remediated as of the time of this report.

In addition, given the distances between monitor well MW-12 and monitor well MW-17 (approximately 350 feet), as well as their somewhat cross-gradient locations, it is not likely that the benzene concentrations noted in MW-17 are related to the groundwater contamination in MW-12.

Based on the information summarized above, Basin Environmental and Plains believe that continued groundwater monitoring and recovery efforts at the Red Byrd #1 release site are technically impracticable. Plains hereby requests permission to cease groundwater monitoring and recovery activities at the site and to plug and abandon the eight (8) on-site monitor wells. Plains respectfully requests that the NMOCD grant groundwater closure status to the Red Byrd #1 release site.

Pending NMOCD approval, the eight (8) on-site monitor wells will be plugged and abandoned pursuant to NMOSE and NMOCD regulatory requirements. A monitor well plugging report will be submitted to the NMOCD Santa Fe District Office within thirty (30) calendar days of completion.

#### LIMITATIONS

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

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

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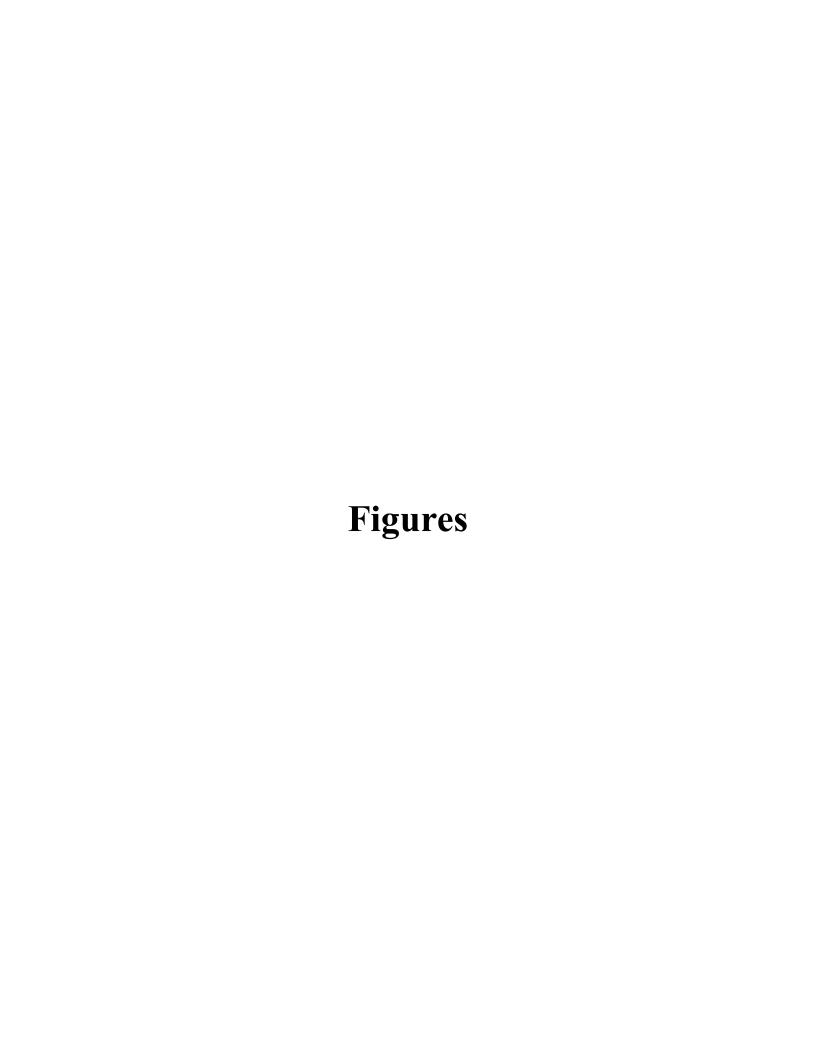
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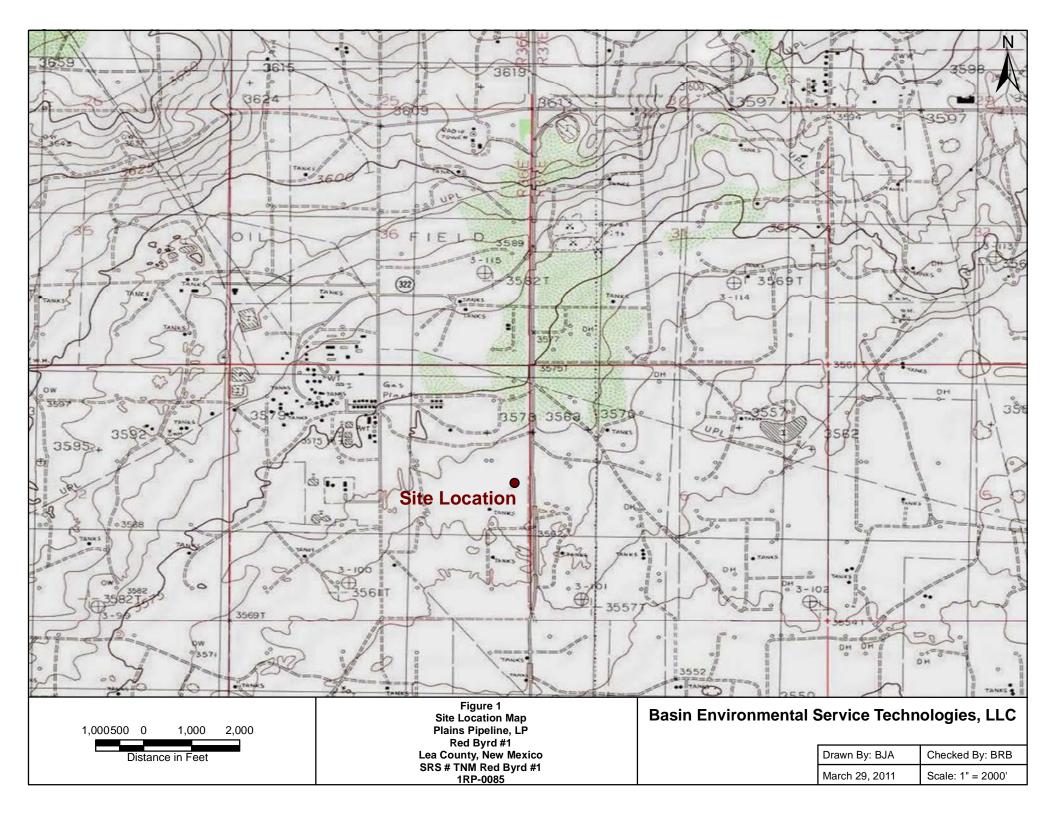
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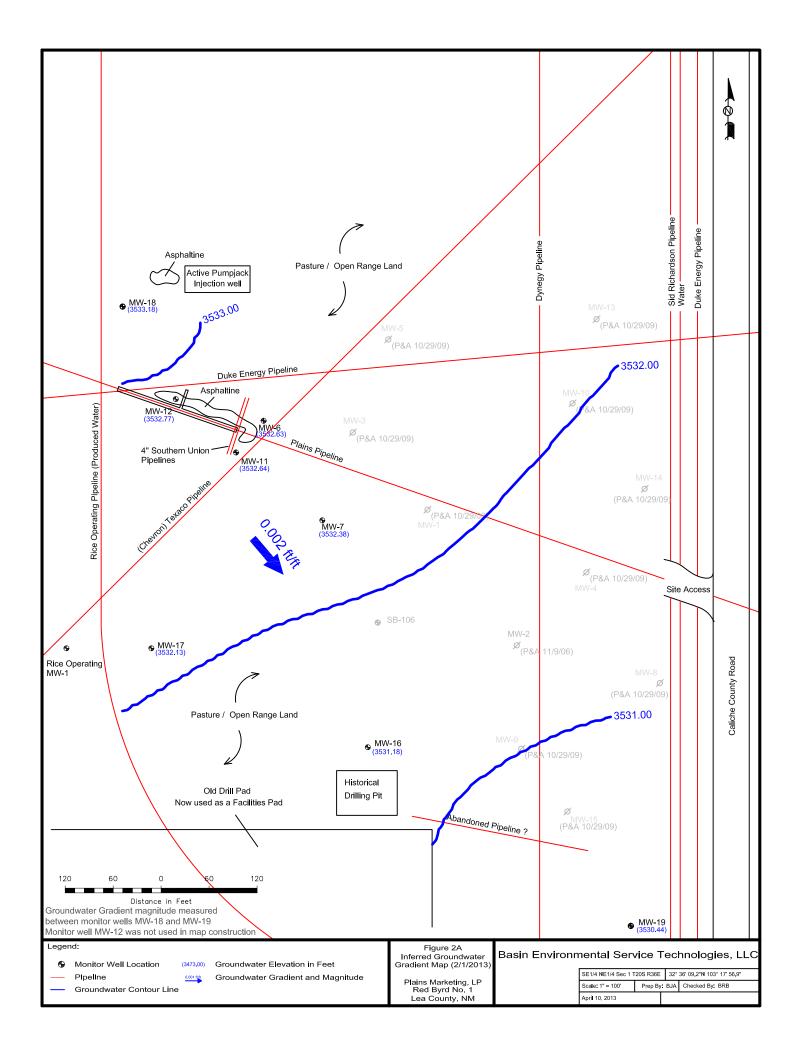
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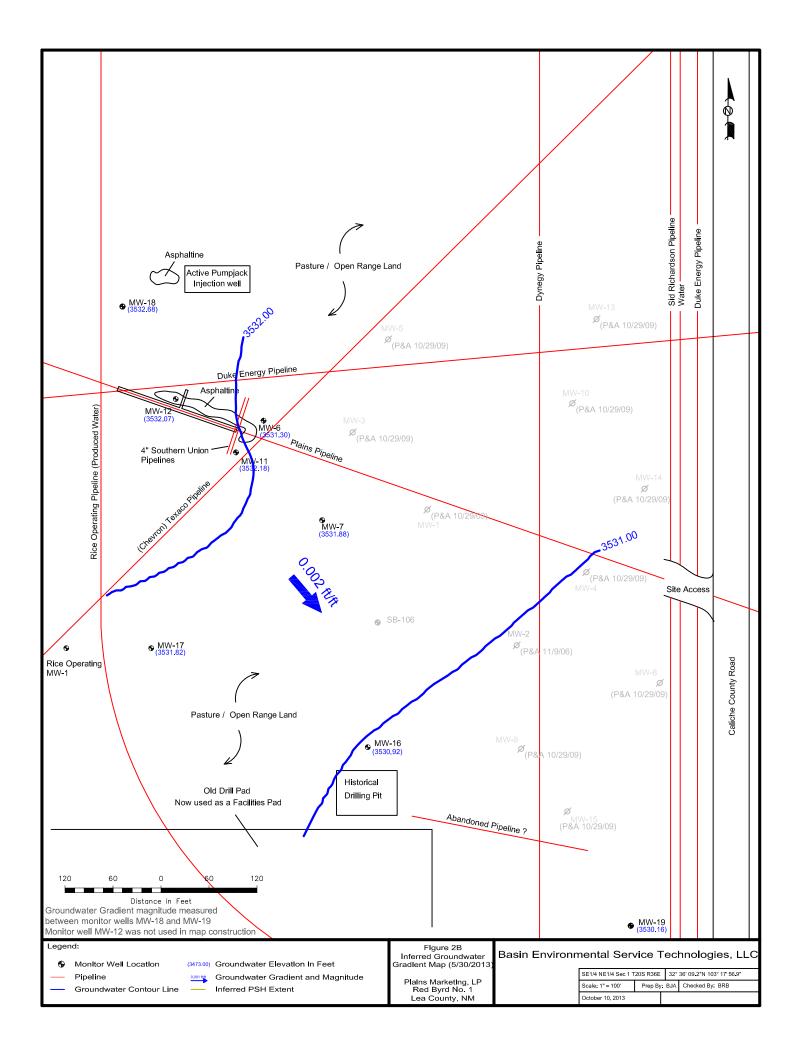
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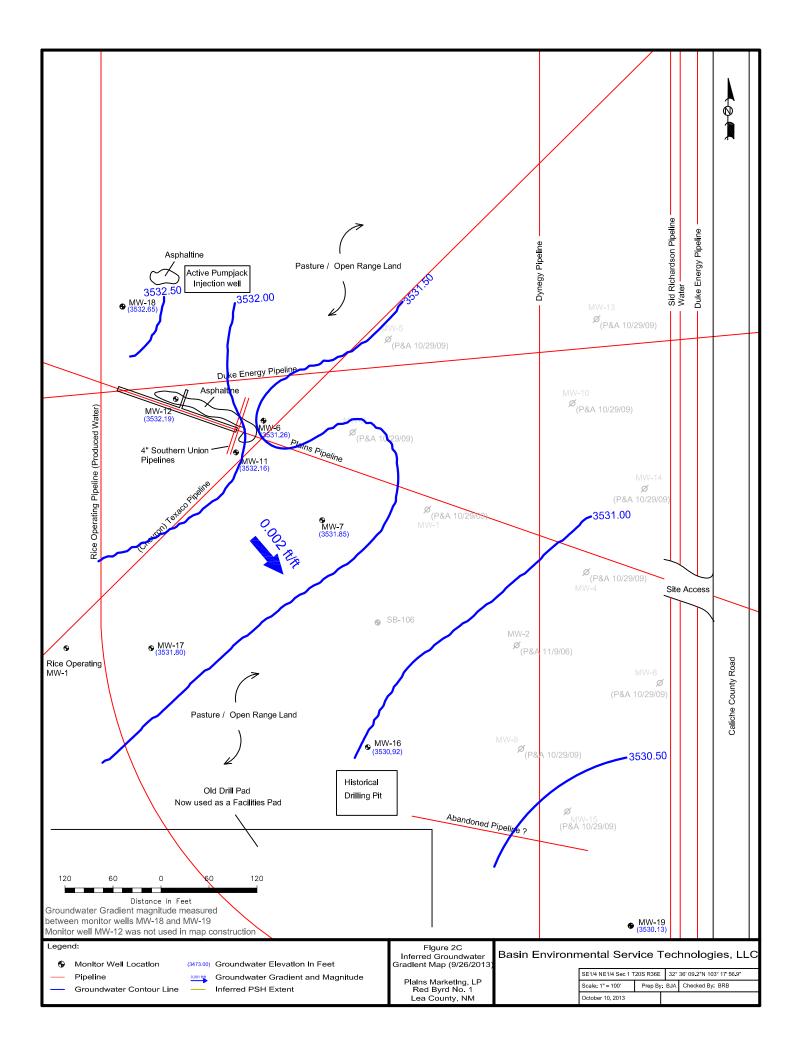
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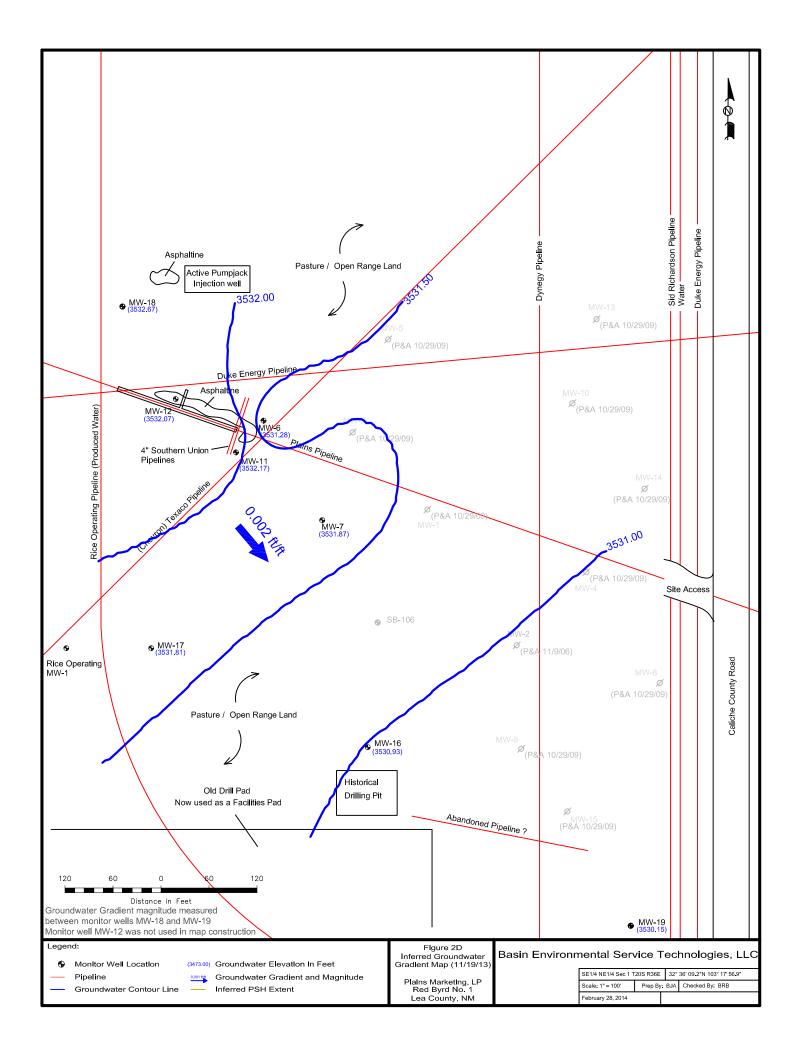


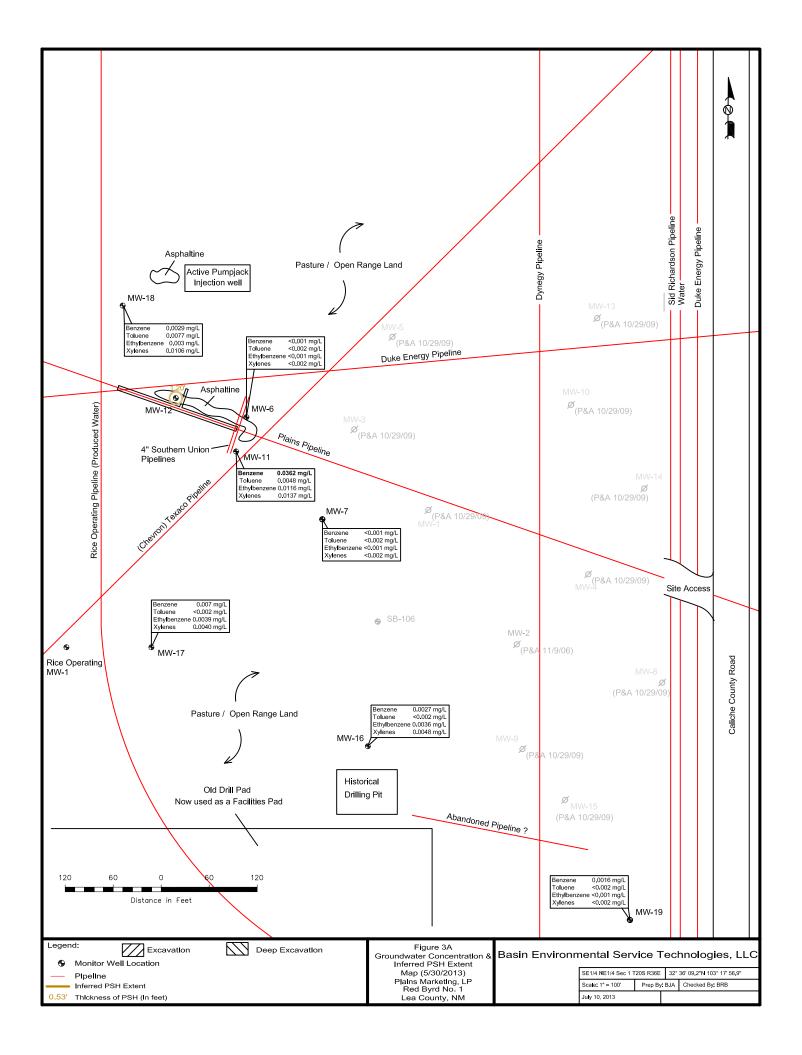


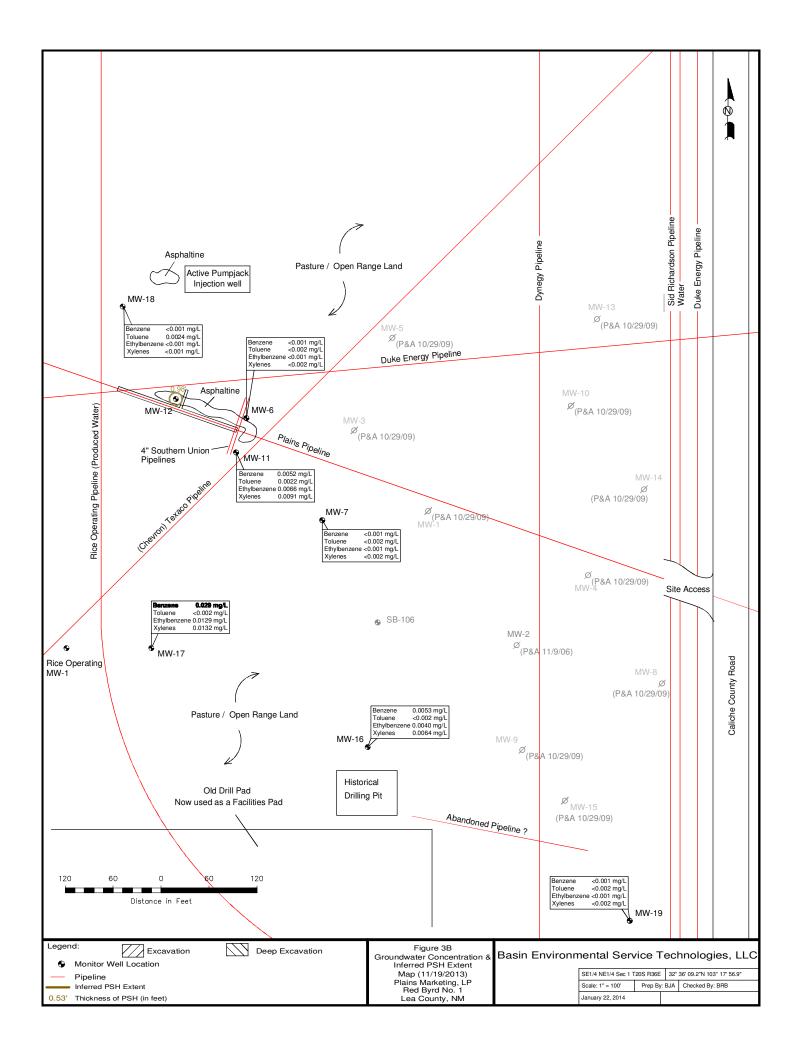


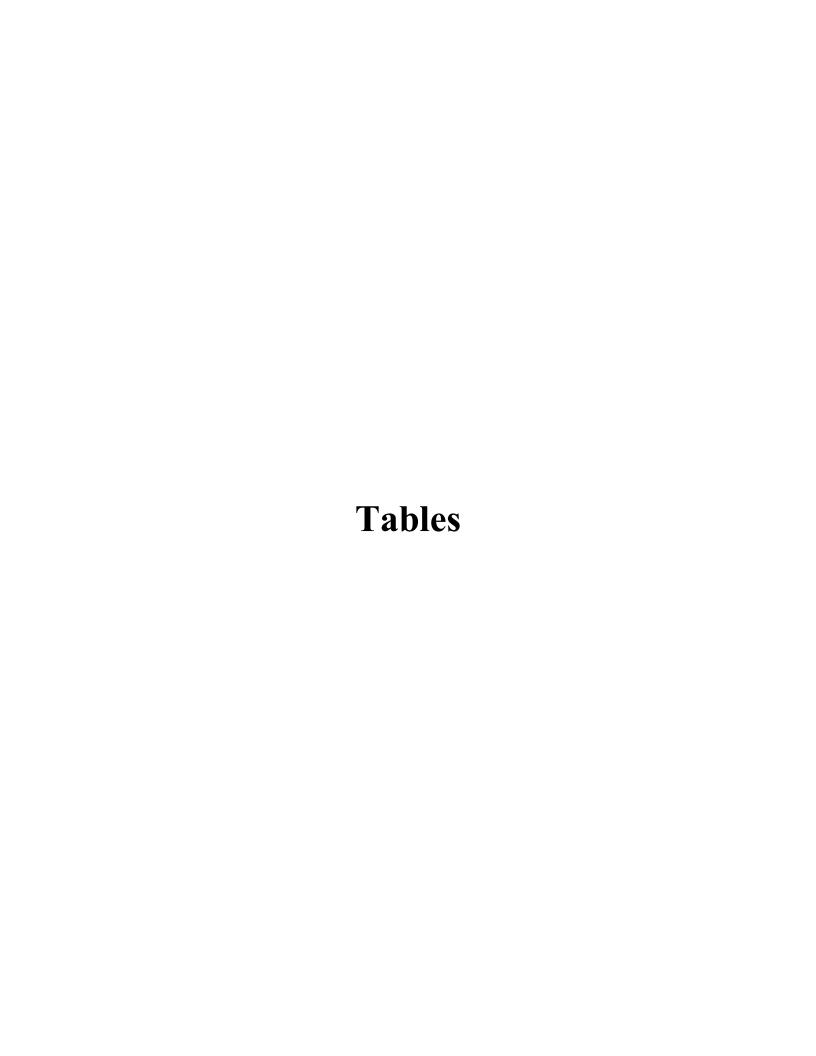












WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	10/29/2009		Pl	ugged and Aba	ndoned	
MW-2	11/9/2006		Pli	ugged and Aba	ndoned	
MW-3	10/29/2009		Pl	ugged and Aba	ndoned	
MW-4	10/29/2009		Pli	ugged and Aba	ndoned	
MW-5	10/29/2009		Pl	ugged and Abai	ndoned	
MW-6	02/25/00	3,569.09	-	36.50	-	3,532.59
	05/15/00	3,569.09	-	36.58	-	3,532.51
	09/14/00	3,569.09	_	36.75	-	3,532.34
	12/05/00	3,569.09	-	36.76	-	3,532.33
	03/07/01	3,569.09	_	36.65	-	3,532.44
	05/23/01	3,569.09	-	36.62	-	3,532.47
	08/06/01	3,569.09	-	36.73	-	3,532.36
	10/02/01	3,569.09	-	36.82	-	3,532.27
	02/28/02	3,569.09	=	37.12	=	3,531.97
	05/14/02	3,569.09	-	37.33	-	3,531.76
	08/19/02	3,569.09	-	37.52	-	3,531.57
	10/23/02	3,569.09	-	37.67	-	3,531.42
	11/18/02	3,569.09	-	37.64	-	3,531.45
	09/08/04	3,569.09	-	38.30	-	3,530.79
	12/21/04	3,569.09	-	36.64	-	3,532.45
	03/18/05	3,569.09	_	35.37	_	3,533.72
	06/16/05	3,569.09	-	34.41	-	3,534.68
	09/16/05	3,569.09	-	33.90	-	3,535.19
	12/15/05	3,569.09	-	33.70	-	3,535.39
	03/17/06	3,569.09	-	33.62	-	3,535.47
	06/13/06	3,569.09	-	33.86	-	3,535.23
	08/09/06	3,569.09	-	34.10	=	3,534.99
	09/06/06	3,569.09	-	34.14	-	3,534.95
	09/17/06	3,569.09	-	34.17	-	3,534.92
	10/03/06	3,569.09	-	34.20	-	3,534.89
	10/24/06	3,569.09	-	34.09	-	3,535.00
	11/15/06	3,569.09	-	34.05	-	3,535.04
	02/14/07	3,569.09	-	33.86	-	3,535.23
	05/11/07	3,569.09	-	33.72	-	3,535.37
	08/14/07	3,569.09	-	-	-	-
	11/01/07	-,	Excavate	ed around & cut	down MW-6	
	02/05/08	3,569.09	-	19.79	-	3,549.30
	05/05/08	3,569.09	-	20.06	-	3,549.03
	08/04/08	3,569.09	-	20.14	-	3,548.95
	11/03/08	3,569.09	-	19.95	-	3,549.14
	1/6/2009	3,569.09	_	20.25	-	3,548.84
	2/26/2009	3,569.09	-	20.25	-	3,548.84
	3/31/2009	3,570.91	-	30.26	-	3,540.65

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-6	6/23/2009	3,570.91	-	30.41	-	3,540.50
	7/14/2009	3,570.91	-	30.50	-	3,540.41
	9/8/2009	3,570.91	-	37.50	-	3,533.41
	11/12/2009	3,570.91	-	37.53	-	3,533.38
	3/16/2010	3,570.91	-	37.82	-	3,533.09
	5/24/2010	3,570.91	-	37.90	-	3,533.01
	10/1/2010	3,570.91	-	37.22	-	3,533.69
	11/12/2010	3,570.91	-	37.05	-	3,533.86
	2/25/2011	3,570.91	-	36.69	-	3,534.22
	5/11/2011	3,570.91	-	36.61	-	3,534.30
	8/16/2011	3,570.91	-	36.93	-	3,533.98
	11/10/2011	3,570.91	-	37.25	-	3,533.66
	3/1/2012	3,570.91	-	37.55	-	3,533.36
	6/7/2012	3,570.91	-	37.90	-	3,533.01
	7/20/2012	3,570.91	-	37.91	-	3,533.00
	11/28/2012	3,570.91	-	38.13	-	3,532.78
	2/1/2013	3,570.91	-	38.28	-	3,532.63
	5/30/2013	3,570.91	-	39.61	-	3,531.30
	9/26/2013	3,570.91	-	39.65	-	3,531.26
	11/19/2013	3,570.91	-	39.63	-	3,531.28
		-,				-,
MW-7	2/25/2000	3,567.53	-	35.29	-	3,532.24
	5/15/2000	3,567.53	-	35.37	-	3,532.16
	9/14/2000	3,567.53	_	35.55	-	3,531.98
	12/5/2000	3,567.53	_	35.55	-	3,531.98
	3/7/2001	3,567.53	-	35.45	-	3,532.08
	5/23/2001	3,567.53	_	35.43	-	3,532.10
	8/6/2001	3,567.53	_	35.59	-	3,531.94
	10/2/2001	3,567.53	_	35.62	_	3,531.91
	2/28/2002	3,567.53	_	35.95	_	3,531.58
	5/14/2002	3,567.53	_	36.02	_	3,531.51
	8/19/2002	3,567.53	_	36.21	_	3,531.32
	10/23/2002	3,567.53	_	36.44	_	3,531.09
	11/18/2002	3,567.53	_	36.42	_	3,531.11
	9/8/2004	3,567.53	_	37.05	_	3,530.48
	12/21/2004	3,567.53	_	35.40	_	3,532.13
	3/18/2005	3,567.53	_	34.23	_	3,533.30
	6/16/2005	3,567.53	_	33.26	_	3,534.27
	9/16/2005	3,567.53	_	32.73	_	3,534.80
	12/15/2005	3,567.53	_	32.57	_	3,534.96
	3/17/2006	3,567.53	_	32.51	_	3,535.02
	6/13/2006	3,567.53	_	33.69	-	3,533.84
	9/6/2006	3,567.53	_	32.97	-	3,534.56
	10/24/2006	3,567.53	_	32.91	-	3,534.62
	11/15/2006	3,567.53	-	32.87	-	3,534.66
	2/14/2007	3,567.53	-	32.61	-	3,534.92
	5/11/2007	3,567.53	_	32.56	-	3,534.97
	3/11/2007	3,567.53	-	32.66		3,534.87

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-7	11/1/2007	3,567.53	-	32.87	-	3,534.66
	2/5/2008	3,567.53	-	33.09	-	3,534.44
	5/5/2008	3,567.53	-	33.31	-	3,534.22
	8/4/2008	3,567.53	-	33.44	-	3,534.09
	11/3/2008	3,567.53	-	33.28	-	3,534.25
	1/6/2009	3,567.53	_	33.53	_	3,534.00
	2/26/2009	3,567.53	-	33.68	-	3,533.85
	3/31/2009	3,567.53	-	33.80	-	3,533.73
	6/23/2009	3,567.53	-	33.98	-	3,533.55
	7/14/2009	3,567.53	-	34.04	-	3,533.49
	9/8/2009	3,567.53	_	34.22	_	3,533.31
	11/12/2009	3,567.53	_	34.38	_	3,533.15
	3/16/2010	3,567.53	_	34.68	_	3,532.85
	5/24/2010	3,567.53	_	34.75	_	3,532.78
	10/1/2010	3,567.53	_	34.10	_	3,533.43
	11/12/2010	3,567.53	_	33.95	_	3,533.58
	2/25/2011	3,567.53	_	33.59	_	3,533.94
	5/11/2011	3,567.53	_	33.51	_	3,534.02
	8/16/2011	3,567.53	_	33.86	_	3,533.68
	11/10/2011	3,567.53	<u>-</u>	34.20	-	3,533.33
	3/1/2012	3,567.53	<u>-</u>	34.45	-	3,533.08
	6/7/2012	3,567.53	-	34.65		3,532.88
	7/20/2012	3,567.53		34.78	_	3,532.75
	11/28/2012 2/1/2013	3,567.53	-	37.76 35.15	-	3,529.77
	5/30/2013	3,567.53 3,567.53	-	35.65	-	3,532.38
			-			3,531.88
	9/26/2013	3,567.53	-	35.68	-	3,531.85
	11/19/2013	3,567.53	-	35.67	-	3,531.87
MW-8	10/29/2009		Pli	ugged and Aba	ndoned	
MW-9	10/29/2009		Di	l ugged and Aba	ndonod	
10100-9	10/23/2003		F 10	l	l	
MW-10	10/29/2009		Dli	ugged and Aba	ndonod	
10100-10	10/29/2009		FII	ligged and Aba	l	
MW-11	11/9/2004	3,567.96	_	36.45	-	3,531.51
10144 1 1	11/11/2004	3,567.96		36.44	_	3,531.52
	3/18/2005	3,567.96	<u>-</u>	34.27	-	3,533.69
	6/16/2005	3,567.96	<u>-</u>	33.30	-	3,534.66
	9/16/2005	3,567.96	<u>-</u>	32.80	-	3,535.16
	12/15/2005	3,567.96		32.60	-	3,535.16
		3,567.96	-	32.57		3,535.36
	3/17/2006	,	-		-	·
	6/13/2006	3,567.96	-	33.77	-	3,534.19
	9/6/2006	3,567.96	-	33.05	-	3,534.91
	10/24/2006	3,567.96	-	33.00	-	3,534.96
	11/15/2006	3,567.96	-	32.39	-	3,535.57
	2/14/2007	3,567.96	-	32.71	-	3,535.25
	5/11/2007	3,567.96	-	32.64	-	3,535.32

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-11	8/14/2007	3,567.96	-	32.79	-	3,535.17
	11/1/2007	3,567.96	-	32.98	-	3,534.98
	2/5/2008	3,567.96	-	33.28	-	3,534.68
	5/5/2008	3,567.96	=	33.49	-	3,534.47
	8/4/2008	3,567.96	=	33.57	-	3,534.39
	11/3/2008	3,567.96	-	33.38	-	3,534.58
	1/6/2009	3,567.96	=	33.77	-	3,534.19
	2/26/2009	3,567.96	-	33.83	-	3,534.13
	3/31/2009	3,567.96	-	33.94	-	3,534.02
	6/23/2009	3,567.96	=	34.13	-	3,533.83
	7/14/2009	3,567.96	-	34.20	-	3,533.76
	9/8/2009	3,567.96	-	34.38	-	3,533.58
	11/12/2009	3,567.96	=	34.54	-	3,533.42
	3/16/2010	3,567.96	=	34.83	-	3,533.13
	5/24/2010	3,567.96	-	34.91	-	3,533.05
	10/1/2010	3,567.96	-	-	-	-
	11/12/2010	3,567.96	-	34.10	-	3,533.86
	2/25/2011	3,567.96	-	33.70	-	3,534.26
	5/11/2011	3,567.96	-	33.64	-	3,534.32
	8/16/2011	3,567.96	-	35.47	-	3,532.49
	11/10/2011	3,567.96	-	37.30	-	3,530.66
	3/1/2012	3,567.96	-	34.58	-	3,533.38
	6/7/2012	3,567.96	-	34.90	-	3,533.06
	7/20/2012	3,567.96	=	34.95	-	3,533.01
	11/28/2012	3,567.96	-	35.12	-	3,532.84
	2/1/2013	3,567.96	-	35.32	-	3,532.64
	5/30/2013	3,567.96	-	35.78	-	3,532.18
	9/26/2013	3,567.96	-	35.80	-	3,532.16
	11/19/2013	3,567.96	-	35.79	-	3,532.17
MW-12	11/9/2004	3,570.36	-	38.57	-	3,531.79
	11/11/2004	3,570.36	_	38.55	-	3,531.81
	3/18/2005	3,570.36	Sheen	36.31	-	3,534.05
	6/16/2005	3,570.36	Sheen	35.34	-	3,535.02
	8/11/2005	3,570.36	Sheen	34.93	-	3,535.43
	9/13/2005	3,570.36	Sheen	34.83	-	3,535.53
	9/16/2005	3,570.36	-	34.85	-	3,535.51
	12/2/2005	3,570.36	-	34.63	-	3,535.73
	12/15/2005	3,570.36	-	34.62	-	3,535.74
	3/17/2006	3,570.36	-	34.65	-	3,535.71
	6/13/2006	3,570.36	-	34.85	-	3,535.51
	7/12/2006	3,570.36	-	34.94	-	3,535.42
	8/9/2006	3,570.36		35.11	-	3,535.25
	9/6/2006	3,570.36	-	35.14	-	3,535.22
	9/17/2006	3,570.36	-	35.06	-	3,535.30
	10/3/2006	3,570.36	-	35.09	-	3,535.27
	10/24/2006	3,570.36	-	35.06	-	3,535.30
	11/15/2006	3,570.36	Sheen	35.07	-	3,535.29

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-12	11/16/2006	3,570.36	-	35.00	-	3,535.36
	2/14/2007	3,570.36	34.74	35.81	1.07	3,535.46
	2/19/2007	3,570.36	34.69	35.66	0.97	3,535.52
	3/2/2007	3,570.36	34.71	35.80	1.09	3,535.49
	3/8/2007	3,570.36	34.78	35.27	0.49	3,535.51
	3/22/2007	3,570.36	34.74	35.58	0.84	3,535.49
	3/27/2007	3,570.36	34.56	35.56	1.00	3,535.65
	4/3/2007	3,570.36	34.74	35.66	0.92	3,535.48
	4/11/2007	3,570.36	34.72	35.70	0.98	3,535.49
	4/27/2007	3,570.36	34.73	35.66	0.93	3,535.49
	5/11/2007	3,570.36	34.69	35.65	0.96	3,535.53
	6/13/2007		Excavate	ed around & cut	down MW-12	
	6/19/2007	3,570.95	-		-	3,570.95
	7/2/2007	3,570.95	-	-	-	3,570.95
	7/11/2007	3,570.95	-	-	-	3,570.95
	7/19/2007	3,570.95	-	-	-	3,570.95
	7/24/2007	3,570.95	-	-	-	3,570.95
	8/1/2007	3,570.95	-	-	-	3,570.95
	8/8/2007	3,570.95	-	-	-	3,570.95
	8/14/2007	3,570.95	-	-	-	3,570.95
	8/16/2007	3,570.95	-	-	-	3,570.95
	8/24/2007	3,570.95	-	-	-	3,570.95
	8/29/2007	3,570.95	-	-	-	3,570.95
	9/5/2007	3,570.95	-	-	-	3,570.95
	9/14/2007	3,570.95	-	-	-	3,570.95
	9/26/2007	3,570.95	-	-	-	3,570.95
	10/3/2007	3,570.95	-	-	-	3,570.95
	10/10/2007	3,570.95	-	=	-	3,570.95
	10/17/2007	3,570.95	-	=	-	3,570.95
	11/1/2007	3,570.95	-	=	-	3,570.95
	11/30/2007	3,570.95	-	=	-	3,570.95
	1/11/2008	3,570.95	-	=	-	3,570.95
	1/17/2008	3,570.95	-	=	-	3,570.95
	1/22/2008	3,570.95	-	-	-	3,570.95
	2/12/2008	3,570.95	-	-	-	3,570.95
	2/21/2008	3,570.95	-	-	-	3,570.95
	4/24/2008	3,570.95	-	-	-	3,570.95
	5/8/2008	3,570.95	-		-	3,570.95
	6/25/2008	3,570.95	19.77	21.36	1.59	3,550.94
	7/14/2008	3,570.95	19.65	21.16	1.51	3,551.07
	8/18/2008	3,570.95	19.62	20.96	1.34	3,551.13
	11/3/2008	3,570.95	19.51	21.34	1.83	3,551.17
	11/7/2008	3,570.95	19.41	20.37	0.96	3,551.40
	11/14/2008	3,570.95	19.58	20.51	0.93	3,551.23
	11/21/2008	3,570.95	19.48	20.48	1.00	3,551.32
	1/6/2009	3,570.95	19.61	21.70	2.09	3,551.03
	1/13/2009	3,570.95	19.66	21.54	1.88	3,551.01
	1/22/2009	3,570.95	19.70	21.49	1.79	3,550.98

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-12	1/29/2009	3,570.95	16.73	18.60	1.87	3,553.94
	2/3/2009	3,570.95	16.76	18.39	1.63	3,553.95
	2/12/2009	3,570.95	16.76	18.49	1.73	3,553.93
	2/20/2009	3,570.95	16.29	18.46	2.17	3,554.33
	2/27/2009	3,570.95	20.59	22.13	1.54	3,550.13
	3/12/2009	3,570.95	20.64	22.53	1.89	3,550.03
	3/19/2009	3,570.95	30.69	32.44	1.75	3,540.00
	3/24/2009	3,570.95	30.70	32.58	1.88	3,539.97
	3/31/2009	3,570.95	30.72	32.62	1.90	3,539.95
	4/7/2009	3,570.95	30.73	32.37	1.64	3,539.97
	4/15/2009	3,570.95	30.75	32.39	1.64	3,539.95
	4/21/2009	3,570.95	30.78	32.31	1.53	3,539.94
	4/28/2009	3,570.95	30.81	32.37	1.56	3,539.91
	5/5/2009	3,570.95	30.81	32.38	1.57	3,539.90
	5/15/2009	3,570.95	30.81	32.51	1.70	3,539.89
	5/19/2009	3,570.95	30.86	32.39	1.53	3,539.86
	5/28/2009	3,570.95	30.87	32.55	1.68	3,539.83
	6/1/2009	3,570.95	31.90	32.46	0.56	3,538.97
	6/22/2009	3,570.95	30.90	32.72	1.82	3,539.78
	6/23/2009	3,570.95	30.90	32.72	1.82	3,539.78
	6/29/2009	3,570.95	30.92	32.65	1.73	3,539.77
	7/8/2009	3,570.95	31.05	32.17	1.12	3,539.73
	7/0/2009	3,570.95	31.00	32.63	1.63	3,539.71
	7/14/2009	3,570.95	36.94	38.45	1.51	3,533.78
	8/3/2009	3,570.95	36.93	38.63	1.70	3,533.77
	8/11/2009	3,570.95	36.97	38.66	1.69	3,533.73
	8/18/2009	3,570.95	37.00	38.62	1.62	3,533.71
	8/28/2009	3,570.95	37.02	38.70	1.68	3,533.68
	9/3/2009	3,570.95	37.02	38.72	1.68	3,533.66
	9/8/2009	3,570.95	37.04	38.64	1.61	3,533.68
	9/17/2009	3,570.95	37.03	38.74	1.66	3,533.62
	9/22/2009	,	37.08	38.68	1.56	3,533.60
		3,570.95				
	10/1/2009 10/6/2009	3,570.95 3,570.95	37.11 37.15	38.74 38.72	1.63 1.57	3,533.60 3,533.56
			37.15	38.72		,
	10/13/2009	3,570.95			1.59	3,533.55
	10/20/2009 10/29/2009	3,570.95 3,570.95	37.16 37.19	38.68 38.74	1.52 1.55	3,533.56 3,533.53
						·
	11/3/2009	3,570.95	37.25	38.62	1.37	3,533.49
	11/10/2009	3,570.95	37.29	38.73	1.44	3,533.44
	11/12/2009	3,570.95	37.25	38.21	0.96	3,533.56
	11/17/2009	3,570.95	37.31	38.62	1.31	3,533.44
	11/24/2009	3,570.95	37.34	38.64	1.30	3,533.42
	12/8/2009	3,570.95	37.28	38.88	1.60	3,533.43
	12/17/2009	3,570.95	37.32	38.91	1.59	3,533.39
	12/23/2009	3,570.95	37.41	38.52	1.11	3,533.37
	12/29/2009	3,570.95	37.39	38.96	1.57	3,533.32
	3/16/2010	3,570.95	37.52	39.22	1.70	3,531.73
	5/24/2010	3,570.95	37.59	39.24	1.65	3,531.71

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-12	10/1/2010	3,570.95	36.93	38.15	1.22	3,532.80
	11/12/2010	3,570.95	36.72	37.89	1.17	3,533.06
	2/25/2011	3,570.95	36.48	37.17	0.69	3,533.78
	5/11/2011	3,570.95	36.41	36.98	0.57	3,533.97
	8/16/2011	3,570.95	36.65	36.70	0.05	3,534.25
	11/10/2011	3,570.95	36.86	38.45	1.59	3,532.50
	3/1/2012	3,570.95	37.15	39.15	2.00	3,531.80
	6/7/2012	3,570.95	36.90	38.75	1.85	3,532.20
	7/20/2012	3,570.95	36.95	39.18	2.23	3,531.77
	11/28/2012	3,570.95	37.78	39.69	1.91	3,531.26
	2/1/2013	3,570.95	37.88	39.91	2.03	3,532.77
	5/30/2013	3,570.95	38.30	39.50	1.20	3,532.47
	9/26/2013	3,570.95	38.61	39.59	0.98	3,532.19
	11/19/2013	3,570.95	38.71	39.87	1.16	3,532.07
	7 11 101 2010	2,01000				5,55=151
MW-13	10/29/2009		Plu	ugged and Abai	ndoned	
MW-14	10/29/2009		Dlı	ı ugged and Abaı	l ndoned	
10100-14	10/23/2003		FIL	uggeu anu Abai 	Idoned	
MW-15	10/29/2009		Dlı	ı ugged and Abaı	l ndopod	
10100-13	10/29/2009		1 10	l	laoriea	
MW-16	3/14/2006	3,568.89	_	53.29	_	3,515.60
10100-10	3/17/2006	3,568.89		35.29		3,533.60
	6/13/2006	3,568.89	-	35.40	_	3,533.49
	7/12/2006	3,568.89	<u> </u>	35.51		3,533.38
	8/9/2006	3,568.89	-	35.62	_	3,533.27
	9/6/2006	3,568.89	-	35.64	_	3,533.25
	9/17/2006	3,568.89	-	35.65	-	3,533.24
	10/3/2006	3,568.89	-	35.66	_	3,533.23
	10/24/2006	3,568.89	-	35.50	_	3,533.39
	11/15/2006	3,568.89	-	35.59	_	3,533.30
	11/16/2006	3,568.89	_	35.42	_	3,533.47
	2/14/2007	3,568.89		35.29		3,533.60
	3/22/2007	3,568.89	-	35.24	<u>-</u>	3,533.65
	5/11/2007	3,568.89	-	35.31	_	3,533.58
	8/14/2007	3,568.89	_	35.34	_	3,533.55
	11/1/2007	3,568.89	-	35.49	<del>-</del>	3,533.40
	2/5/2008	3,568.89	_	35.61	_	3,533.28
	5/5/2008	3,568.89	-	35.91	_	3,532.98
	8/4/2008	3,568.89	_	36.02	_	3,532.87
	11/3/2008	3,568.89	-	36.01	_	3,532.88
	1/6/2009	3,568.89	-	36.15	_	3,532.74
	2/26/2009	3,568.89	-	36.25	_	3,532.64
	3/31/2009	3,568.89	-	36.35	_	3,532.54
	6/23/2009	3,568.89	_	36.53	_	3,532.36
	7/14/2009	3,568.89	-	36.60	_	3,532.29
	9/8/2009	3,568.89	-	36.76	_	3,532.13
	11/12/2009	3,568.89	_	36.94	_	3,531.95

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-16	3/16/2010	3,568.89	-	37.18	-	3,531.71
	5/24/2010	3,568.89	-	37.25	-	3,531.64
	10/1/2010	3,568.89	-	36.76	-	3,532.13
	11/12/2010	3,568.89	-	37.64	-	3,531.25
	2/25/2011	3,568.89	_	36.30	-	3,532.59
	5/11/2011	3,568.89	-	36.28	-	3,532.61
	8/16/2011	3,568.89	_	36.29	-	3,532.60
	11/10/2011	3,568.89	_	36.30	-	3,532.60
	3/1/2012	3,568.89	-	37.03	_	3,531.86
	6/7/2012	3,568.89	=	37.00	-	3,531.89
	7/20/2012	3,568.89	=	37.38	-	3,531.51
	11/28/2012	3,568.89	-	38.33	-	3,530.56
	2/1/2013	3,568.89	_	37.71	_	3,531.18
	5/30/2013	3,568.89	_	37.97	_	3,530.92
	9/26/2013	3,568.89	_	37.97	_	3,530.92
	11/19/2013	3,568.89	_	37.96	_	3,530.93
	11/10/2010	0,000.00		07.00		0,000.00
MW-17	3/13/2006	3,569.66	-	34.86	-	3,534.80
10100 17	3/17/2006	3,569.66	_	34.87	_	3,534.79
	6/13/2006	3,569.66	_	35.04	_	3,534.62
	7/12/2006	3,569.66	_	35.12	_	3,534.54
	9/6/2006	3,569.66	_	35.30	_	3,534.36
	9/17/2006	3,569.66		35.28	_	3,534.38
	10/3/2006	3,569.66		35.31	-	3,534.35
	10/3/2006	3,569.66	-	35.23	-	3,534.43
	11/15/2006	3,569.66		35.23	_	3,534.45
	11/16/2006	·		35.12		3,534.45
	2/14/2007	3,569.66	-	34.95	-	,
		3,569.66	-		-	3,534.71
	3/22/2007	3,569.66	-	34.97	-	3,534.69
	5/11/2007	3,569.66	-	34.94	-	3,534.72
	8/14/2007	3,569.66	_	35.06	-	3,534.60
	11/1/2007	3,569.66	-	35.21	-	3,534.45
	2/5/2008	3,569.66	-	35.43	-	3,534.23
	5/5/2008	3,569.66	-	35.74	-	3,533.92
	8/4/2008	3,569.66	-	35.83	-	3,533.83
	11/3/2008	3,569.66	-	35.68	-	3,533.98
	1/6/2009	3,569.66	-	35.90	-	3,533.76
	2/26/2009	3,569.66	-	36.04	-	3,533.62
	3/31/2009	3,569.66	-	36.15	-	3,533.51
	6/23/2009	3,569.66	-	36.35	-	3,533.31
	7/14/2009	3,569.66	-	36.42	-	3,533.24
	9/8/2009	3,569.66	-	36.59	-	3,533.07
	11/12/2009	3,569.66	-	36.74	-	3,532.92
	3/16/2010	3,569.66	-	37.01	-	3,532.65
	5/24/2010	3,569.66	-	37.09	-	3,532.57
	10/1/2010	3,569.66	-	36.53	-	3,533.13
	11/12/2010	3,569.66	-	36.28	-	3,533.38
	2/25/2011	3,569.66	-	36.03	-	3,533.63

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-17	5/11/2011	3,569.66	-	36.05	-	3,533.61
	8/16/2011	3,569.66	-	36.33	-	3,533.34
	11/10/2011	3,569.66	-	36.60	-	3,533.06
	3/1/2012	3,569.66	-	36.84	-	3,532.82
	6/7/2012	3,569.66	-	37.40	-	3,532.26
	7/20/2012	3,569.66	-	37.23	-	3,532.43
	11/28/2012	3,569.66	-	37.46	-	3,532.20
	2/1/2013	3,569.66	-	37.53	-	3,532.13
	5/30/2013	3,569.66	-	37.84	_	3,531.82
	9/26/2013	3,569.66	-	37.86	-	3,531.80
	11/19/2013	3,569.66	-	37.85	-	3,531.81
		-,				-,
MW-18	3/13/2006	3,571.17	-	34.81	-	3,536.36
	3/17/2006	3,571.17	_	34.82	_	3,536.35
	6/13/2006	3,571.17	_	35.05	_	3,536.12
	7/12/2006	3,571.17	_	35.14	_	3,536.03
	9/6/2006	3,571.17	_	35.36	_	3,535.81
	9/17/2006	3,571.17	_	33.73	_	3,537.44
	10/3/2006	3,571.17	-	35.77	_	3,535.40
	10/3/2006	3,571.17	_	35.70	_	3,535.47
	11/15/2006	3,571.17	_	35.25	_	3,535.92
	11/16/2006	3,571.17	_	35.20	_	3,535.97
	2/14/2007	3,571.17	_	35.02	_	3,536.15
	5/11/2007	3,571.17	_	35.00	-	3,536.17
	8/14/2007	3,571.17	-	35.00	<del> </del>	3,535.17
	11/1/2007	3,571.17	_	35.16	-	3,535.80
	2/5/2008	3,571.17		35.51		3,535.66
	5/5/2008	3,571.17	-	36.91	-	3,534.26
		,	-		-	,
	8/4/2008	3,571.17	-	35.90	-	3,535.27
	11/3/2008	3,571.17	-	35.67	-	3,535.50
	1/6/2009	3,571.17	-	36.06	-	3,535.11
	2/26/2009	3,571.17	-	36.26	-	3,534.91
	3/31/2009	3,571.17	-	36.39	-	3,534.78
	6/23/2009	3,571.17	-	36.64	-	3,534.53
	7/14/2009	3,571.17	-	36.71	-	3,534.46
	9/8/2009	3,571.17	-	36.88	-	3,534.29
	11/12/2009	3,571.17	-	37.01	-	3,534.16
	3/16/2010	3,571.17	-	37.18	-	3,533.99
	5/24/2010	3,571.17	-	37.41	-	3,533.76
	10/1/2010	3,571.17	-	36.72	-	3,534.45
	11/12/2010	3,571.17	-	36.49	-	3,534.68
	2/25/2011	3,571.17	-	36.13	-	3,535.04
	5/11/2011	3,571.17	-	36.12	-	3,535.05
	8/16/2011	3,571.17	-	36.51	-	3,534.66
	11/10/2011	3,571.17	-	36.90	-	3,534.27
	3/1/2012	3,571.17	-	37.30	-	3,533.87
	6/7/2012	3,571.17	-	37.60	-	3,533.57
	7/20/2012	3,571.17	-	37.62	-	3,533.55

#### PLAINS MARKETING, LP RED BYRD #1 LEA COUNTY, NEW MEXICO NMOCD REFERENCE #: 1R-0085

WELL NUMBER	DATE MEASURED	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-18	11/28/2012	3,571.17	-	37.95	-	3,533.22
	2/1/2013	3,571.17	-	37.99	-	3,533.18
	5/30/2013	3,571.17	-	38.49	-	3,532.68
	9/26/2013	3,571.17	-	38.52	-	3,532.65
	11/19/2013	3,571.17	-	38.51	-	3,532.67
MW-19	8/4/2008	3,569.78	-	37.82	-	3,531.96
	8/26/2008	3,569.78	-	37.84	-	3,531.94
	11/3/2008	3,569.78	=	37.79	-	3,531.99
	1/6/2009	3,569.78	-	37.87	-	3,531.91
	2/26/2009	3,569.78	=	37.95	-	3,531.83
	3/31/2009	3,569.78	=	38.03	-	3,531.75
	6/23/2009	3,569.78	-	38.19	-	3,531.59
	7/14/2009	3,569.78	-	38.24	-	3,531.54
	9/8/2009	3,569.78	=	38.41	-	3,531.37
	11/12/2009	3,569.78	-	38.59	-	3,531.19
	3/16/2010	3,569.78	-	38.81	-	3,530.97
	5/24/2010	3,569.78	-	38.88	-	3,530.90
	10/1/2010	3,569.78	-	38.45	-	3,531.33
	11/12/2010	3,569.78	-	38.40	-	3,531.38
	2/25/2011	3,569.78	-	38.01	-	3,531.77
	5/11/2011	3,569.78	=	37.90	-	3,531.88
	8/16/2011	3,569.78	-	38.25	-	3,531.53
	11/10/2011	3,569.78	-	38.60	-	3,531.18
	3/1/2012	3,569.78	-	38.96	-	3,530.82
	6/7/2012	3,569.78	-	38.12	-	3,531.66
	7/20/2012	3,569.78	=	38.99	-	3,530.79
	11/28/2012	3,569.78	=	37.12	-	3,532.66
	2/1/2013	3,569.78	=	39.34	-	3,530.44
	5/30/2013	3,569.78	-	39.62	-	3,530.16
	9/26/2013	3,569.78	-	39.65	-	3,530.13
	11/19/2013	3,569.78	-	39.64	-	3,530.15

Elevations based on the North American Vertical Datum of 1929.

## TABLE 2 GROUNDWATER ELEVATION DATA - CURTAILMENT PERIOD

# PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1 NMOCD REFERENCE NO: 1R-0085

		TOP OF				CORRECTED
WELL	DATE	CASING	DEPTH TO	DEPTH TO	PSH	GROUND WATER
NUMBER	MEASURED	<b>ELEVATION</b>	PRODUCT	WATER	THICKNESS	ELEVATION
MW-12	8/31/2012	3,570.95	37.35	39.15	1.80	3,533.33
	9/19/2012	3,570.95	37.75	39.15	1.40	3,532.99
	10/15/2012	3,570.95	37.70	39.72	2.02	3,532.95
	11/28/2012	3,570.95	37.78	39.69	1.91	3,532.88
	12/31/2012	3,570.95	37.69	39.72	2.03	3,532.96
	1/23/2013	3,570.95	37.88	39.90	2.02	3,532.77
	2/20/2013	3,570.95	37.88	39.91	2.03	3,532.77
	3/28/2013	3,570.95	38.03	40.05	2.02	3,532.62

Elevations based on the North American Vertical Datum of 1929.

#### PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO

PLAINS SRS NO: TNM RED BYRD #1 NMOCD REF NO: 1R-0085

		METHODS: EPA SW 846-8021B, 5030								
SAMPLE LOCATION	SAMPLE	BENZENE TOLLIENE ETHYL- M,P- O VVI ENES TOTAL TO								
	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX		
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)		
MW-1	02/02/00	0.0880	0.00300	<0.001	0.002	<0.001	0.002	0.093		
	05/15/00	0.1200	0.00300	0.0020	0.002	<0.001	0.002	0.127		
	09/14/00	0.3610	0.00200	0.0020	<0.001	<0.001	<0.001	0.365		
	12/05/00	0.4830	0.00100	0.0010	0.001	<0.001	0.001	0.486		
	03/18/05	011000	0.00.00		d Due to Prese		0.001	000		
	06/16/05	0.0875	< 0.05	0.0634	-	-	< 0.05	0.151		
	09/16/05	1.1500	<0.2	1.6100	-	_	1.150	3.910		
	12/15/05	0.5960	<0.2	<0.2	_	_	<0.2	0.596		
	03/17/06	0.6580	<0.2	0.4060	-	_	0.373	1.437		
	06/13/06	0.2900	0.00170	0.1870	-	_	0.158	0.637		
	09/06/06	0.2970	<0.2	<0.2	-	_	<0.2	0.297		
	11/15/06	0.3680	<0.001	0.2330	_	_	0.194	0.795		
	02/14/07	0.1110	<0.001	0.0954	_	_	0.083	0.290		
	05/11/07	0.4320	<0.200	0.5200	-	_	0.459	1.411		
	08/14/07	0.1460	<0.02	0.0519	-	_	0.057	0.255		
	11/01/07	0.3090	<0.02	0.1010	-	_	0.0647	0.475		
	02/05/08	0.1540	<0.001	0.5830	-	_	0.4610	1.198		
	05/05/08	0.8160	<0.005	0.2620	-	_	0.3430	1.421		
	08/04/08	0.2840	<0.005	0.1110	_	_	0.0972	0.492		
	11/03/08	0.3220	0.02930	0.1040	_	_	0.2130	0.668		
	02/27/09	0.363	0.004	0.0555	0.0516	0.0015	0.053	0.4756		
	06/24/09	0.285	<0.0500	0.0425	<0.0500	<0.0250	<0.0500	0.3275		
	09/09/09	0.7952	<0.0400	0.0425	0.1024	<0.0200	0.102	1.0426		
	10/29/09	0.7 002	₹0.0400		ged and Abanc		0.102	1.0720		
	10/20/00			l lag	god dra 7 lodre					
MW-2	02/02/00	0.0080	<0.001	<0.001	<0.001	<0.001	<0.001	0.008		
	05/15/00	0.0590	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.059		
	09/14/00	0.1040	< 0.001	< 0.001	<0.001	<0.001	<0.001	0.104		
	12/05/00	0.1800	<0.001	0.0030	0.001	<0.001	0.001	0.184		
	03/18/05	1.5700	<0.5	<0.5	-	-	<0.5	1.570		
	06/16/05	1.0300	<0.2	0.5350	_	_	0.315	1.880		
	09/16/05	0.9980	<0.2	0.6810	_	_	0.424	2.103		
	12/15/05	0.8490	<0.2	0.6050	-	_	0.402	1.856		
	03/17/06	0.6700	<0.2	0.5800	-	_	0.588	1.838		
	06/13/06	0.3390	<0.2	0.3340	-	_	<0.2	0.673		
	09/06/06	0.0000	10.2		ed Due to Well	Obstruction	10.2	0.070		
	11/09/06	Not Sampled Due to Well Obstruction Plugged and Abandoned								
	11, 30, 00			39	J = 2. 3. 7 Carre					
MW-3	02/02/00	0.1580	0.00600	0.0050	0.006	0.002	0.008	0.177		
	12/21/04	1.8400	<0.005	0.4120	-	-	0.284	2.536		
	03/18/05	0.7690	<0.5	<0.5	-	-	<0.5	0.769		
	06/16/05	0.9900	<0.5	1.2900	-	-	0.888	3.168		
	09/16/05	0.7050	<0.2	0.6780	-	-	0.458	1.841		
	12/15/05				d Due to Prese	ence of PSH				
	03/17/06	1.2400	<0.2	2.5900	-	-	2.300	6.130		
	06/13/06	0.5430	<0.2	0.4450	-	-	<0.2	0.988		
	09/06/06	0.4530	<0.2	0.6010	-	-	0.774	1.828		
	11/15/06	0.7850	<0.02	0.4930	-	-	0.318	1.596		
	02/14/07	0.9230	<0.02	2.0500	-	-	1.750	4.723		
	05/11/07	0.4840	<0.200	<0.200	_	_	0.655	1.139		
	08/14/07	0.4780	<0.02	0.3320	-	_	0.341	1.151		
	11/01/07	0.4630	<0.100	0.3320	-	-	0.206	0.820		
	1 1/01/01					· -				
	02/05/08	0.3940	< 0.100	0.2570	-	-	0.315	0.966		

## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

	METHODS: EPA SW 846-8021B, 5030									
SAMPLE LOCATION	SAMPLE	T ETHYL I M.B. I TOTAL TOTAL								
	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX		
200/111011	DAIL	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)		
MW-3	08/04/08	0.5540	<0.005	0.1820	(IIIg/L)	_	0.229	0.965		
10100-0	11/03/08	0.3820	<0.0100 0.0844 - 0.191		0.657					
	02/27/09	0.5818	<0.0400	0.0866	0.164	<0.0200	0.164	0.8324		
	06/24/09	0.3618	<0.0400	0.022	0.104	<0.0200	0.0714	0.0524		
	09/09/09	0.1008	<0.100	0.022	0.0714	<0.0500	0.0714	0.594		
	10/29/09	0.407	<0.100		ged and Aband		0.137	0.554		
	10/23/03			riug	ged and Abane	I				
MW-4	02/02/00	0.0030	<0.001	<0.001	<0.001	<0.001	<0.001	0.003		
	05/15/00	0.0020	0.00100	0.0010	< 0.001	< 0.001	<0.001	0.004		
	09/14/00	0.0070	<0.001	0.0060	0.004	<0.001	0.004	0.017		
	12/05/00	0.0130	0.00100	0.0040	0.003	<0.001	0.003	0.021		
	03/18/05	< 0.005	< 0.005	0.1220	-	-	0.096	0.218		
	06/16/05	0.1420	< 0.005	0.1240	-	-	0.116	0.382		
	09/16/05	0.0919	< 0.001	0.3210	-	-	0.258	0.671		
	12/15/05	0.0625	< 0.005	0.2890	-	-	0.230	0.582		
	03/17/06	< 0.001	0.03920	0.2510	-	-	0.211	0.501		
	06/13/06	0.0258	< 0.005	0.3510	-	-	0.238	0.615		
	09/06/06	< 0.001	0.01100	0.2690	-	-	0.205	0.485		
	11/15/06	< 0.001	0.00380	0.2730	-	-	0.209	0.486		
	02/14/07	<0.001	<0.001	0.2850	_	_	0.222	0.507		
	05/11/07	0.0455	0.01770	0.2550	_	_	0.214	0.532		
	08/14/07	0.0298	0.00620	0.1540	-	-	0.112	0.302		
	11/01/07	0.0154	0.00560	0.1460	-	-	0.116	0.283		
	02/05/08	0.0083	0.00820	0.2190	-	-	0.172	0.408		
	05/05/08	0.1950	< 0.005	0.2190	-	-	0.174	0.588		
	08/04/08	0.0784	0.00430	0.1840	-	-	0.148	0.415		
	11/03/08	0.0102	0.00540	0.1460	-	-	0.121	0.283		
	02/27/09	0.01	0.012	0.1089	0.1041	0.0065	0.1106	0.2415		
	06/24/09	< 0.0010	0.0033	0.027	0.0351	0.0011	0.0362	0.0665		
	09/09/09	0.0235	0.0176	0.0968	0.1289	0.0249	0.1538	0.2917		
	10/29/09		•	Plug	ged and Aband	loned				
MW-5	02/02/00	0.0320	0.04300	0.1960	0.152	0.018	0.170	0.441		
	03/18/05			Not Sample	d Due to Prese	ence of PSH				
	06/16/05	0.4090	0.07600	0.4330	-	-	0.670	1.588		
	09/16/05	0.1240	<0.001	0.3020	-	-	0.340	0.766		
	12/15/05	0.1490	<0.005	0.3040	-	-	0.426	0.879		
	03/17/06	<0.01	<0.01	0.2730	-	-	0.394	0.667		
	06/13/06	0.1480	<0.05	0.2020	-	-	0.199	0.549		
	09/06/06	0.2020	<0.001	0.2500	-	-	0.285	0.737		
	11/15/06	0.2070	<0.001	0.2030	-	-	0.205	0.615		
	02/14/07	0.2390	<0.001	0.1660	-	-	0.281	0.686		
	05/11/07	0.1900	0.06090	0.1100	-	-	0.412	0.773		
	08/14/07	0.1560	<0.01	0.0385	-	-	0.361	0.556		
	11/01/07	0.1110	<0.001	0.0097	-	-	0.177	0.298		
	02/05/08	0.0825	0.00300	0.0158	-	-	0.193	0.294		
	05/05/08	0.2230	<0.005	0.0051	-	-	0.2380	0.466		
	08/04/08	0.0610	0.00190	<0.001	-	-	0.1300	0.193		
	11/03/08	0.0266	<0.001	0.0067	-	-	0.1060	0.139		
	02/27/09	0.0254	<0.0200	0.0107	0.0819	<0.0100	0.0819	0.118		
	06/24/09	0.0065	0.0039	<0.0010	0.0461	0.0056	0.0517	0.0621		
	09/09/09 10/29/09	0.0063	0.0062	<0.0010	0.058 ged and Aband	0.0085	0.0665	0.079		

## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

		METHODS: EPA SW 846-8021B, 5030								
SAMPLE LOCATION	SAMPLE	PLE BENZENE TOLUENE ETHYL- M,P- O-XYLENES TOTAL								
	DATE			BENZENE	XYLENES	-	XYLENES	BTEX		
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)		
MW-6	02/02/00	0.0470	0.00200	0.0040	0.004	0.002	0.006	0.059		
	05/15/00	0.0550	0.00200	0.0050	0.002	0.001	0.003	0.065		
	09/14/00	0.0460	0.00200	0.0030	< 0.001	< 0.001	<0.001	0.051		
	12/05/00	0.0730	0.00100	0.0060	0.005	0.001	0.006	0.086		
	03/07/01	0.1240	< 0.001	0.0020	0.001	0.003	0.004	0.130		
	05/23/01	0.0500	0.00500	< 0.005	-	-	< 0.005	0.055		
	08/06/01	0.0420	< 0.001	0.0010	< 0.001	<0.001	<0.001	0.043		
	10/02/01	0.0170	< 0.001	< 0.001	< 0.001	<0.001	<0.001	0.017		
	02/28/02	0.0330	< 0.001	0.0020	< 0.001	< 0.001	<0.001	0.035		
	05/14/02	0.0283	< 0.001	0.0013	< 0.001	< 0.001	<0.001	0.030		
	08/19/02	0.0320	< 0.001	0.0010	< 0.001	< 0.001	< 0.001	0.033		
	11/18/02	0.0220	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.022		
	09/09/04	0.0064	< 0.001	< 0.001	< 0.002	< 0.001	< 0.002	0.006		
	12/21/04	0.0034	<0.001	<0.001	-	-	<0.001	0.003		
	03/18/05	0.0208	<0.001	0.0029	-	-	<0.001	0.024		
	06/16/05	0.1680	<0.02	0.0383	-	-	<0.02	0.206		
	09/16/05	0.2390	<0.001	0.0599	-	-	0.030	0.329		
	12/15/05	0.2490	<0.01	0.0538	-	-	0.017	0.320		
	03/17/06	0.1340	<0.001	0.0240	-	-	0.009	0.167		
	06/13/06	0.2580	<0.001	0.0272	_	_	0.014	0.299		
	09/06/06	0.2890	<0.001	0.0175	_	_	<0.001	0.307		
	11/15/06	0.1600	<0.001	0.0104	-	-	0.0041	0.175		
	02/14/07	0.5710	0.82700	0.0933	_	-	0.1140	1.605		
	05/11/07	0.2920	0.02540	0.0174	_	_	0.0154	0.350		
	08/14/07				Due to Excava	tion Activities				
	11/01/07	0.2050	0.03230	0.0333	-	-	0.0216	0.292		
	02/05/08	0.2790	0.00300	0.0158	-	-	0.1930	0.491		
	05/05/08	0.3270	0.11500	<0.02	_	_	<0.020	0.442		
	08/04/08	0.2900	0.11700	0.0294	_	_	0.0316	0.468		
	11/03/08	0.1260	0.04720	0.0203	-	-	0.0231	0.217		
	2/27/2009	0.0287	0.0168	0.0038	0.0025	< 0.0010	0.0025	0.0518		
	06/24/09	0.2292	0.21	0.0242	<0.0400	0.0328	0.0328	0.4962		
	09/09/09	0.5374	0.7818	0.096	0.0832	0.0266	0.1098	1.525		
	11/12/09	0.0104	0.0152	0.0028	0.0033	0.0011	0.0044	0.0328		
	05/24/10	0.0113	0.0295	0.0035	0.0052	0.0019	0.0071	0.0514		
	11/12/10	0.0025	0.0025	<0.0010	<0.0020	<0.0010	<0.0020	0.005		
	05/11/11	0.200	0.295	<0.100	<0.200	0.108	0.108	0.603		
	11/10/11	0.0541	0.0197	0.0110	0.0128	0.00594	0.01874	0.104		
	06/07/12	0.0028	<0.0020	<0.0010	0.0024	<0.0010	0.00236	0.0052		
	11/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
	05/30/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
	11/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
	, , 10	13.0010	13.0020	13.0010	13.0020	13.0010	13.0020	-3.0020		
MW-7	02/02/00	0.0070	<0.001	0.0010	0.002	<0.001	0.002	0.010		
	05/15/00	0.0040	<0.001	0.0010	<0.001	<0.001	<0.001	0.005		
	09/14/00	0.0460	<0.001	0.0010	<0.001	<0.001	<0.001	0.048		
	12/05/00	0.0620	<0.001	0.0020	<0.001	<0.001	<0.001	0.040		
	03/07/01	0.0760	<0.001	<0.0020	0.001	0.003	0.004	0.080		
	05/23/01	0.0150	<0.005	<0.005	-	-	<0.005	0.015		
	08/06/01	0.0110	<0.001	<0.001	<0.001	<0.001	<0.001	0.013		
	10/02/01	0.0250	<0.001	<0.001	<0.001	<0.001	<0.001	0.025		
	02/28/02	0.0250	<0.001	<0.001	<0.001	<0.001	<0.001	0.025		
	05/14/02	0.0040	<0.001	<0.001	<0.001	<0.001	<0.001	0.004		
	1 (15/17/17)									

## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

		METHODS: EPA SW 846-8021B, 5030								
SAMPLE LOCATION	SAMPLE	L ETHYL I M P. L TOTAL L TOT								
	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX		
LOCATION	DATE	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)		
MW-7	11/18/02	0.0240	<0.001	<0.001	<0.001	<0.001	<0.001	0.024		
10100-7	09/08/04	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000		
	12/21/04	0.0057	<0.001	<0.001		<0.001	<0.002	0.006		
	03/18/05	0.0037	<0.001	<0.001	-	-	<0.001	0.000		
	06/16/05	0.0010	<0.001	0.0040	-	-	0.002	0.002		
	09/16/05			0.0040		-		0.017		
		0.0079	<0.001		-	-	<0.001			
	12/15/05	0.0217	<0.001	0.0034	-	-	0.002	0.027		
	03/17/06	0.0304	<0.001	0.0050	-	-	0.003	0.038		
	06/13/06	0.0417	<0.001	0.0037	-	-	0.004	0.049		
	09/06/06	0.0324	<0.001	0.0035	-	-	0.007	0.043		
	11/15/06	0.0486	<0.001	0.0040	-	-	0.0024	0.055		
	02/14/07	0.0551	< 0.001	0.0047	-	-	<0.001	0.060		
	05/11/07	0.0378	<0.001	0.0041	-	-		0.049		
	08/14/07	0.0143	<0.001	0.0031	-	-	0.0207	0.038		
	11/01/07	0.0224	< 0.001	0.0017	-	-	< 0.001	0.024		
	02/05/08	0.0166	< 0.001	< 0.001	-	-	<0.001	0.017		
	05/05/08	0.1160	< 0.001	< 0.001	-	-	0.0043	0.120		
	08/04/08	0.0083	< 0.001	0.0010	-	-	<0.001	0.009		
	11/03/08	0.0027	< 0.001	< 0.0010	-	-	0.0149	0.018		
	02/27/09	0.0039	<0.0020	<0.0010	<0.0020	0.0018		0.0057		
	06/24/09	0.0011	<0.0020	<0.0010	<0.0020	< 0.0010		0.0011		
	09/09/09	0.0051	<0.0020	0.0012	<0.0020	0.0016		0.0079		
	11/12/09	0.0046	<0.0020	<0.0010	<0.0020	<0.0010		0.0046		
	05/24/10	0.0015	<0.0020	<0.0010	<0.0020	<0.0010		0.0015		
	11/12/10	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010		<0.0020		
	05/11/11	0.00165	<0.0020	<0.0010	<0.0020	<0.0010		0.00165		
	11/10/11	<0.00103	<0.0020	<0.0010	<0.0020	<0.0010		<0.0020		
	06/07/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010		<0.0020		
	11/28/12	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010		<0.0020		
	05/30/13							<0.0020		
			<0.0010 <0.0020 <0.0010 <0.0020 <0.0010							
	11/19/13	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020		
MW-8	11/11/04	0.1850	<0.001	0.0418	-	_	0.026	0.253		
IVIVV-8						-				
	03/18/05	0.0796	<0.005	0.0686	-	-	<0.001   0.0043   <0.001   0.0149   8   0.0018   10   <0.0020   6   0.0016   10   <0.0020   10   <0.0020	0.170		
	06/16/05	0.1110	<0.001	0.1050	-	-		0.264		
	09/16/05	0.0628	<0.001	0.0637	-	-		0.152		
	12/15/05	<0.001	<0.001	<0.001	-	-		0.006		
	03/17/06	0.0116	<0.001	0.0122	-	-		0.048		
	06/13/06	<0.001	<0.001	<0.001	-	-		0.017		
	09/06/06	<0.001	<0.001	<0.001	-	-		0.015		
	11/15/06	0.0366	<0.001	0.0199	-	-		0.0747		
	02/14/07	0.0718	< 0.001	0.0253	-	-	0.0384	0.1355		
	05/11/07	0.0442	<0.001	0.0197	-	-	0.0243	0.0882		
	08/14/07	0.0413	<0.001	0.0067	-	-	0.0147	0.0627		
	11/01/07	0.0251	<0.001	0.0063	-	-	0.0125	0.0439		
	02/05/08	0.0319	<0.001	0.0045	-	-	0.0175	0.0539		
	05/05/08	0.0061	<0.001	0.0018	-	-	0.0129	0.0208		
	08/04/08	0.0051	< 0.001	< 0.001	-	-	0.0034	0.0085		
	11/03/08	0.0297	< 0.001	0.0035	-	-	0.0323	0.0655		
	02/27/09	0.0344	0.0026	0.004	0.0229	0.0049	0.0278	0.0688		
	06/24/09	0.005	<0.0020	<0.0010	0.0033	< 0.0010	0.0033	0.0083		
	09/09/09	0.017	<0.0020	0.0025	0.0113	0.0032	0.0145	0.034		
	10/29/09				ged and Abanc		-			
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## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

				METHODS:	EPA SW 846-	W 846-8021B, 5030			
SAMPLE	SAMPLE	L ETHYL L M.P. L TOTAL L TO							
LOCATION	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX	
200/111011	5/2	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
MW-9	11/11/04	0.2810	<0.05	0.0884	(IIIg/L)	_	<0.05	0.369	
10100-9	03/18/05	0.2810	<0.05	< 0.005	-	-	<0.05	0.016	
	06/16/05	0.4620	<0.003	0.2120		-	<0.003	0.674	
	09/16/05	0.4620	0.03980	0.2120	-	-	0.144	1.081	
	12/15/05	0.6630	<0.1	0.2340	-	-	<0.1	0.619	
	03/17/06	0.4480	<0.02	0.1710	-	-	0.078	0.579	
	06/13/06	0.3790	<0.02	0.1220	-	-	< 0.078	0.376	
	09/06/06	0.3040	<0.03	0.0723	-		<0.03	0.201	
	11/15/06	0.1750	<0.02	0.0256	-	-	0.0145	0.4601	
	02/14/07	0.4000	<0.001	0.0436	-	-	0.0145	0.3007	
	05/11/07	0.2760	<0.001	<0.020	-	-	<0.020	0.2000	
		0.2000		0.0381	-	-	0.0352		
	08/14/07 11/01/07	0.0963	<0.02	0.0361			<0.001	0.1716 0.1510	
			<0.001	0.0110	-	-			
	02/05/08	0.2360	<0.001		-	-	0.0015	0.2447	
	05/05/08	0.1980	< 0.005	0.0102	-	-	0.0099	0.2181	
	08/04/08	0.0270	<0.001	0.0011	-	-	<0.001	0.0281	
	11/03/08 02/27/09	<b>0.2790</b> 0.6513	<0.001 0.0069	0.0068 0.0233		-	0.0252 0.0352	0.3110	
		0.6513			0.0163	0.0189		0.0189	
	06/24/09		<0.0020	<0.0010 0.021	<0.0020	<0.0010	<0.0020	<0.0020	
	09/09/09	0.6048	<0.0400		<0.0400 ged and Aband	<0.0200	<0.0400	<0.0400	
	10/29/09			Piug	ged and Aband	aonea			
MW-10	11/11/04	0.0813	<0.005	0.0542			0.010	0.146	
IVIVV - I U	03/18/05	0.0462			-	-			
			<0.01	0.0206	-	-	<0.01	0.067	
	06/16/05	0.0753	<0.02	0.0692	-	-	0.033	0.178	
	09/16/05	0.2460	<0.001	0.1760	-	-	0.095	0.517	
	12/15/05	0.2400	<0.1	0.1930	-	-	<0.1	0.433	
	03/17/06	0.2280	<0.01	0.1860	-	-	0.086	0.500	
	06/13/06	0.2320	<0.05	0.2040	-	-	0.065	0.501	
	09/06/06	0.1380	<0.02	0.0622	-	-	0.043	0.243	
	11/15/06	0.1910	<0.001	0.1670	-	-	0.0942	0.452	
	02/14/07	0.1830	<0.001	0.1620	-	-	0.0819	0.427	
	05/11/07	0.1110	<0.010	0.0703	-	-	0.0550	0.236	
	08/14/07	0.0784	<0.01	0.0291	-	-	0.0177	0.125	
	11/01/07	0.1100	<0.001	0.0412	-	-	0.0368	0.188	
	02/05/08	0.1180	<0.001	0.0029	-	-	0.0240	0.145	
	05/05/08	0.1150	< 0.005	0.0082	-	-	0.0305	0.154	
	08/04/08	0.0762	<0.001	0.0055	-	-	0.0131	0.095	
	11/03/08	0.0625	<0.001	0.0050		-0.0010	0.0279	0.095	
	02/27/09	0.0816	0.0046	0.0078	0.0124	<0.0010	0.0124	0.1064	
	6/24/09	0.0656	<0.0400	<0.0200	<0.0400	<0.0200	<0.0400	0.0656	
	9/9/09	0.0015	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0015	
	10/29/09			Piùgi	ged and Aband	JOHEO			
MW-11	11/11/04	0.0195	<0.005	<0.005			<0.005	0.020	
IVIVV-II	03/18/05	0.0195	<0.005	0.0104	-	-	<0.005	0.020	
	03/18/05	0.0648	<0.005	0.0104	-	-	<0.005	0.075	
	09/16/05	0.1640	<0.01	0.0132	-	-	<0.01	0.177	
		<0.001			-	-			
	12/15/05		<0.001	<0.001	-	-	<0.001	<0.001	
	03/17/06	<0.001 <b>0.1550</b>	<0.001	<0.001 <0.02	-	-	0.010	0.010	
	06/13/06		< 0.02		-	-	<0.02	0.155	
	09/06/06	0.0144	<0.001	<0.001	-	-	<0.001	0.014	
	11/15/06	0.2280	<0.001	0.0456	-	-	0.0118	0.2854	
	02/14/07	0.2760	0.00110	0.0571	-	-	0.0140	0.3482	

## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

		METHODS: EPA SW 846-8021B, 5030									
SAMPLE LOCATION	SAMPLE	IMPLE THYLL M.D. TOTAL TOTAL									
	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX			
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)			
MW-11	05/11/07	0.2000	<0.010	0.0439	(IIIg/L)	_	<0.010	0.2439			
10100-11	08/14/07	0.2000	<0.02	0.0290	-	_	<0.010	0.1730			
	11/01/07	0.2680	<0.02	0.0602	-	_	0.0178	0.3460			
	02/05/08	0.2600	<0.001	0.0599	-	-	0.0178	0.3472			
	05/05/08	0.2310	<0.001	0.0399	-	-	0.0273	0.3472			
	08/04/08	0.2310	<0.005	<0.005	-	_	< 0.0248	0.0375			
			<0.003	0.0108	-	-	0.0217	0.0375			
	11/03/08	0.1050			0.007	- 0.0100					
	02/27/09	0.432	<0.0200	0.0566	0.027	<0.0100	0.027	0.5156			
	06/24/09	0.311	<0.0400	0.0326	<0.0400	<0.0200	<0.0400	0.3436			
	09/09/09	0.0201	<0.0020	0.003	<0.0020	<0.0010	<0.0020	0.0231			
	11/12/09	0.0089	<0.0020	<0.0010	<0.0020	0.0017	0.0017	0.0106			
	05/24/10	0.0465	<0.0020	0.0084	0.0047	0.0074	0.0121	0.067			
	11/12/10	0.0142	0.0030	0.0052	0.0063	0.0018	0.0081	0.0305			
	05/11/11	0.0371	<0.0020	0.0159	0.00745	<0.0010	0.00745	0.0605			
	11/10/11	0.0460	0.0108	0.0256	0.0381	0.0275	0.0656	0.148			
	06/07/12	0.0020	< 0.0020	0.0019	< 0.0020	0.0014	0.00144	0.0053			
	11/28/12	0.0129	0.0031	0.0065	0.0050	0.0032	0.00825	0.0307			
	05/30/13	0.0362	0.0048	0.0116	0.0074	0.0062	0.01365	0.0663			
	11/19/13	0.0052	0.0022	0.0066	0.0091	< 0.0010	0.00908	0.0231			
MW-12	11/11/04	0.0076	<0.005	< 0.005	-	-	0.010	0.017			
	03/18/05	0.0580	<0.005	0.0427	_	_	0.042	0.143			
	06/16/05	0.1070	<0.02	0.0757	_	_	0.071	0.254			
	09/16/05	0.0422	<0.02	0.0326	-	_	<0.02	0.075			
	12/15/05	0.0226	<0.02	1.0000	-	_	0.011	1.034			
	03/17/06	0.1150	<0.001	<0.1			<0.1	0.115			
	06/13/06	0.1130	<0.001	0.0057	-	_	0.045	0.178			
	09/06/06	0.1270	<0.001	0.0037	-	-	0.045	0.178			
	11/15/06	0.0198	<0.001	0.0013	-	-	0.003	0.026			
	02/14/07	0.1320	<0.001		d Dua ta Drasa	- I	0.0709	0.2490			
		Not Sampled Due to Presence of PSH									
	05/11/07	Not Sampled Due to Presence of PSH									
	08/14/07	Not Sampled Due to Presence of PSH									
	11/01/07	Not Sampled Due to Presence of PSH									
	02/05/08	Not Sampled Due to Presence of PSH									
	11/03/08	0.7290	0.21300	0.9940	-	-	2.6400	4.5760			
	02/27/09		Not Sampled Due to Presence of PSH								
	06/24/09	Not Sampled Due to Presence of PSH									
	09/09/09				d Due to Prese	ence of PSH					
	11/12/09	0.0892	<0.0200	0.1112	0.1559	0.0132	0.1691	0.3695			
				No Longer Sam	pled Due to P	resence of PSH					
MW-13	03/17/06	< 0.001	< 0.001	< 0.001	-	-	<0.001	<0.001			
	06/13/06	< 0.001	< 0.001	< 0.001	-	-	<0.001	<0.001			
	09/06/06	<0.001	<0.001	<0.001	-	-	0.004	0.004			
	11/15/06	<0.001	<0.001	<0.001	-	-	0.0011	0.001			
	02/14/07	<0.001	<0.001	<0.001	-	-	0.0020	0.002			
	05/11/07	<0.001	<0.001	<0.001	-	-	0.0098	0.0098			
	08/14/07	<0.001	<0.001	<0.001	-	_	<0.001	<0.001			
	11/01/07	<0.001	<0.001	<0.001	-	_	<0.001	<0.001			
	02/05/08	<0.001	<0.001	<0.001	-	_	0.0021	0.0021			
	05/05/08	<0.001	<0.001	<0.001	_	_	0.0021	0.0021			
	03/03/08	<b>₹0.001</b>				-					
	08/04/00	~0 001	∠N N∩1	∠n nn1		1					
	08/04/08 11/03/08	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	-	-	<0.001 <0.001	<0.001			

## PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

		METHODS: EPA SW 846-8021B, 5030							
SAMPLE LOCATION	SAMPLE	I STHYL I M.B. I TOTAL TOTAL							
	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX	
LOCATION	DAIL	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
MW-13	06/24/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	
10100 10	09/09/09	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020	
	10/29/09	10.00.0	10.0020		ged and Aband		10.0020	10.0020	
	10/20/00			1 149;	god dra 7 lodric	I			
MW-14	03/17/06	<0.005	<0.005	<0.005	-	-	< 0.005	<0.005	
	06/13/06	0.0112	<0.001	0.0025	-	-	0.003	0.017	
	09/06/06	0.0200	0.00250	0.0115	-	-	0.032	0.066	
	11/15/06	0.0188	< 0.001	0.0031	-	-	0.0145	0.0364	
	02/14/07	< 0.001	< 0.001	< 0.001	-	-	0.0164	0.0164	
	05/11/07	0.0110	< 0.001	< 0.001	-	-	0.0066	0.0176	
	08/14/07	0.0085	< 0.001	< 0.001	-	-	0.0118	0.0203	
	11/01/07	0.0051	< 0.001	< 0.001	-	-	<0.001	0.0051	
	02/05/08	0.0095	< 0.001	<0.001	-	-	<0.001	0.0095	
	05/05/08	0.0072	0.00150	< 0.001	-	-	0.0041	0.0128	
	08/04/08	0.0076	0.00130	0.0017	-	-	0.0026	0.0132	
	11/03/08	0.0062	< 0.00100	< 0.00100	-	-	0.0147	0.0209	
	02/27/09	0.0067	0.0033	0.0017	0.0045	0.0046	0.0091	0.0208	
	06/24/09	0.0037	<0.0020	0.0012	<0.0020	< 0.0010	<0.0020	0.0049	
	09/09/09	0.004	0.0025	0.0019	<0.0020	< 0.0010	<0.0020	0.0084	
	10/29/09			Plug	ged and Abanc	loned			
MW-15	03/17/06	0.4770	<0.02	<0.02	-	-	< 0.02	0.477	
	06/13/06	0.5670	<0.02	0.1810	-	-	0.114	0.862	
	09/06/06	0.6980	<0.02	0.2470	-	-	0.106	1.051	
	11/15/06	0.6020	<0.02	0.2650	-	-	0.134	1.001	
	02/14/07	0.2540	<0.001	0.1480	-	-	0.091	0.493	
	05/11/07	0.4380	< 0.010	0.2030	-	-	0.087	0.728	
	08/14/07	0.2960	<0.01	0.1940	-	-	0.114	0.604	
	11/01/07	1.0700	<0.1	0.3580	-	-	0.175	1.603	
	02/05/08	0.5000	<0.001	0.1590	-	-	0.0861	0.745	
	05/05/08	0.5980	<0.005	0.1900	-	-	0.0919	0.880	
	08/04/08	0.0660	<0.005	0.0144	-	-	0.0108	0.091	
	11/03/08	0.4080	<0.0100	0.1270	-	-	0.1770	0.712	
	02/27/09	0.9456	0.0034	0.1223	0.0594	0.007	0.0664	1.1377	
	06/24/09	0.6999	<0.0200	0.0789	0.0405	<0.0100	0.0405	0.8193	
	09/09/09	0.9894	<0.0400	0.1772	0.0776	<0.0200	0.0776	1.2442	
	10/29/09			Plug	ged and Aband	loned			
NAVA 4.0	00/17/00	0.1000	.0.4	.0.4			.0.4	0.100	
MW-16	03/17/06	0.1990	<0.1	<0.1	-	-	<0.1	0.199	
	06/13/06	0.2330	<0.2	<0.2	-	-	<0.2	0.233	
	09/06/06	0.1460	<0.1	<0.1	-	-	<0.1	0.146	
	11/15/06	0.1840	<0.001	0.1500		-	0.110	0.444	
	02/14/07	0.1920	<0.001	0.1420	-	-	0.106	0.440	
	05/11/07	<0.100	<0.100	0.1110	-	-	<0.100	0.111 0.157	
	08/14/07 11/01/07	0.0801 0.1160	<0.01 <0.001	0.0454 0.1160	-	-	0.0318 0.0870	0.157	
	02/05/08	0.1160	<0.001	0.1160	-	-	0.0870	0.741	
	05/05/08	0.0796	<0.005	0.0110	<u>-</u>	<del>-</del> -	0.0503	0.741	
	08/04/08	0.1260	<0.003	0.0824	-	-	0.0334	0.264	
	11/03/08	0.0300	<0.001	0.0334	-	_	0.0204	0.1104	
	02/27/09	0.0732	0.0053	0.0722	0.1248	0.0067	0.1010	0.6501	
	06/24/09	0.2906	<0.0400	0.2223	0.1246	<0.0200	0.1313	0.8301	
	09/09/09	0.128	<0.0400	0.0916	0.0366	<0.0200	0.0366	0.2762	
	11/12/09	0.4140	\U.U <del>1</del> UU	0.1666	0.0946	0.0092	0.0948	U.7/44	

#### TABLE 3 CONCENTRATIONS OF BENZENE & BTEX IN GROUNDWATER

# PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1

NMOCD REF NO: 1R-0085

		METHODS: EPA SW 846-8021B, 5030							
SAMPLE	SAMPLE			ETHYL-	M,P-	,	TOTAL	TOTAL	
LOCATION	DATE	BENZENE	TOLUENE	BENZENE	XYLENES	O-XYLENES	XYLENES	BTEX	
LOCATION	DAIL	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
MW-16	05/24/10	0.0271	<0.0100	0.0176	0.0112	0.0055	0.0167	0.0614	
10100 10	11/12/10	0.0141	0.0033	0.0175	0.0135	0.0020	0.0155	0.0484	
	05/11/11	0.0349	<0.0010	0.0336	0.0213	<0.0050	0.0213	0.0898	
	11/11/11	0.00159	<0.0010	0.00197	<0.0020	<0.0010	<0.0020	0.00356	
	06/07/12	0.0366	<0.0020	0.0426	<0.0020	<0.0010	<0.0020	0.00330	
	11/28/12	0.0286	0.0056	0.0377	0.0311	0.0023	0.03344	0.105	
	05/30/13	0.0027	<0.0020	0.0036	0.0031	0.0023	0.00478	0.0111	
	11/19/13	0.00534	<0.0020	0.0030	0.00644	<0.0017	0.00644	0.0111	
	11/19/13	0.00554	<0.0020	0.00402	0.00044	<0.0010	0.00044	0.0130	
MW-17	03/17/06	0.0281	<0.01	<0.01	-	-	<0.01	0.028	
	06/13/06	0.0251	< 0.001	< 0.001	-	_	0.003	0.028	
	09/06/06	0.0168	0.00100	0.0108	_	_	0.010	0.039	
	11/15/06	0.0329	<0.001	0.0220	_	_	0.0174	0.0723	
	02/14/07	0.0812	<0.001	0.0599	_	_	0.0549	0.1960	
	05/11/07	0.0511	<0.001	0.0410	_	_	0.0335	0.1256	
	08/14/07	0.0629	<0.001	0.0351	-	_	0.0189	0.1169	
	11/01/07	0.0318	<0.001	0.0254	-	_	0.0184	0.0756	
	02/05/08	0.0554	<0.001	0.0399	_	_	0.0291	0.1244	
	05/05/08	0.0800	<0.005	0.0405	_	_	0.0297	0.1502	
	08/04/08	0.0299	<0.001	0.0159	_	_	0.0105	0.0563	
	11/03/08	0.0706	<0.001	0.0415	_	_	0.0417	0.1538	
	02/27/09	0.1826	0.0046	0.0631	0.0596	0.0021	0.0617	0.312	
	06/24/09	0.0164	0.0025	0.0067	0.0049	0.0011	0.006	0.0316	
	09/09/09	0.1962	<0.0400	0.0934	0.0696	<0.0200	0.0696	0.3592	
	11/12/09	0.0039	<0.0020	0.0027	0.0021	<0.0010	0.0021	0.0087	
	05/24/10	0.0424	<0.0020	0.0194	0.0139	0.0028	0.0167	0.0785	
	11/12/10	0.0020	<0.0020	<0.0010	<0.0020	< 0.0010	<0.0020	0.002	
	05/11/11	0.0693	< 0.0100	0.0313	0.0319	<0.0050	0.0319	0.133	
	11/10/11	0.0189	<0.0020	0.0105	0.00969	0.00214	0.01183	0.0412	
	06/07/12	0.0137	0.0021	0.0079	0.0075	0.0024	0.00989	0.0336	
	11/28/12	0.0238	<0.0020	0.0153	0.0147	0.0011	0.01577	0.0549	
	05/30/13	0.0070	<0.0020	0.0039	0.0040	<0.0010	0.004	0.0149	
	11/19/13	0.0290	<0.0020	0.0129	0.0102	0.00295	0.0132	0.0551	
MW-18	03/17/06	<0.001	< 0.001	0.0018	-	-	<0.001	0.002	
	06/13/06	0.0090	< 0.001	0.0392	-	-	0.038	0.086	
	09/06/06	0.0091	<0.001	0.0492	-	-	0.041	0.099	
	11/15/06	0.0075	< 0.001	0.0626	-	-	0.0456	0.1157	
	02/14/07	0.0090	0.00340	0.0667	-	-	0.0651	0.1442	
	05/11/07	0.0073	< 0.001	0.0653	-	-	0.0558	0.1284	
	08/14/07	0.0072	< 0.001	0.0518	-	-	0.0419	0.1009	
	11/01/07	0.0050	< 0.001	0.0600	-	-	0.0462	0.1112	
	02/05/08	0.0080	< 0.001	0.0864	-	-	0.0671	0.1615	
	05/05/08	0.0438	< 0.005	0.0991	ı	-	0.0766	0.2195	
	08/04/08	0.0174	0.00170	0.0590	-	-	0.0469	0.1250	
	11/03/08	0.0039	0.00400	0.0420	-	-	0.0397	0.0896	
	02/27/09	0.0077	0.0073	0.0322	0.0258	0.0053	0.0311	0.0783	
	06/24/09	0.0068	<0.0100	0.0445	0.0311	<0.0050	0.0311	0.0824	
	09/09/09	0.0158	0.0053	0.1158	0.0858	< 0.0010	0.0858	0.2227	
	11/12/09	0.0013	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0013	
	05/24/10					Hydrocarbon Sh			
	11/12/10					Hydrocarbon Sh			
	05/11/11	0.0134	0.0184	0.0541	0.0417	<0.0050	0.0417	0.128	
	11/10/11	0.00431	0.00985	0.0269	0.0282	0.0123	0.0405	0.0816	

#### TABLE 3 CONCENTRATIONS OF BENZENE & BTEX IN GROUNDWATER

# PLAINS MARKETING, L.P. RED BYRD #1 LEA COUNTY, NEW MEXICO PLAINS SRS NO: TNM RED BYRD #1 NMOCD REF NO: 1R-0085

METHODS: EPA SW 846-8021B, 5030 **SAMPLE** SAMPLE TOTAL TOTAL ETHYL-M,P-**BENZENE TOLUENE O-XYLENES LOCATION** DATE **BENZENE XYLENES XYLENES BTEX** (mg/L)(mg/L) (mg/L) (mg/L) (mg/L) (mg/L)(mg/L) MW-18 06/07/12 0.0042 0.0063 0.0102 0.0093 0.0052 0.01447 0.0351 11/28/12 0.0015 0.0050 0.0066 0.0084 0.0040 0.01233 0.0255 05/30/13 0.0029 0.0077 0.0030 0.0054 0.0052 0.01063 0.0243 11/19/13 < 0.0010 <0.0020 0.00235 0.00235 < 0.0010 < 0.0020 < 0.0010 MW-19 08/04/08 <0.001 <0.001 0.0039 0.0039 0.0078 08/22/08 < 0.001 < 0.001 0.0017 < 0.001 0.0017 11/03/08 0.0012 < 0.001 0.0201 0.0108 0.0321 02/27/09 0.0027 < 0.0020 0.0252 0.0159 0.004 0.0199 0.0478 06/24/09 0.0018 < 0.0020 0.0114 0.0067 0.0011 0.0078 0.021 09/09/09 0.0024 < 0.0020 0.0878 0.0498 < 0.0010 0.0498 0.14 11/12/09 0.0064 <0.0020 0.0025 <0.0020 <0.0010 <0.0020 0.0089 05/24/10 0.0013 < 0.0020 0.0032 < 0.0020 <0.0010 < 0.0020 0.0045 0.0015 < 0.0020 0.0021 < 0.0010 < 0.0020 0.0036 11/12/10 < 0.0020 0.00562 05/11/11 0.00359 < 0.0020 0.0100 0.00316 0.00246 0.0192 11/10/11 0.00106 < 0.0020 < 0.0010 < 0.0020 < 0.0010 <0.0020 0.00106 06/07/12 0.0019 < 0.0020 < 0.0010 < 0.0020 < 0.0010 < 0.0020 0.0019 11/28/12 0.0012 < 0.0020 <0.0010 <0.0020 <0.0010 <0.0020 0.0012 05/30/13 0.0016 < 0.0020 < 0.0010 < 0.0020 < 0.0010 < 0.0020 0.0016 11/19/13 <0.0010 <0.0020 <0.0010 <0.0010 <0.0020 <0.0020 <0.0020 EB - 1 09/14/00 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 <0.001 < 0.001 12/05/00 < 0.001 < 0.001 < 0.001 < 0.001 <0.001 < 0.001 < 0.001 03/07/01 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 05/23/01 < 0.005 < 0.005 <0.005 < 0.005 < 0.001 < 0.001 < 0.001 <0.001 <0.001 < 0.001 08/06/01 < 0.001 <0.001 10/02/02 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 02/28/02 < 0.001 < 0.001 < 0.001 < 0.001 <0.001 < 0.001 < 0.001 05/14/02 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 < 0.001 08/19/02 < 0.001 < 0.001 < 0.001 < 0.001 <0.001 < 0.001 < 0.001 11/18/02 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 **NMOCD CRITERIA** 0.01 0.75 0.75 **TOTAL XYLENES 0.62** 

Note: Monitor well MW-12 is no longer sampled due to the presence of PSH.

<sup>- =</sup> Not analyzed



# Appendix A Laboratory Analytical Reports

#### **Analytical Report 464202**

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo Red Byrd Ranch Historical

10-JUN-13

Collected By: Client





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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





10-JUN-13

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

Reference: XENCO Report No(s): 464202

**Red Byrd Ranch Historical**Project Address: Lea County, NM

#### Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464202. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464202 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.

Respectivity,

**Kelsey Brooks** 

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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



#### **Sample Cross Reference 464202**



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

#### Red Byrd Ranch Historical

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
MW-6	W	05-30-13 13:40		464202-001
MW-19	$\mathbf{W}$	05-30-13 12:40		464202-002
MW-7	$\mathbf{W}$	05-30-13 13:20		464202-003
MW-18	$\mathbf{W}$	05-30-13 14:00		464202-004
MW-11	$\mathbf{W}$	05-30-13 14:20		464202-005
MW-17	$\mathbf{W}$	05-30-13 11:05		464202-006
MW-16	W	05-30-13 11:40		464202-007



#### **CASE NARRATIVE**



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: Red Byrd Ranch Historical

Project ID: Report Date: 10-JUN-13 Work Order Number(s): 464202 Date Received: 05/30/2013

Sample re	eceipt non con	formances a	nts:			
Sample re	eceipt non con	formances a	and commer	nts per sampl	e:	
None						



#### **Certificate of Analysis Summary 464202**

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



Project Id:

Project Location: Lea County, NM

Contact: Ben Arguijo

Project Name: Red Byrd Ranch Historical

\_ \_ \_

**Date Received in Lab:** Thu May-30-13 04:07 pm

**Report Date:** 10-JUN-13

Project Manager: Kelsey Brooks

Project Manager: Keisey Brooks													
	Lab Id:	464202-0	001	464202-	002	464202-0	003	464202-	004	464202-	005	464202-	006
Analysis Paguastad	Field Id:	MW-6	MW-6		9	MW-7	7	MW-1	8	MW-11		MW-17	
Analysis Requested	Depth:												
	Matrix:	WATE	R	WATE	ER	WATE	R	WATE	R	WATE	ER	WATE	ER
	Sampled:	May-30-13	May-30-13 13:40		12:40	May-30-13 13:20		May-30-13	14:00	May-30-13	14:20	May-30-13	3 11:05
BTEX by EPA 8021B	Extracted:	Jun-05-13	Jun-05-13 15:00		15:00	Jun-05-13 15:00		Jun-05-13 15:00		Jun-05-13 15:00		Jun-05-13 15:00	
	Analyzed:	Jun-05-13	Jun-05-13 17:13		17:29	Jun-05-13 17:46		Jun-05-13 18:02		Jun-05-13 18:18		Jun-05-13 18:34	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.00100	0.00159	0.00100	ND	0.00100	0.00294	0.00100	0.0362	0.00100	0.00700	0.00100
Toluene		ND	0.00200	ND	0.00200	ND	0.00200	0.00770	0.00200	0.00481	0.00200	ND	0.00200
Ethylbenzene		ND	0.00100	ND	0.00100	ND	0.00100	0.00299	0.00100	0.0116	0.00100	0.00388	0.00100
m,p-Xylenes		ND	0.00200	ND	0.00200	ND	0.00200	0.00541	0.00200	0.00743	0.00200	0.00400	0.00200
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	0.00522	0.00100	0.00622	0.00100	ND	0.00100
Total Xylenes		ND	0.00100	ND	0.00100	ND	0.00100	0.0106	0.00100	0.0137	0.00100	0.00400	0.00100
Total BTEX		ND	0.00100	0.00159	0.00100	ND	0.00100	0.0243	0.00100	0.0663	0.00100	0.0149	0.00100

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



#### **Certificate of Analysis Summary 464202**

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



Project Id:

Project Location: Lea County, NM

Project Name: Red Byrd Ranch Historical

Contact: Ben Arguijo

**Date Received in Lab:** Thu May-30-13 04:07 pm **Report Date:** 10-JUN-13

Project Manager: Kelsey Brooks

				Project Manager:	Heisey Brooks	
	Lab Id:	464202-007				
Analysis Requested	Field Id:	MW-16				
Analysis Requesieu	Depth:					
	Matrix:	WATER				
	Sampled:	May-30-13 11:40				
BTEX by EPA 8021B	Extracted:	Jun-05-13 15:00				
	Analyzed:	Jun-05-13 18:50				
	Units/RL:	mg/L RL				
Benzene		0.00272 0.00100				
Toluene		ND 0.00200				
Ethylbenzene		0.00360 0.00100				
m,p-Xylenes		0.00313 0.00200				
o-Xylene		0.00165 0.00100				
Total Xylenes	·	0.00478 0.00100				
Total BTEX		0.0111 0.00100				

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

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Knus Hoah



#### Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	

<sup>\*</sup> Surrogate recovered outside laboratory control limit.



**Project Name: Red Byrd Ranch Historical** 

**Work Orders :** 464202, 464202 **Project ID:** 

Units: mg/L	<b>Date Analyzed:</b> 06/05/13 17:13	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0281	0.0300	94	80-120		
4-Bromofluorobenzene		0.0247	0.0300	82	80-120		

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 06/05/13 17:29 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0295 0.0300 80-120 4-Bromofluorobenzene 0.0261 0.0300 87 80-120

Units: mg/L Date Analyzed: 06/05/13 17:46 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[D]			
1,4-Difluorobenzene		0.0331	0.0300	110	80-120		
4-Bromofluorobenzene		0.0269	0.0300	90	80-120		

Units: mg/L Date Analyzed: 06/05/13 18:02 SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

**Lab Batch #:** 915499 **Sample:** 464202-005 / SMP **Batch:** 1 **Matrix:** Water

<b>Units:</b> mg/L <b>Date Analyzed:</b> 06/05/13 18:18	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0277	0.0300	92	80-120		
4-Bromofluorobenzene	0.0289	0.0300	96	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: Red Byrd Ranch Historical** 

Units: mg/L Date Analyzed: 06/05/13 18:34 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0274	0.0300	91	80-120			
4-Bromofluorobenzene	0.0252	0.0300	84	80-120			

SURROGATE RECOVERY STUDY Units: mg/L Date Analyzed: 06/05/13 18:50 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0299 0.0300 100 80-120 4-Bromofluorobenzene 0.0258 0.0300 86 80-120

Lab Batch #: 915499 Sample: 639246-1-BLK / BLK Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 06/05/13 16:57 SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0329	0.0300	110	80-120			
4-Bromofluorobenzene	0.0249	0.0300	83	80-120			

Lab Batch #: 915499 Sample: 639246-1-BKS / BKS Batch: 1 Matrix: Water

Units: mg/L	<b>Date Analyzed:</b> 06/05/13 16:09	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1,4-Difluorobenzene		0.0286	0.0300	95	80-120	
4-Bromofluorobenzene		0.0342	0.0300	114	80-120	

Lab Batch #: 915499 Sample: 639246-1-BSD / BSD Batch: 1 Matrix: Water

<b>Units:</b> mg/L <b>Date Analyzed:</b> 06/05/13 16:25	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: Red Byrd Ranch Historical

SURROGATE RECOVERY STUDY Units: mg/L **Date Analyzed:** 06/05/13 19:54 True Control Amount BTEX by EPA 8021B **Found** Amount Recovery Limits Flags [B] %R %R [A] [D] **Analytes** 1,4-Difluorobenzene 0.0319 0.0300 106 80-120 4-Bromofluorobenzene 0.0318 0.0300 80-120 106

<b>Units:</b> mg/L <b>Date Analyzed:</b> 06/05/13 20:10	SU	RROGATE RE	ECOVERY S	STUDY	
BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **BS / BSD Recoveries**



**Project Name: Red Byrd Ranch Historical** 

**Work Order #:** 464202, 464202

**Project ID:** 

Analyst: KEB

**Date Prepared:** 06/05/2013

**Date Analyzed:** 06/05/2013

**Lab Batch ID:** 915499

**Sample:** 639246-1-BKS **Batch #:** 1

Matrix: Water

g/L

#### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.105	105	0.100	0.103	103	2	70-125	25	
Toluene	< 0.00200	0.100	0.0945	95	0.100	0.0911	91	4	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0914	91	0.100	0.0875	88	4	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.179	90	0.200	0.171	86	5	70-131	25	
o-Xylene	< 0.00100	0.100	0.0933	93	0.100	0.0895	90	4	71-133	25	

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



#### Form 3 - MS / MSD Recoveries

**Project Name: Red Byrd Ranch Historical** 



**Work Order #:** 464202

**Project ID:** 

**Lab Batch ID:** 915499

mg/L

**QC- Sample ID:** 464202-007 S

Batch #:

Matrix: Water

**Date Analyzed:** 06/05/2013

**Reporting Units:** 

013 **Date Prepared:** 06/05/2013

Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00272	0.100	0.112	109	0.100	0.104	101	7	70-125	25	
Toluene	< 0.00200	0.100	0.0928	93	0.100	0.0880	88	5	70-125	25	
Ethylbenzene	0.00360	0.100	0.0887	85	0.100	0.0858	82	3	71-129	25	
m,p-Xylenes	0.00313	0.200	0.167	82	0.200	0.163	80	2	70-131	25	
o-Xylene	0.00165	0.100	0.0859	84	0.100	0.0829	81	4	71-133	25	

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

#### **Xenco Laboratories**

#### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

	Project Manager:	Ben J. Arguijo														_	Pro	oject	Nar	ne:	Re	d B	yrd	Rar	nch	His	tori	cal				_
	Company Name	Basin Environmental Ser	vice T	echnol	ogies, LLC											_		Pro	ojec	t #:	Re	d B	yrd	Rar	ıch	TNI	ΛН	isto	rica	<u></u>		_
	Company Address:	P.O. Box 301														_	F	roje	ct L	oc:	Lea	Cor	unty	, NM								_
	City/State/Zip:	Lovington, NM 88260														_			PC	) #:_												_
	Telephone No:	(575)396-2378				Fax No:		(57	'5) 3	396-1	429					_	Report	For	mat	:	X	Star	ndar	d		ТЕ	RP	į		NPD	ES	
	Sampler Signature:	( ) and for		_		e-mail:		pm	1@	basi	nen	v.co	<u>m</u> _																		_	
ab use	e only)	1_ 0																H	-	-	TC	CLP:	An	alyze	For	_	T	$\top$		$\dashv$	rs.	
	4/11/2	202							D	reser	vatio	n 0 1	l of C	onta	inorc		Motriy			_	TOT	_	$\Box$	$\dashv$	7	$\dashv$					3, 72 hrs	
LAB # (lab use only)	NH.	LD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers		03				ő	Other ( Specify)	ater SL=Sludg	S= pec	418.1 80	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles  BTEX 8021B/5030 or RTEX 8260	000 1 2000	N.O.R.M.	CHLORIDES	Total Dissolved Solids	;	RUSH TAT (Pre-Schedule) 24, 48, Standard TAT 4 DAY	The state of the s
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05	N	IW-11			5/30/2013	2:20		3	х		х						GW								)	<					х	1
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07	N	IW-16			5/30/2013	11:40		3	х		х		1	$\perp$	$\perp$	L	GW				_	$\Box$	$\Box$	$\perp$	<b>)</b>	<	$\perp$	$\perp$	$\square$	$\perp$	Х	1
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#### **XENCO Laboratories**

#### Prelogin/Nonconformance Report- Sample Log-In



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 05/30/2013 04:07:00 PM

Work Order #- 464202

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

**Temperature Measuring device used:** 

Nork Order #:	464202	remperature	Measuring device used :
		Sample Receipt Checklist	Comments
#1 *Temperatu	ure of cooler(s)?		1.5
#2 *Shipping	container in good condit	ion?	Yes
#3 *Samples	received on ice?		Yes
#4 *Custody S	Seals intact on shipping	container/ cooler?	Yes
#5 Custody S	eals intact on sample bo	ttles?	Yes
#6 *Custody S	Seals Signed and dated?		Yes
#7 *Chain of 0	Custody present?		Yes
#8 Sample ins	structions complete on C	chain of Custody?	Yes
#9 Any missin	ng/extra samples?		No
#10 Chain of	Custody signed when re	linquished/ received?	Yes
#11 Chain of	Custody agrees with sar	nple label(s)?	Yes
#12 Containe	r label(s) legible and inta	act?	Yes
#13 Sample n	natrix/ properties agree v	with Chain of Custody?	Yes
#14 Samples	in proper container/ bott	le?	Yes
#15 Samples	properly preserved?		Yes
#16 Sample of	container(s) intact?		Yes
#17 Sufficient	sample amount for indic	cated test(s)?	Yes
#18 All sampl	es received within hold t	ime?	Yes
#19 Subcontr	act of sample(s)?		Yes
#20 VOC sam	nples have zero headspa	ace (less than 1/4 inch bubble)?	Yes
#21 <2 for all	samples preserved with	HNO3,HCL, H2SO4?	Yes
#22 >10 for a	Il samples preserved wit	h NaAsO2+NaOH, ZnAc+NaOH?	Yes
		lelivery of samples prior to placing	in the refrigerator
Analyst:	PH D	evice/Lot#:	
Cr	necklist completed by:	Kelsey Brooks  Kelsey Brooks  Kelsey Brooks	Date: <u>06/03/2013</u>

#### **Analytical Report 474604**

# for PLAINS ALL AMERICAN EH&S

Project Manager: Ben Arguijo SRS TNM Red Byrd #1

03-DEC-13

Collected By: Client





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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-15-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





03-DEC-13

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

Reference: XENCO Report No(s): 474604

**SRS TNM Red Byrd #1**Project Address: New Mexico

#### Ben Arguijo:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 474604. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 474604 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, Hoah

**Kelsey Brooks** 

Project Manager

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#### **Sample Cross Reference 474604**



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

SRS TNM Red Byrd #1

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
MW-6	W	11-19-13 10:30		474604-001
MW-7	W	11-19-13 10:00		474604-002
MW-11	W	11-19-13 11:30		474604-003
MW-16	W	11-19-13 08:30		474604-004
MW-17	W	11-19-13 09:00		474604-005
MW-18	W	11-19-13 11:00		474604-006
MW-19	W	11-19-13 09:30		474604-007



#### **CASE NARRATIVE**



Client Name: PLAINS ALL AMERICAN EH&S

Project Name: SRS TNM Red Byrd #1

Project ID: Report Date: 03-DEC-13
Work Order Number(s): 474604
Date Received: 11/20/2013

	Sample receipt non conformances and comments:
-	Sample receipt non conformances and comments per sample:
	None



#### Certificate of Analysis Summary 474604

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



Project Id:

**Project Location:** New Mexico

Contact: Ben Arguijo

Project Name: SRS TNM Red Byrd #1

Report Date: 03-DEC-13

Project Manager: Kelsey Brooks

**Date Received in Lab:** Wed Nov-20-13 08:35 am

								Project Ma	nager:	Kelsey Brook	LS .		
	Lab Id:	474604-00	01	474604-0	002	474604-	003	474604-	004	474604-	005	474604-	-006
Analusia Paguastad	Field Id:	MW-6	MW-6		MW-7		MW-11		6	MW-17		MW-1	18
Analysis Requested	Depth:												
	Matrix:	WATER	1	WATE	R	WATE	R	WATE	R	WATE	R	WATE	ER
	Sampled:	Nov-19-13 1	0:30	Nov-19-13	10:00	Nov-19-13	11:30	Nov-19-13	08:30	Nov-19-13	09:00	Nov-19-13	3 11:00
BTEX by EPA 8021B	Extracted:	Nov-22-13 1	2:00	Nov-22-13	12:00	Nov-22-13	12:00	Nov-22-13	12:00	Nov-22-13	12:00	Nov-22-13	3 12:00
	Analyzed:	Nov-22-13 21:30		Nov-22-13 21:47		Dec-03-13 09:14		Dec-03-13 09:30		Nov-22-13 22:35		Nov-22-13 22:52	
	Units/RL:	mg/L	RL										
Benzene		ND	0.00100	ND	0.00100	0.00515	0.00100	0.00534	0.00100	0.0290	0.00100	ND	0.00100
Toluene		ND	0.00200	ND	0.00200	0.00222	0.00200	ND	0.00200	ND	0.00200	0.00235	0.00200
Ethylbenzene		ND	0.00100	ND	0.00100	0.00664	0.00100	0.00402	0.00100	0.0129	0.00100	ND	0.00100
m,p-Xylenes		ND	0.00200	ND	0.00200	0.00908	0.00200	0.00644	0.00200	0.0102	0.00200	ND	0.00200
o-Xylene		ND	0.00100	ND	0.00100	ND	0.00100	ND	0.00100	0.00295	0.00100	ND	0.00100
Total Xylenes		ND	0.00100	ND	0.00100	0.00908	0.00100	0.00644	0.00100	0.0132	0.00100	ND	0.00100
Total BTEX		ND	0.00100	ND	0.00100	0.0231	0.00100	0.0158	0.00100	0.0551	0.00100	0.00235	0.00100

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

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Kolsay Brooks



#### **Certificate of Analysis Summary 474604**

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



Project Id:

**Project Location:** New Mexico

Contact: Ben Arguijo

**Project Name: SRS TNM Red Byrd #1** 

**Date Received in Lab:** Wed Nov-20-13 08:35 am

**Report Date:** 03-DEC-13

**Project Manager:** Kelsey Brooks

				i roject Manager.	Reisey Brooks	
	Lab Id:	474604-007				
Analysis Requested	Field Id:	MW-19				
Analysis Requested	Depth:					
	Matrix:	WATER				
	Sampled:	Nov-19-13 09:30				
BTEX by EPA 8021B	Extracted:	Nov-25-13 13:00				
	Analyzed:	Nov-25-13 19:52				
	Units/RL:	mg/L RL				
Benzene		ND 0.00100				
Toluene		ND 0.00200				
Ethylbenzene		ND 0.00100				
m,p-Xylenes		ND 0.00200				
o-Xylene		ND 0.00100				
Total Xylenes		ND 0.00100				
Total BTEX		ND 0.00100				
					1	

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

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Kelsey Brooks
Project Manager



#### Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit

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

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

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	



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#### Form 2 - Surrogate Recoveries

Project Name: SRS TNM Red Byrd #1

Work Orders: 474604, **Project ID: Lab Batch #:** 928368 Matrix: Water **Sample:** 474604-001 / SMP Batch:

Da4a Amalamada 11/00/12 01:20

s: mg/L Date Analyzed: 11/22/13 21:30 SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0293	0.0300	98	80-120		
4-Bromofluorobenzene	0.0327	0.0300	109	80-120		

**Lab Batch #:** 928368 Sample: 474604-002 / SMP Batch: 1 Matrix: Water

**Units:** mg/L **Date Analyzed:** 11/22/13 21:47 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021B Found Limits Amount Recovery Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0300 0.0300 100 80-120 4-Bromofluorobenzene

0.0329

0.0300

80-120

110

Lab Batch #: 928368 Sample: 474604-005 / SMP Batch: Matrix: Water

**Units:** mg/L Date Analyzed: 11/22/13 22:35 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

**Lab Batch #:** 928368 Sample: 474604-006 / SMP Batch: Matrix: Water

Units: mg/L	<b>Date Analyzed:</b> 11/22/13 22:52	SURROGATE RECOVERY STUDY				
ВТЕ	X by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0290	0.0300	97	80-120	
4-Bromofluorobenzene		0.0330	0.0300	110	80-120	

Lab Batch #: 928546 **Sample:** 474604-007 / SMP Batch: Matrix: Water

Units:	mg/L	<b>Date Analyzed:</b> 11/25/13 19:52	SURROGATE RECOVERY STUDY				
	ВТЕ	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1,4-Difluorobe	enzene		0.0269	0.0300	90	80-120	
4-Bromofluoro	obenzene		0.0328	0.0300	109	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: SRS TNM Red Byrd #1

Work Orders: 474604, **Project ID: Lab Batch #:** 928368 Matrix: Water **Sample:** 474604-003 / SMP Batch:

Units:	mg/L	<b>Date Analyzed:</b> 12/03/13 09:14	SURROGATE RECOVERY STUDY					
	BTEX	by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	1	Analytes			[D]			
1,4-Difluorobenzene			0.0242	0.0300	81	80-120		
4-Bromoflu	ıorobenzene		0.0306	0.0300	102	80-120		

Matrix: Water **Lab Batch #:** 928368 Sample: 474604-004 / SMP Batch: 1

**Units:** mg/L Date Analyzed: 12/03/13 09:30 SURROGATE RECOVERY STUDY **Amount** True Control BTEX by EPA 8021B Found Limits Amount Recovery Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0243 0.0300 81 80-120 4-Bromofluorobenzene 0.0297 0.0300 80-120

Lab Batch #: 928368 **Sample:** 647436-1-BLK / BLK Matrix: Water Batch:

**Units:** mg/L Date Analyzed: 11/22/13 16:52 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

**Sample:** 647540-1-BLK / BLK **Lab Batch #:** 928546 Batch: Matrix: Water

Units:	mg/L	<b>Date Analyzed:</b> 11/25/13 19:19	SURROGATE RECOVERY STUDY				
	ВТЕ	CX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluor	obenzene		0.0281	0.0300	94	80-120	
4-Bromoflu	iorobenzene		0.0315	0.0300	105	80-120	

Batch: **Lab Batch #:** 928368 **Sample:** 647436-1-BKS / BKS Matrix: Water

Units: m	g/L	<b>Date Analyzed:</b> 11/22/13 15:30	SURROGATE RECOVERY STUDY				
		by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenze		Analy tes	0.0285	0.0300	95	80-120	
4-Bromofluorober	nzene		0.0325	0.0300	108	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

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

99

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: SRS TNM Red Byrd #1

 Work Orders: 474604,
 Project ID:

 Lab Batch #: 928546
 Sample: 647540-1-BKS / BKS
 Batch: 1 Matrix: Water

Units: mg/L	<b>Date Analyzed:</b> 11/25/13 18:12	SURROGATE RECOVERY STUDY				
ВТ	EX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes			[2]		
1,4-Difluorobenzene		0.0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0328	0.0300	109	80-120	

Lab Batch #: 928368 Sample: 647436-1-BSD / BSD Batch: 1 Matrix: Water

Units:	mg/L <b>Date Analyz</b>	ed: 11/22/13 15:46	SURROGATE RECOVERY STUDY				
	BTEX by EPA 802	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes				[D]		
1,4-Difluor	obenzene		0.0270	0.0300	90	80-120	
4-Bromoflu	orobenzene		0.0321	0.0300	107	80-120	

Lab Batch #: 928546 Sample: 647540-1-BSD / BSD Batch: 1 Matrix: Water

Units: mg/L Date Analyzed: 11/25/13 17:56 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	80-120	

Units:	mg/L	<b>Date Analyzed:</b> 11/22/13 16:03	SURROGATE RECOVERY STUDY											
	ВТІ	EX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1,4-Difluoro	benzene		0.0309	0.0300	103	80-120								
4-Bromoflu	orobenzene		0.0326	0.0300	109	80-120								

Units: mg/L	<b>Date Analyzed:</b> 11/25/13 18:29	SU	SURROGATE RECOVERY STUDY										
ВТЕ	EX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1,4-Difluorobenzene	Tillary tes	0.0300	0.0300	100	80-120								
4-Bromofluorobenzene		0.0329	0.0300	110	80-120								

<sup>\*</sup> Surrogate outside of Laboratory QC limits

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

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: SRS TNM Red Byrd #1

 Work Orders: 474604,
 Project ID:

 Lab Batch #: 928368
 Sample: 474413-001 SD / MSD
 Batch: 1 Matrix: Water

**Units: Date Analyzed:** 11/22/13 16:19 mg/L SURROGATE RECOVERY STUDY Amount True Control BTEX by EPA 8021B Found Amount Limits Flags Recovery [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0289 0.0300 96 80-120 4-Bromofluorobenzene 0.0300 107 80-120 0.0322

Units:	mg/L	<b>Date Analyzed:</b> 11/25/13 18:46	SURROGATE RECOVERY STUDY											
	ВТЕ	EX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags							
		Analytes			[D]									
1,4-Difluoro	obenzene		0.0296	0.0300	99	80-120								
4-Bromoflu	orobenzene		0.0328	0.0300	109	80-120								

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

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



#### **BS / BSD Recoveries**



**Project Name: SRS TNM Red Byrd #1** 

Work Order #: 474604 Project ID:

**Analyst:** ARM **Date Prepared:** 11/22/2013 **Date Analyzed:** 11/22/2013

**Lab Batch ID:** 928368 **Sample:** 647436-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0906	91	0.100	0.0931	93	3	70-125	25	
Toluene	<0.00200	0.100	0.0944	94	0.100	0.0951	95	1	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0910	91	0.100	0.0902	90	1	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.205	103	0.200	0.205	103	0	70-131	25	
o-Xylene	< 0.00100	0.100	0.0990	99	0.100	0.0991	99	0	71-133	25	

**Analyst:** ARM **Date Prepared:** 11/25/2013 **Date Analyzed:** 11/25/2013

Lab Batch ID: 928546 Sample: 647540-1-BKS Batch #: 1 Matrix: Water

Units: mg/L BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0989	99	0.100	0.0965	97	2	70-125	25	
Toluene	< 0.00200	0.100	0.0977	98	0.100	0.0972	97	1	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0955	96	0.100	0.0935	94	2	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.214	107	0.200	0.207	104	3	70-131	25	
o-Xylene	< 0.00100	0.100	0.105	105	0.100	0.102	102	3	71-133	25	

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



#### Form 3 - MS / MSD Recoveries



**Project Name: SRS TNM Red Byrd #1** 

Work Order #: 474604 Project ID:

**Lab Batch ID:** 928368 **QC- Sample ID:** 474413-001 S **Batch #:** 1 **Matrix:** Water

**Date Analyzed:** 11/22/2013 **Date Prepared:** 11/22/2013 **Analyst:** ARM

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0241	0.100	0.116	92	0.100	0.112	88	4	70-125	25	
Toluene	< 0.00200	0.100	0.0978	98	0.100	0.0925	93	6	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0933	93	0.100	0.0901	90	3	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.213	107	0.200	0.204	102	4	70-131	25	
o-Xylene	< 0.00100	0.100	0.101	101	0.100	0.0980	98	3	71-133	25	

**Lab Batch ID:** 928546 **QC- Sample ID:** 474604-007 S **Batch #:** 1 **Matrix:** Water

**Date Analyzed:** 11/25/2013 **Date Prepared:** 11/25/2013 **Analyst:** ARM

Reporting Units: mg/L MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0928	93	0.100	0.0911	91	2	70-125	25	
Toluene	< 0.00200	0.100	0.0923	92	0.100	0.0952	95	3	70-125	25	
Ethylbenzene	< 0.00100	0.100	0.0903	90	0.100	0.0922	92	2	71-129	25	
m,p-Xylenes	< 0.00200	0.200	0.201	101	0.200	0.205	103	2	70-131	25	
o-Xylene	< 0.00100	0.100	0.0978	98	0.100	0.100	100	2	71-133	25	

	M	60
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Labo	rot	ories
Labo	rat	ories

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Final 1.000

#### **CHAIN OF CUSTODY RECORD**

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Page 1 of 1 LAB W.O#:

	Amber E
	Clear TS
	Pre-preserved A
	s Amber Ti
_	s Clear Z
	tic Amber P
	c Clear
	tic Amber

Encore Sampler TerraCore Sampler Air Canister Tedlar Bag Zip Lock Bag

\* Container Type Codes

;roool-c Field billable Hrs

												i leid bi	liable i ii	3.				PC Plastic Clear	riastic Clear	
Compa	ny: Basin Environmental Service Techn	nologies, LL0	0	Phone:	(575)	396-23	78	TAT Wo	ork Day	s = D	Need re	esults by	/:			Time	):		Other	
Addres	s: 3100 Plains Hwy.			Fax:	(575)	396-14	29		Std (5-	7D) 5Hi	rs 1D 2	2D 3D 4	D 5D	<b>7D</b> 10D	14D	Other_			Size(s): 2oz, 4oz, 8oz, 16oz, 32oz , 40ml, 125 ml, 250 ml, 500 ml, 1L,	, 1Gal Other
City:	Lovington		State: NM	Zip:	88260	)					ANA	ALYSE	SRE	QUEST	ΓED				** Preservative Ty	pe Codes
M/Atti	n: Ben Arguijo		Email:	i bjarguijo@	gbasin	env.cor	n	Cont Type *		VP								2	A. None E. HCL I. Ice	
roject	ID: Red Byrd #1 SRS TNM Red Byrd #1			PO#:	PAA-0	C. Brya	nt	Pres Type** E, I		E,I									B. HNO $_3$ F. MeOH J. Me $_2$ SO $_4$ G. Na $_2$ S $_2$ O $_3$ K. ZnAc D. NaOH H. NaHSO $_4$ L Ac O.	&NaOH
nvoice	To: Camille Bryant Plains All Ame	rican		Quote #:				560										le ın PAH Only if		Codes
Sample	er Signature:		Event: Daily I Annual		Month	ıly Qu	artely	Example Volatiles by 8260	TPH	ВТЕХ	Chloride							Hold Sample  Run est TPH Or	GW Ground Water S Soi WW Waste Water W Wi DW Drinking Water A Air SW Surface Water O Oil	il/Sediment/Solid pe
Sample #	Sample ID	Collect Date	Collect Time	Matrix Code ^	Field Filtered	Integrity OK (Y/N)	otal # of containers	E) Volatil			0							Ho (CALL on Highes	OW Ocean/Sea Water T Tis PL Product-Liquid U Uri PS Product-Solid B Blo SL Sludge Other	ine
Sa							- 0	# Cont	Lab Only	<i>r</i> :									REMARK	(S
1	MW-6	11/19/13	10:30	GW			3			Х										
_2	MW-7	11/19/13	10	GW			3	100		Х										
3	MW-11	11/19/13	11:30	GW			3			Х										
4	MW-16	11/19/13	6.10	GW			3			х									_	
5	MW-17	11/19/13	9:00	GW			3			Х										
6	MW-18	11/19/13	11:00	GW			3			Х										
7	MW-19	11/19/13	9:30	GW			3			Х										
8							10													
9																				
_0																				
	Reg. Program / Clean-up Std	STATE	for Certs &	Regs	Q.	A/QC	Leve	l & Certific	ation		EDDs		COC &	Labels	C	Coolers	Temp °	c, n	Lab Use Only	YES NO N/A
CTLs Other:	TRRP DW NPDES PST DryCln	FL TX GA I	NC SC NJ P	A OK LA		3 4 C DoD		AFCEE QA	.PP	ADaPT XLS Oth	SEDD er:	ERPIMS	Match I Absent	ncomplete Unclear	1	2	3	6.0	Non-Conformances found? Samples intact upon arrival?	
	Relinguished by	J	Affilia			Date		Tim	ie		eceived	by		ation	Da	ate		me	Received on Wet Ice?	
1	for Allayen		Busil	1	11-	20.	13	8:3	5	teri	a Ro	sands	MC	5	142	1-13	8:	35	Labeled with proper preservatives? Received within holding time?	
12	y m							3		lan	lun	has	Ven	0	11-21-	13	15:0	20	Custody seals intact? VOCs rec'd w/o headspace?	
3		_									1	,			N 5 5	ile.			Proper containers used? pH verified-acceptable, excl VOCs?	
4				1100-									St 1 - 21 4 2						Received on time to meet HTs?	

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

C.O.C. Serial #

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



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



Client: PLAINS ALL AMERICAN EH&S

Date/ Time Received: 11/20/2013 08:35:00 AM

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

Work Order #: 474604

**Temperature Measuring device used:** 

		Sample Receipt Checklist	Comments
#1 *Temperature of	cooler(s)?		10
#2 *Shipping contair	ner in good condition	?	Yes
#3 *Samples receive	ed on ice?		Yes
#4 *Custody Seals ir	ntact on shipping co	ntainer/ cooler?	Yes
#5 Custody Seals in	tact on sample bottle	es?	Yes
#6 *Custody Seals S	Signed and dated?		Yes
#7 *Chain of Custod	y present?		Yes
#8 Sample instruction	ons complete on Cha	nin of Custody?	Yes
#9 Any missing/extra	a samples?		No
#10 Chain of Custod	ly signed when reline	quished/ received?	Yes
#11 Chain of Custod	dy agrees with samp	le label(s)?	Yes
#12 Container label(	(s) legible and intact	?	Yes
#13 Sample matrix/	properties agree with	h Chain of Custody?	Yes
#14 Samples in prop	•		Yes
#15 Samples proper			Yes
#16 Sample contain	er(s) intact?		Yes
#17 Sufficient sampl	le amount for indicat	ed test(s)?	Yes
#18 All samples rece	eived within hold tim	e?	Yes
#19 Subcontract of s			Yes
		e (less than 1/4 inch bubble)?	Yes
#21 <2 for all sample			Yes
	· ·	NaAsO2+NaOH, ZnAc+NaOH?	N/A
	d for after-hours de	elivery of samples prior to placing in e/Lot#:	n the refrigerator

# Appendix B Release Notification & Corrective Action (Form C-141)

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II 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

Submit 2 Copies to appropriate District Office in accordance

with Rule 116 on back side of form

Form C-141

Revised October 10, 2003

#### **Release Notification and Corrective Action**

						<b>OPERATOR</b> x Initial Report  Final Re										
Name of Co	ompany	Plains	Pipeline,	LP		Contact: Camille Reynolds										
Address:		•		d, TX 79706		Telephone N										
Facility Na	me:	Red By	rd # 1			Facility Typ	e: Steel I	Pipeline	e							
Surface Ow	ner:	Red Byrd		Mineral O	wner				Lease N	No.						
				LOCA	TIO	ION OF RELEASE										
Unit Letter H	Section 1	Township 20S	Range 36E	Feet from the		South Line	Feet from the	East/V	West Line	County Lea						
	•		La	atitude <u>32° 36' (</u>	)9.8" N	N Longitude	2 103° 17' 58.5"	' <u>W</u>		<u> </u>						
				NAT	URE	OF RELI	EASE									
Type of Rele	ase:	Crude Oil					Release: Unknow			Recovered						
Source of Re	lease:	Steel Pipeline	;			Date and H	Iour of Occurrenc	ee	Date and	Hour of Dis	overy					
Was Immedi	ate Notice (		es 🗌 N	No  Not Requi	ired	If YES, To Whom?										
By Whom?						Date and Hour										
Was a Water	course Read	ched?	Yes [	] No		If YES, Vo	olume Impacting t	he Wate	ercourse.							
ii a watercot	irse was im	pacted, Descri	be rully.													
Describe Cau	ise of Probl	em and Remed	dial Action	n Taken.*												
	as-New Me	and Cleanup A xico Pipeline		en.* wner/operator of	the pi	peline system	at the time of th	ie relea	se, initial r	esponse info	rmati	on is				
regulations a public health should their or or the enviro	ll operators or the envi operations h nment. In a	are required to ronment. The nave failed to a	o report ar acceptance adequately OCD accep	nd/or file certain rece of a C-141 report investigate and re	elease n rt by the emediat	to the best of my knowledge and understand that pursuant to NMOCD rules and ase notifications and perform corrective actions for releases which may endanger by the NMOCD marked as "Final Report" does not relieve the operator of liability ediate contamination that pose a threat to ground water, surface water, human health ort does not relieve the operator of responsibility for compliance with any other										
							OIL CONS	<u>SERV</u>	<u>'ATION</u>	DIVISIO	N					
Signature:																
Printed Name	e: Ca	amille Reynolo	ls			Approved by	District Superviso									
Title:	Re	mediation Cod	ordinator			Approval Date:				Date:						
E-mail Addre	ess: cjr	eynolds@paal	p.com			Conditions of	Approval:			Attached						

(505)441-0965

Phone:

Date: 3/21/2005

<sup>\*</sup> Attach Additional Sheets If Necessary