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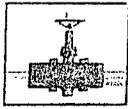
110

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# Annual GW Mon. REPORTS

DATE:

2010



PLAINS  
ALL AMERICAN

March 23, 2011

RECEIVED

MAR 29 2011

Mr. Edward Hansen  
New Mexico Oil Conservation Division  
Environmental Bureau  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

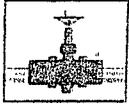
Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

Re: Plains All American – 2010 Annual Monitoring Reports  
20 Sites in Lea County, New Mexico

Dear Mr. Hansen:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

34 Junc. to Lea Sta.	1R-0386 ✓	Section 21, Township 20 South, Range 37 East, Lea County
34 Junction South	1R-0456 ✓	Section 02, Township 17 South, Range 36 East, Lea County
Bob Durham	AP-0016 ✓	Section 32, Township 19 South, Range 37 East, Lea County
Darr Angell #1	AP-007 ✓	Section 11, Township 15 South, Range 37 East, Lea County
Darr Angell #2	AP-007 ✓	Section 11, Township 15 South, Range 37 East, Lea County Section 14, Township 15 South, Range 37 East, Lea County
Darr Angell #4	AP-007 ✓	Section 11, Township 15 South, Range 37 East, Lea County Section 02, Township 15 South, Range 37 East, Lea County
Denton Station	1R-0234 ✓	Section 14, Township 15 South, Range 37 East, Lea County
HDO-90-23	AP-009 ✓	Section 06, Township 20 South, Range 37 East, Lea County
LF-59	1R-0103	Section 32, Township 19 South, Range 37 East, Lea County
Monument 2	1R-0110	Section 06, Township 20 South, Range 37 East, Lea County Section 07, Township 20 South, Range 37 East, Lea County
Monument 10	1R-0119	Section 30, Township 19 South, Range 37 East, Lea County
Monument 17	1R-123	Section 29, Township 19 South, Range 37 East, Lea County
Monument 18	1R-0124	Section 07, Township 20 South, Range 37 East, Lea County
S. Mon. Gath. Sour	1R-951	Section 05, Township 20 South, Range 37 East, Lea County
SPS-11	GW-0140 ✓	Section 18, Township 18 South, Range 36 East, Lea County
Texaco Skelly F	1R-0420	Section 11, Township 21 South, Range 37 East, Lea County
TNM 97-04	GW-0294 ✓	Section 11, Township 16 South, Range 35 East, Lea County
TNM 97-17	AP-017 ✓	Section 21, Township 20 South, Range 37 East, Lea County
TNM 97-18	AP-0013 ✓	Section 28, Township 20 South, Range 37 East, Lea County
TNM 98-05A	AP-12	Section 26, Township 21 South, Range 37 East, Lea County



PLAINS  
ALL AMERICAN

Nova Safety and Environmental (Nova) prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed Nova personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely,

Jason Henry  
Remediation Coordinator  
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM

Enclosures



**2010  
ANNUAL MONITORING REPORT**

**MONUMENT 2**

SW ¼ SW ¼ SECTION 06, TOWNSHIP 20 SOUTH, RANGE 37 EAST  
NW ¼ NW ¼ SECTION 07, TOWNSHIP 20 SOUTH, RANGE 37 EAST  
LEA COUNTY, NEW MEXICO  
PLAINS SRS NUMBER: TNM MONUMENT 2-KNOWN  
NMOCD File Number 1R-0110

PREPARED FOR:

Prepared For:

**PLAINS MARKETING, L.P.**  
333 CLAY STREET, SUITE 1600  
HOUSTON, TEXAS 77002

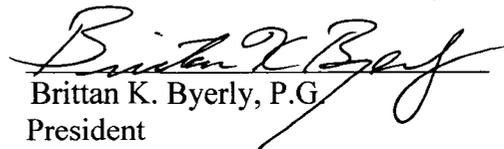


Prepared By:

**NOVA Safety and Environmental**  
2057 Commerce Street  
Midland, Texas 79703

**March 2011**

  
Ronald K. Rounsaville  
Senior Project Manager

  
Brittan K. Byerly, P.G.  
President

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### FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map February 2, 2010

2B – Inferred Groundwater Gradient Map May 5, 2010

2C – Inferred Groundwater Gradient Map August 4, 2010

2D – Inferred Groundwater Gradient Map November 3, 2010

3A – Groundwater Concentration and Inferred PSH Extent Map February 2, 2010

3B – Groundwater Concentration and Inferred PSH Extent Map May 5, 2010

3C – Groundwater Concentration and Inferred PSH Extent Map August 4, 2010

3D – Groundwater Concentration and Inferred PSH Extent Map November 3, 2010

### TABLES

Table 1 – 2010 Groundwater Elevation Data

Table 2 – 2010 Concentrations of BTEX and TPH in Groundwater

Table 2 – 2010 Concentrations of PAH in Groundwater

### APPENDICES

Appendix A – Release Notification and Corrective Action (Form C-141)

### ENCLOSED ON DATA DISK

2010 Annual Monitoring Report

2010 Tables 1, 2 and 3 – Groundwater Elevation, BTEX and PAH Concentration Data

2010 Figures 1, 2A-2D, and 3A-3D

Electronic Copies of Laboratory Reports

Historic Table 1 and 2 – Groundwater Elevation, BTEX and PAH Concentration Table

## **INTRODUCTION**

On behalf of Plains Marketing, L.P., (Plains), NOVA Safety and Environmental (NOVA) is pleased to submit this 2010 Annual Monitoring Report in compliance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1 of each year. Beginning on May 29, 2004, project management responsibilities for the Monument 2 Site (the site) were assumed by NOVA. The site, formerly the responsibility of Enron Oil Trading and Transportation (EOTT), is now the responsibility of Plains. 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 2010 only. However, historic data tables as well as 2010 laboratory analytical reports are provided on the enclosed disk. For reference, a Site Location Map is provided as Figure 1.

Groundwater monitoring was conducted each quarter of 2010 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 foot were not sampled.

## **SITE DESCRIPTION AND BACKGROUND INFORMATION**

The legal description of the site's location is SW ¼ SW ¼ Section 6, Township 20 South, Range 37 East and NW ¼ NW ¼ Section 7, Township 20 South, Range 37 East. No information with respect to the release date, volume of crude oil released and recovered, excavation dimensions or pipeline repair is available as the release at the site occurred while the pipeline was operated by the Texas New Mexico Pipeline Company (TNM). The Release Notification and Corrective Action (Form C-141) is provided as Appendix B. The initial site investigation, consisting of the installation of seven groundwater monitor wells (MW-1 through MW-7) was conducted by previous consultants. Currently, there are eight monitor wells (MW-1 through MW-8) on-site. Figure 2 displays, the location of on-site monitor wells, initial excavation limits, pipelines and other site details.

## **FIELD ACTIVITIES**

### **Product Recovery Efforts**

Based on the gauging data collected during the reporting period, none of the monitor wells exhibited a measurable thickness of PSH during the reporting period. Approximately 52 gallons (1.2 barrels) of PSH have been recovered by manual recovery methods since project inception.

### **Groundwater Monitoring**

Quarterly monitoring events for the reporting period were performed according to the following sampling schedule, which was approved by the NMOCD in correspondence dated April 28, 2004 and amended by NMOCD correspondence dated July 7, 2005.

NMOCD Approved Sampling Schedule			
MW-1	Annually	MW-5	Quarterly
MW-2	Quarterly	MW-6	Annually
MW-3	Annually	MW-7	Annually
MW-4	Semi-Annually	MW-8	Quarterly

Quarterly groundwater sampling events conducted this reporting period were performed on February 2, May 5, August 4 and November 3, 2010. During each sampling event, the monitor wells were purged of a minimum of three well volumes of water or until the wells were dry using a disposable polyethylene bailer or electrical Grundfos pump. Groundwater was allowed to recharge and samples were obtained using disposable Teflon samplers. Water samples were collected in clean glass containers provided by the laboratory and placed on ice in the field. Purge water was collected in a polystyrene tank and disposed of at a licensed disposal facility.

Figures 2A through 2D, depict the inferred groundwater gradient, derived from gauging data collected during each quarterly sampling event and surveyed top of casing (TOC) elevations. Groundwater elevation data for 2010 is provided as Table 1. Historic groundwater elevation data beginning at project inception is provided on the enclosed disk.

The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.0034 feet/foot to the south-southeast as measured between the up-gradient and down-gradient monitor wells, MW-3 and MW-1, respectively. This is consistent with data presented on Figures 2A through 2C from earlier in the year. The corrected groundwater elevations ranged between 3,528.09 to 3,528.82 feet above mean sea level, in monitor well MW-1 on August 4, 2010 and in monitor well MW-3 on January 7, 2010, respectively.

## LABORATORY RESULTS

Groundwater samples obtained during the quarterly sampling events of 2010 were delivered to Trace Analysis, Inc. in Midland, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituent concentrations by EPA Method 8021B. Polynuclear Aromatic Hydrocarbons (PAH) analysis was not conducted during the 2010 calendar year. Based upon historic PAH analytical data, only those wells exhibiting elevated constituent concentrations above WQCC standards will be sampled, with the exclusion of those wells containing measurable PSH thicknesses. A listing of BTEX constituent concentrations for 2010 are summarized in Table 2 and the Historic PAH constituent concentrations are summarized in Table 3. Copies of the laboratory reports generated for 2010 are provided on the enclosed data disk. The quarterly groundwater sample results for BTEX constituent concentrations are depicted on Figures 3A through 3D.

**Monitor well MW-1** is sampled on an annual schedule. Analytical results indicate benzene, toluene, ethyl-benzene and xylenes concentrations were below the NMOCD regulatory standards for each BTEX constituent during the 4<sup>th</sup> quarter sampling event. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-2** is sampled on a quarterly schedule and was inadvertently not sampled during the 1<sup>st</sup> quarter of 2010. Analytical results indicate benzene concentrations ranged from <0.001 mg/L during the 3<sup>rd</sup> quarter to 0.0141 mg/L during the 2<sup>nd</sup> quarter of 2010. Benzene

concentrations were above NMOCD regulatory standards of 0.01 mg/L, for the 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period. Toluene concentrations ranged from <0.005 mg/L during the 2<sup>nd</sup> quarter to 0.0148 mg/L during the 3<sup>rd</sup> quarter of 2010. Toluene concentrations were below the NMOCD regulatory standard of 0.75 mg/L during the three quarters of the reporting period. Ethyl-benzene concentrations ranged from 0.0743 mg/L during the 2<sup>nd</sup> quarter to 0.119 mg/L during the 3<sup>rd</sup> quarter of 2010. Ethyl-benzene concentrations were below NMOCD regulatory standard of 0.75 mg/L, during the three quarters of the reporting period. Xylene concentrations ranged from 0.0291 mg/L during the 4<sup>th</sup> quarter to 0.0586 mg/L during the 3<sup>rd</sup> quarter of 2010. Xylene concentrations were below NMOCD regulatory standard of 0.62 mg/L, during the three quarters of the reporting period. Laboratory analysis for PAH during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above WQCC Drinking Water Standards of naphthalene (0.00605 mg/L), 1-methylnaphthalene (0.0317 mg/L) and 2-methylnaphthalene (0.0105 mg/L). Additional PAH constituents detected above MDLs include fluorine (0.00338 mg/L), phenanthrene (0.00715 mg/L) and dibenzofuran (0.00399 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-3** was scheduled to be sampled on an annual basis, but was sampled on a quarterly basis during the current reporting period (as recommended in the 2008 Annual Report). The analytical results indicated the BTEX constituent concentrations were below the NMOCD regulatory standard during the all four quarters of the reporting period. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-4** is sampled on a semi-annual schedule and the analytical results indicate BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during the 2<sup>nd</sup> and 4<sup>th</sup> quarter sampling events. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last thirty-four consecutive sampling events. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-5** is sampled on quarterly schedule and the analytical results indicate BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during all four quarters of the reporting period. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-6** was scheduled to be sampled on an annual basis, but was sampled during all four quarters of the current reporting period. The analytical results indicate BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during all four quarters of the reporting period. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last thirty-three consecutive sampling events. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-7** is sampled on a semi-annual basis and was inadvertently sampled during the 1<sup>st</sup> quarter instead of during the 2<sup>nd</sup> quarter. Analytical results indicate BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during the 1<sup>st</sup> and 4<sup>th</sup> quarter sampling events. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last twenty-five

consecutive sampling events. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

**Monitor well MW-8** is sampled on quarterly schedule and the analytical results indicate benzene concentrations ranged from 0.0284 mg/L during the 3<sup>rd</sup> quarter to 0.1330 mg/L during the 4<sup>th</sup> quarter of 2010. Benzene concentrations were above NMOCD regulatory standard during all four quarters of the reporting period. Toluene concentrations ranged from <0.001 mg/L during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters to 0.0087 mg/L during the 3<sup>rd</sup> quarter of the reporting period. Toluene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. Ethyl-benzene concentrations ranged from 0.083 mg/L during the 4<sup>th</sup> quarter to 0.112 mg/L during the 3<sup>rd</sup> quarter of 2010. Ethyl-benzene concentrations were below NMOCD regulatory standard during all four quarters of the reporting period. Xylene concentrations ranged from 0.0916 mg/L during the 4<sup>th</sup> quarter to 0.228 mg/L during the 3<sup>rd</sup> quarter of 2010. Xylene concentrations were below NMOCD regulatory standard during all four quarters of the reporting period. PAH analysis was not conducted during the 4<sup>th</sup> quarter sampling event.

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.

## **SUMMARY**

This report presents the results of monitoring activities for the 2010 annual monitoring period. Currently, there are eight groundwater monitor wells (MW-1 through MW-8) on-site. The monitor wells are gauged monthly. The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.0034 feet/foot to the south-southeast.

No measurable thicknesses of PSH were reported in any of the site monitor wells during the reporting period.

Benzene is the only BTEX constituent exhibiting concentrations above NMOCD regulatory standards. Benzene concentrations exceeding regulatory guidelines were exhibited in monitor well MW-2 in two of the quarterly sampling events and in all four quarterly sampling events for monitor well MW-8. Analytical results on groundwater samples collected from MW-2 indicate PAH distribution mirrors those of BTEX distribution over the site.

## **ANTICIPATED ACTIONS**

Quarterly monitoring, PSH recovery (as necessary) and groundwater sampling will continue in 2011. Based on the results of the PAH analysis over the past several years, further PAH analysis will be conducted only on monitor well MW-2, which has historically exhibited elevated constituents near or above the WQCC standards.

A Soil Closure Proposal will be submitted to the NMOCD in the future. The Proposal will report the results of the Soil Investigation Work Plan and propose a strategy to remediate the remaining soil issues at the site.

A 2011 annual monitoring report will be submitted to the NMOCD by April 1, 2012.

## **LIMITATIONS**

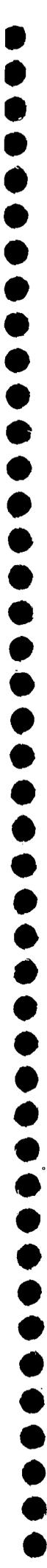
NOVA has prepared this 2010 Annual Monitoring Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

NOVA has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. NOVA has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA also 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.

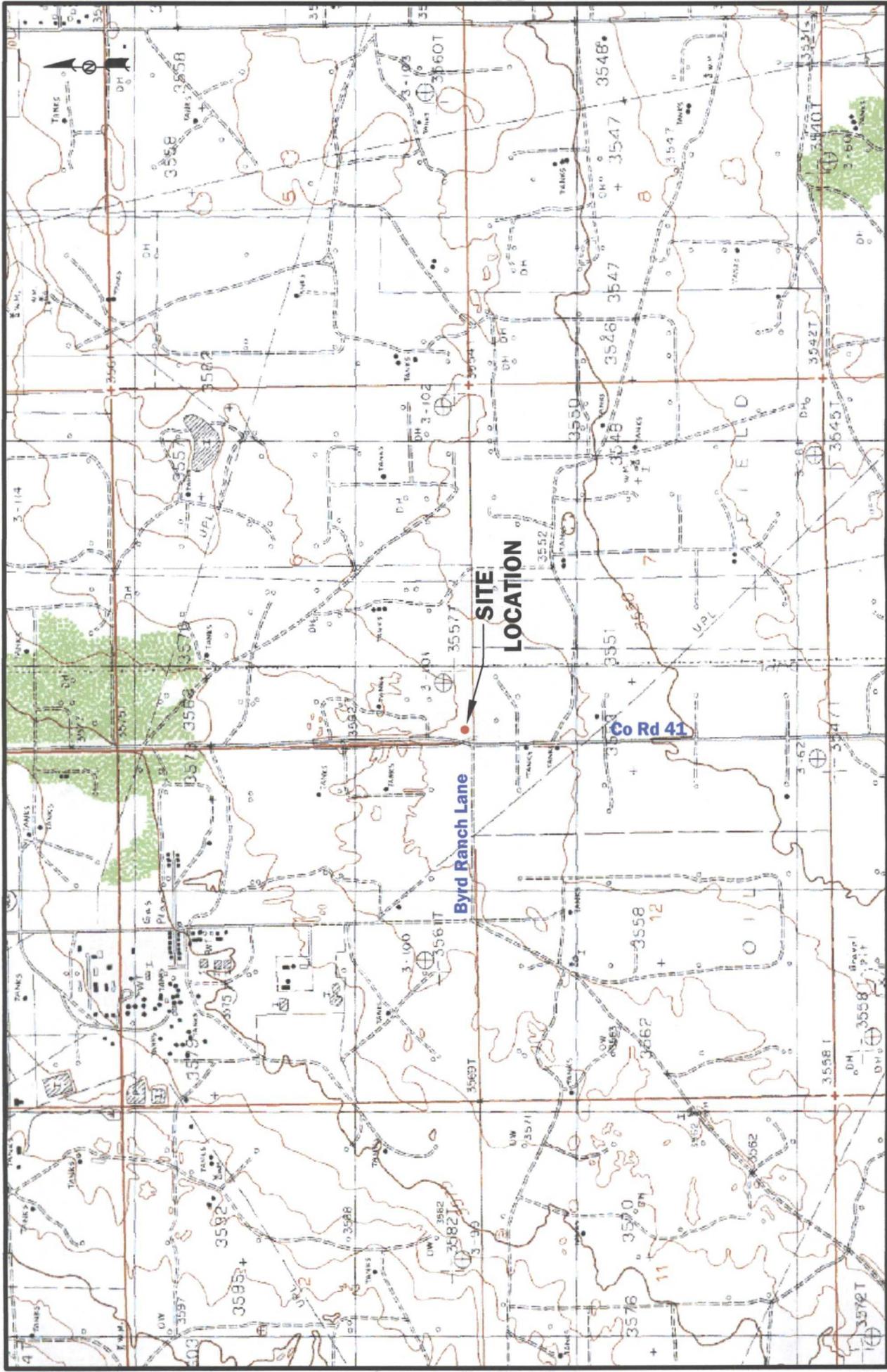
This report has been prepared for the benefit of Plains. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA and/or Plains.

## DISTRIBUTION

- Copy 1      Ed Hansen  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505
- Copy 2:      Geoffrey R. Leking  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division, District 1  
1625 French Drive  
Hobbs, NM 88240
- Copy 3:      Jason Henry  
Plains Marketing, L.P.  
2530 State Highway 214  
Denver City, TX 79323  
jhenry@paalp.com
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333 Clay Street  
Suite 1600  
Houston, TX 77002  
jpdann@paalp.com
- Copy 5:      NOVA Safety and Environmental  
2057 Commerce Street  
Midland, TX 79703  
rrounsaville@novatraining.cc



# Figures



LEGEND:



NMOC Reference #1R-0103

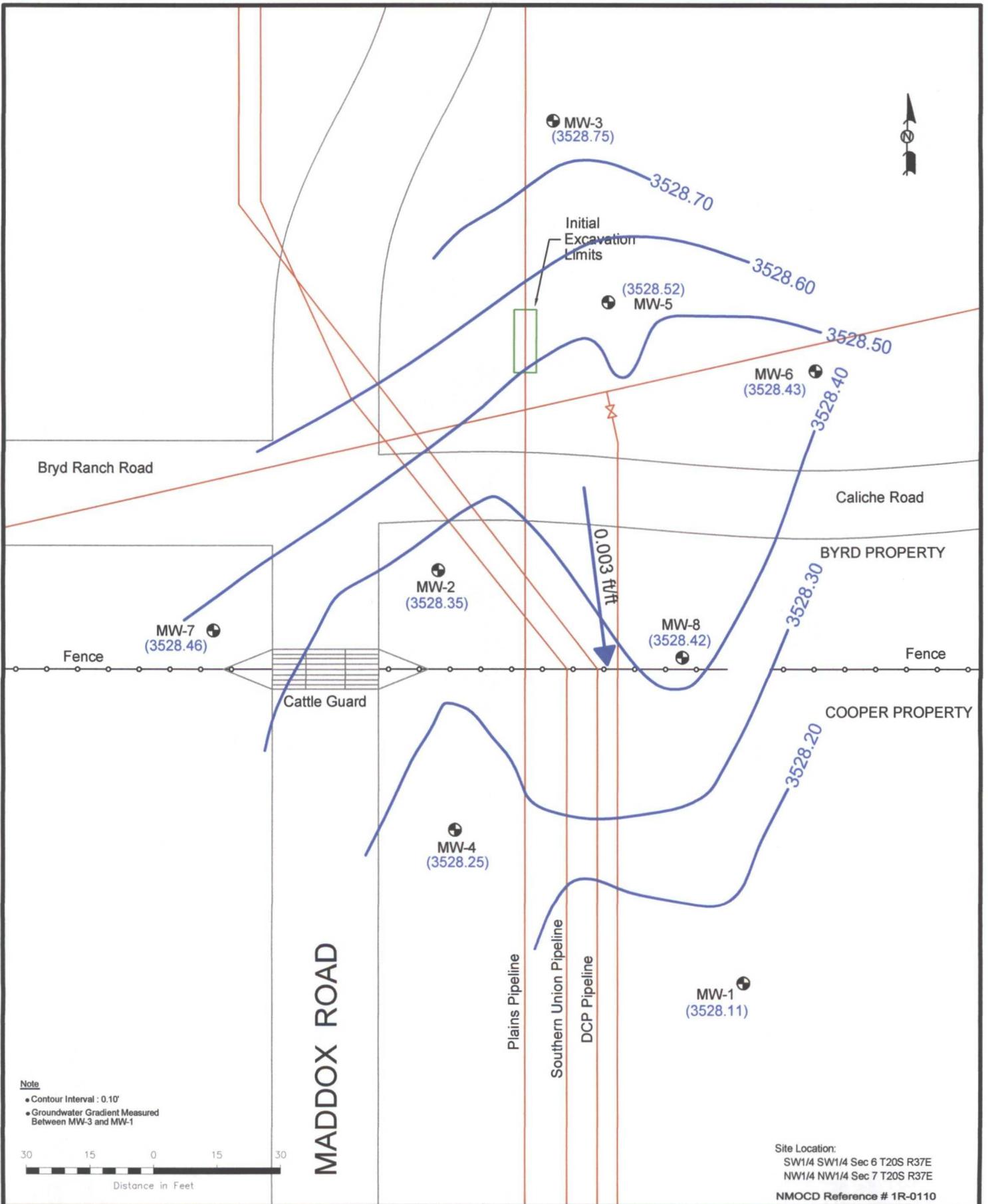
**Figure 1**  
**Site Location Map**  
**Monument 2**  
**Plains Marketing, L.P.**  
**Lea County, NM**



2057 Commerce Drive  
 Midland, Texas 79703  
 432.520.7720

www.novasafetyandenvironmental.com

February 28, 2011 | Scale: 1" = 2000' | CAD By: TA | Checked By: RKR  
 LATITUDE & LONGITUDE COORDINATES: N 32° 35' 42.4" W 103° 17' 56.5"



**Note**

- Contour Interval : 0.10'
- Groundwater Gradient Measured Between MW-3 and MW-1



**LEGEND:**

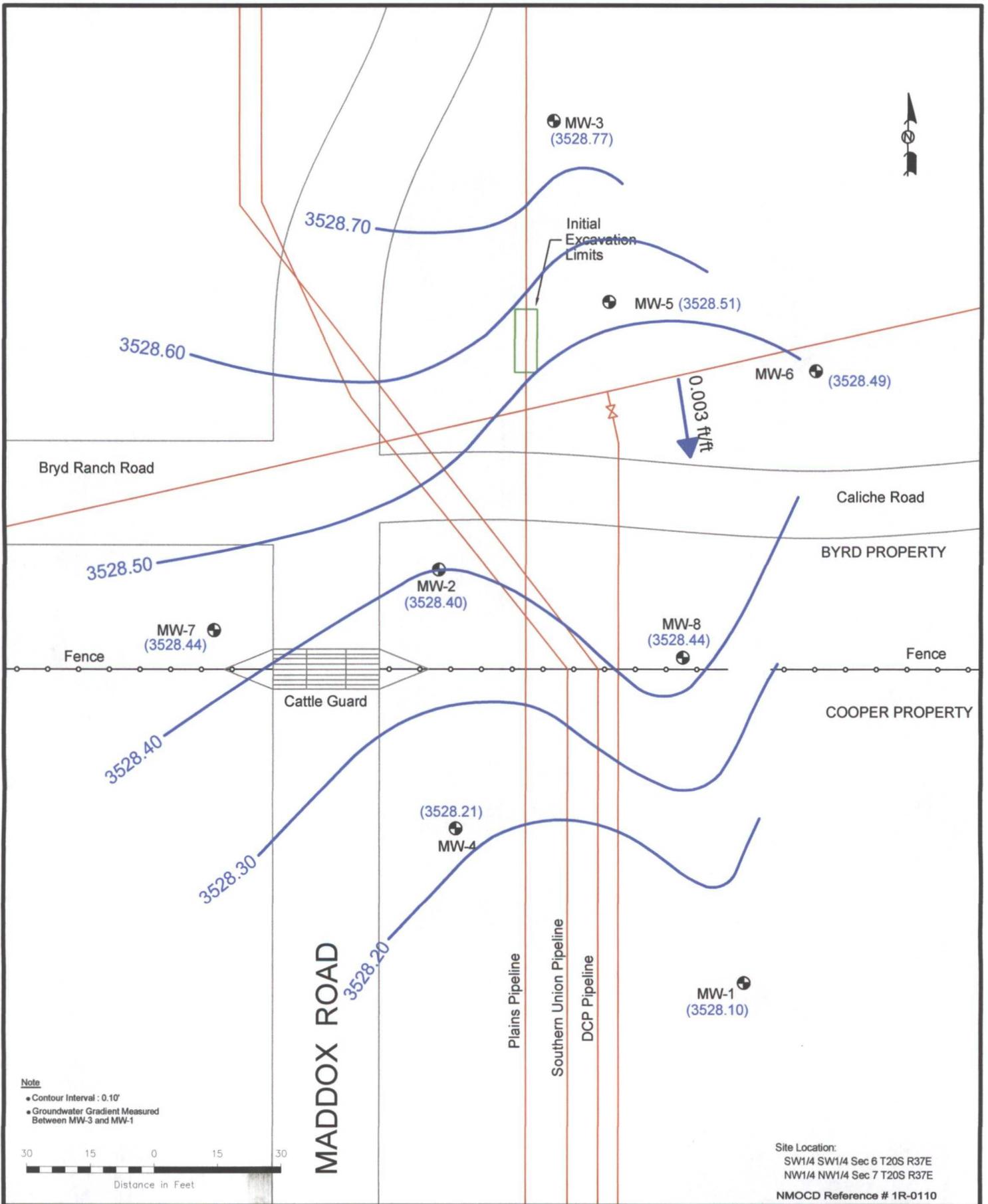
- Monitor Well Location
- Pipeline
- Fence
- (3529.08) Groundwater Elevation (feet)
- Groundwater Elevation Contour Line
- Groundwater Gradient and Magnitude

Figure 2A  
Inferred Groundwater  
Gradient Map  
(02/22/2010)  
Plains Marketing, L.P.  
Monument 2  
Lea County, TX

**NOVA Safety and Environmental**



Scale: 1" = 30' CAD By: SAT Checked By: RKR  
April 25, 2010 32° 35' 42.4"N 103° 17' 56.5"W

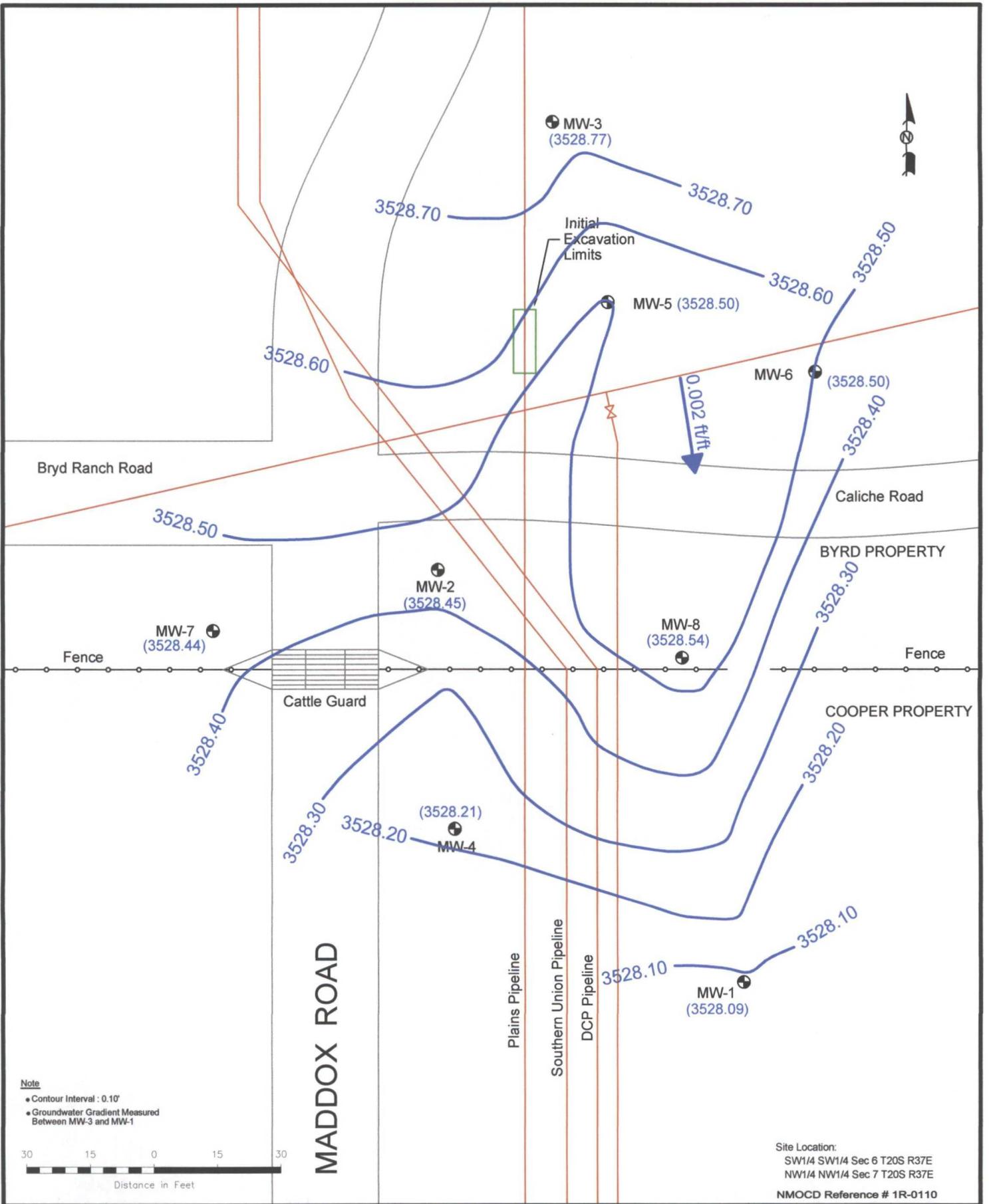


LEGEND:	
	Monitor Well Location
	Groundwater Elevation Contour Line
	Pipeline
	Fence
	Groundwater Elevation (feet)
	Groundwater Gradient and Magnitude

**Figure 2B Inferred Groundwater Gradient Map (05/05/2010)**  
 Plains Marketing, L.P.  
 Monument 2  
 Lea County, TX

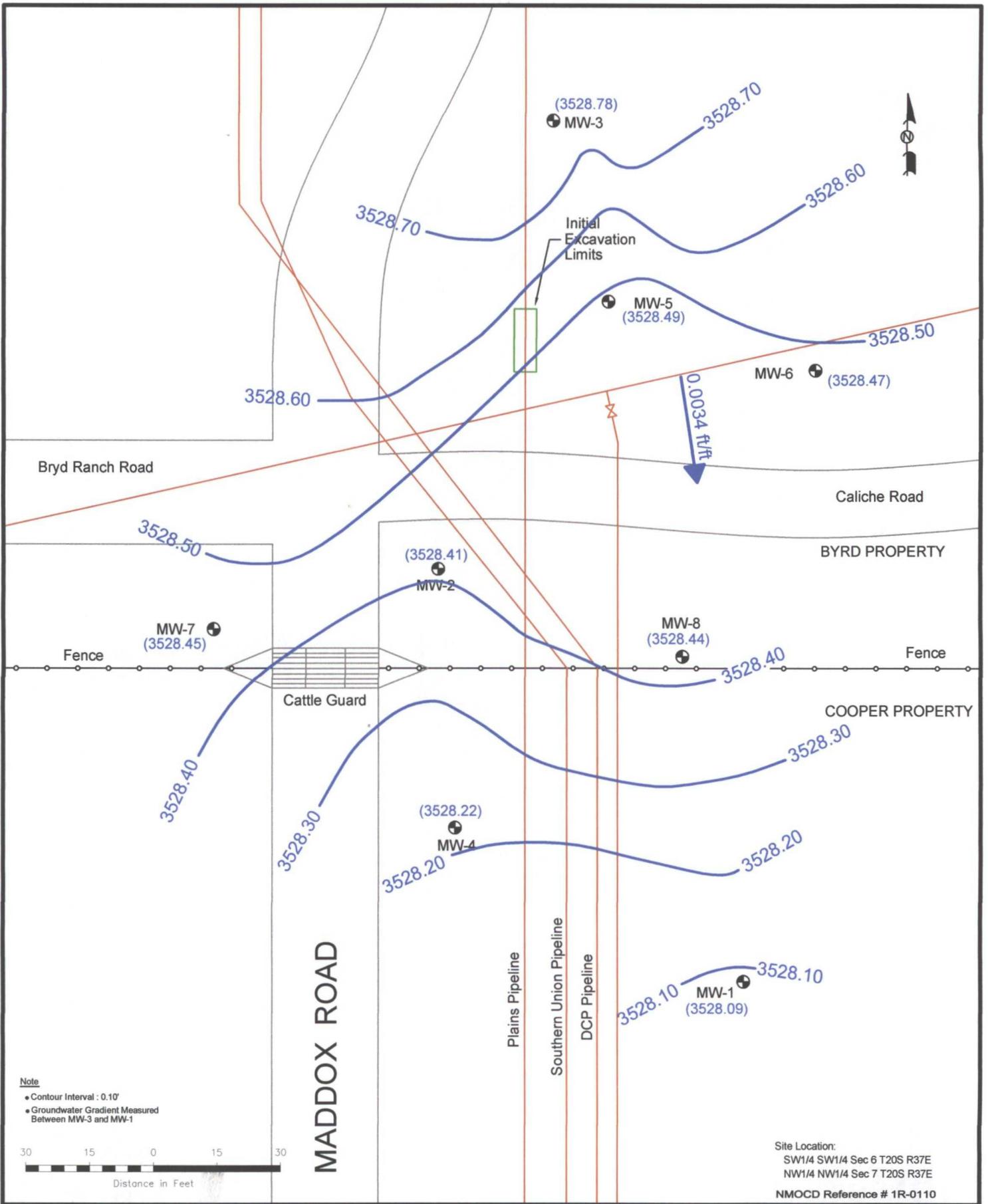
**NOVA Safety and Environmental**

Scale: 1" = 30'  
 CAD By: SAT  
 Checked By: RKR  
 May 25, 2010  
 32° 35' 42.4"N 103° 17' 56.5"W



LEGEND:	
	Monitor Well Location
	Pipeline
	Fence
	Groundwater Elevation Contour Line
	Groundwater Gradient and Magnitude

<p>Figure 2C          Inferred Groundwater Gradient Map          (08/04/2010)          Plains Marketing, L.P.          Monument 2          Lea County, TX</p>		<p>NOVA Safety and Environmental</p>	
<p>Scale: 1" = 30'          CAD By: TA          September 13, 2010</p>		<p>Checked By: RKR          32° 35' 42.4"N 103° 17' 56.5"W</p>	

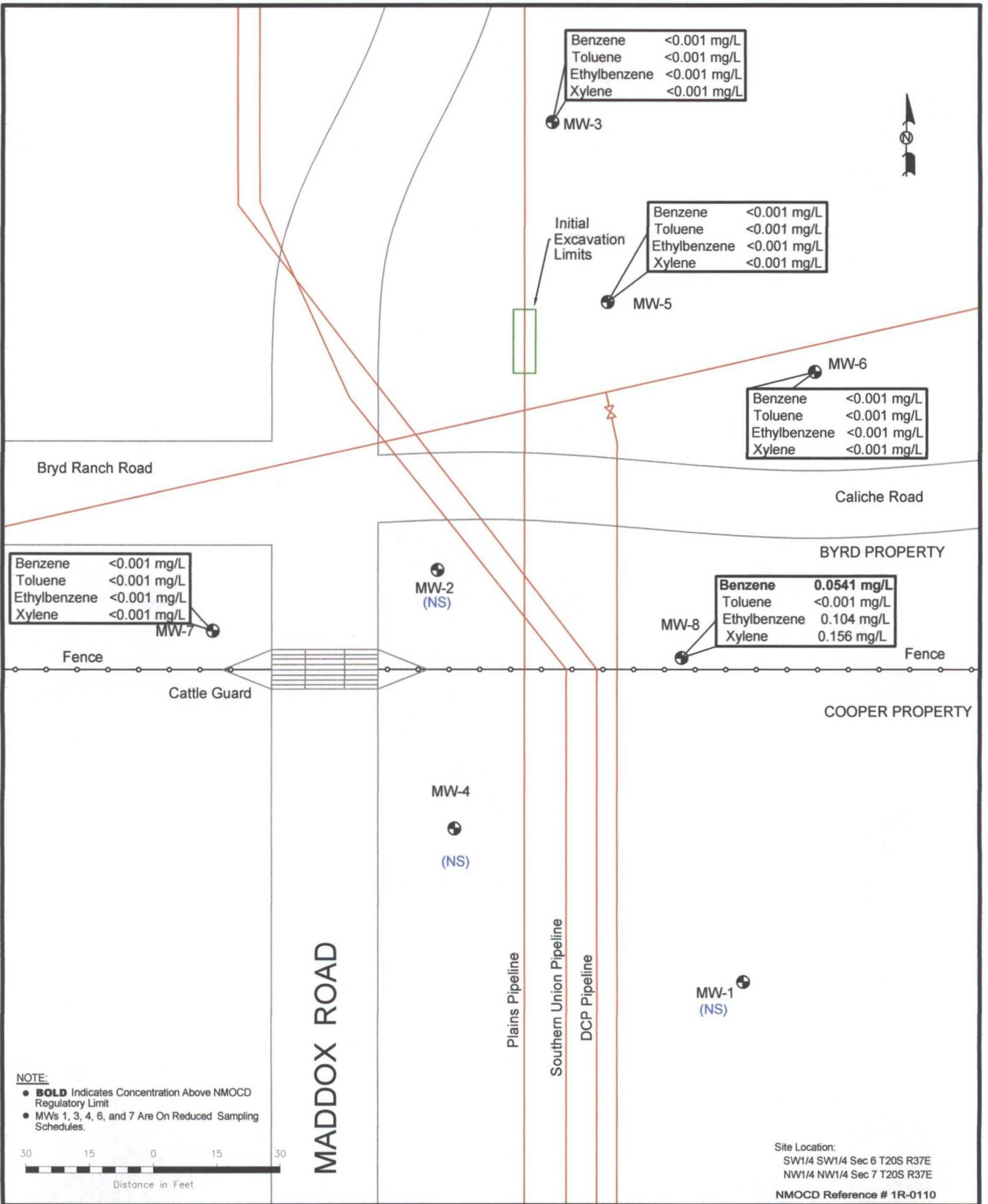


LEGEND:	
	Monitor Well Location
	Pipeline
	Fence
	(3529.08) Groundwater Elevation (feet)
	0.001 ft/ft Groundwater Gradient and Magnitude

Figure 2D  
 Inferred Groundwater  
 Gradient Map  
 (11/03/2010)  
 Plains Marketing, L.P.  
 Monument 2  
 Lea County, TX

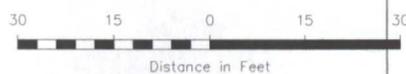
**NOVA Safety and Environmental**

Scale: 1" = 30'	CAD By: TA	Checked By: RKR
December 6, 2010	32° 35' 42.4"N 103° 17' 56.5"W	



**NOTE:**

- **BOLD** Indicates Concentration Above NMOCD Regulatory Limit
- MWs 1, 3, 4, 6, and 7 Are On Reduced Sampling Schedules.



Site Location:  
 SW1/4 SW1/4 Sec 6 T20S R37E  
 NW1/4 NW1/4 Sec 7 T20S R37E  
 NMOCD Reference # 1R-0110

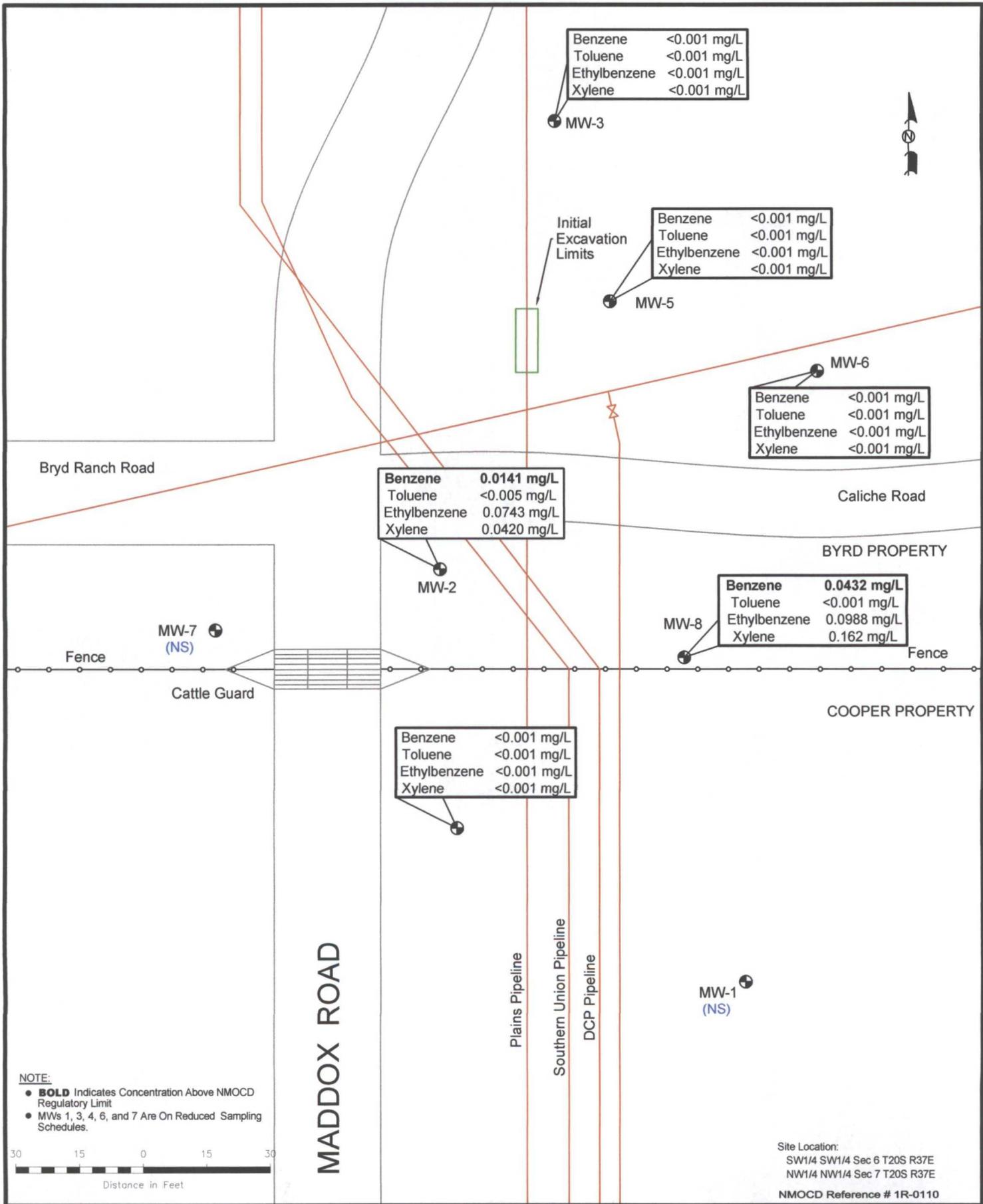
**LEGEND:**

	Monitor Well Location	<0.001	Constituent Concentration (mg/L)
	Pipeline	(NS)	Not Sampled
	Fence		

**Figure 3A**  
 Groundwater Concentration  
 and Inferred PSH Extent  
 (02/02/2010)  
 Plains Marketing, L.P.  
 Monument 2  
 Lea County, TX

**NOVA Safety and Environmental**

Scale: 1" = 30'	CAD By: SAT	Checked By: RKR
April 25, 2010	32° 35' 42.4"N 103° 17' 56.5"W	



**NOTE:**

- **BOLD** Indicates Concentration Above NMOCD Regulatory Limit
- MWs 1, 3, 4, 6, and 7 Are On Reduced Sampling Schedules.



Site Location:  
 SW1/4 SW1/4 Sec 6 T20S R37E  
 NW1/4 NW1/4 Sec 7 T20S R37E  
 NMOCD Reference # 1R-0110

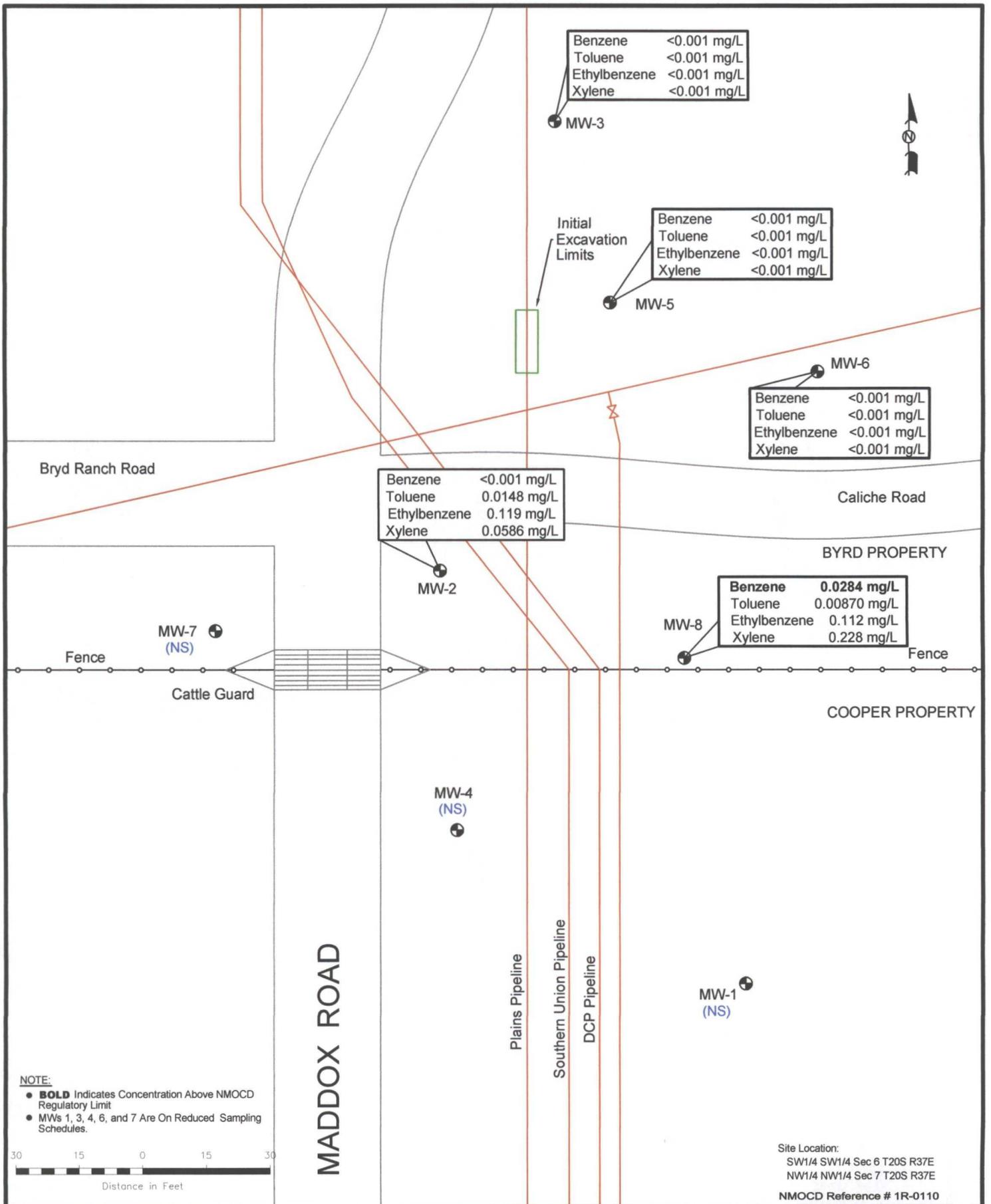
**LEGEND:**

	Monitor Well Location	<0.001	Constituent Concentration (mg/L)
	Pipeline	(NS)	Not Sampled
	Fence		

**Figure 3B**  
 Groundwater Concentration  
 and Inferred PSH Extent  
 (05/05/2010)  
 Plains Marketing, L.P.  
 Monument 2  
 Lea County, TX

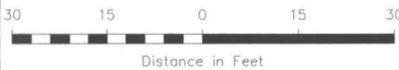
**NOVA Safety and Environmental**

Scale: 1" = 30'    CAD By: SAT    Checked By: RKR  
 May 25, 2010    32° 35' 42.4"N 103° 17' 56.5"W



**NOTE:**

- **BOLD** Indicates Concentration Above NMOCD Regulatory Limit
- MWs 1, 3, 4, 6, and 7 Are On Reduced Sampling Schedules.



Site Location:  
 SW1/4 SW1/4 Sec 6 T20S R37E  
 NW1/4 NW1/4 Sec 7 T20S R37E  
 NMOCD Reference # 1R-0110

**LEGEND:**

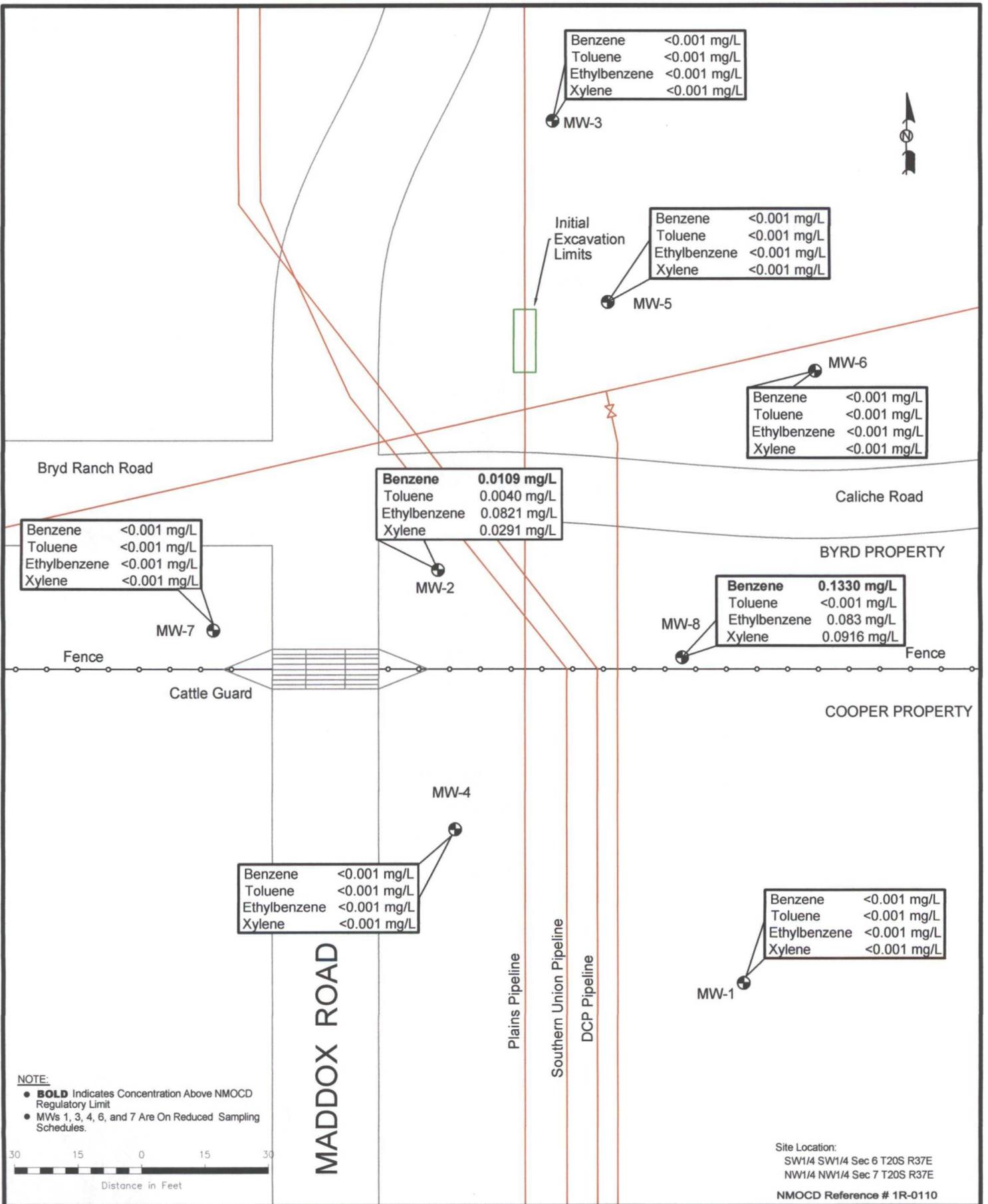
●	Monitor Well Location	<0.001	Constituent Concentration (mg/L)
—	Pipeline	(NS)	Not Sampled
○—○	Fence		

Figure 3C  
 Groundwater Concentration  
 and Inferred PSH Extent  
 (08/04/2010)  
 Plains Marketing, L.P.  
 Monument 2  
 Lea County, TX

**NOVA Safety and Environmental**



Scale: 1" = 30' CAD By: TA Checked By: RKR  
 September 13, 2010 32° 35' 42.4"N 103° 17' 56.5"W



<b>LEGEND:</b>		<b>Figure 3D</b> Groundwater Concentration and Inferred PSH Extent (11/03/2010) Plains Marketing, L.P. Monument 2 Lea County, TX	<b>NOVA</b> safety and environmental	<b>NOVA Safety and Environmental</b>	
Monitor Well Location Pipeline Fence	<0.001 Constituent Concentration (mg/L) (NS) Not Sampled			Scale: 1" = 30' CAD By: TA December 6, 2010	Checked By: RKR 32° 35' 42.4"N 103° 17' 56.5"W



## Tables

TABLE 1

## GROUNDWATER ELEVATION DATA - 2010

PLAINS MARKETING, L.P.  
 MONUMENT 2  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference No. 1R-0110

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW - 1	01/07/10	3,560.60	-	32.42	0.00	3528.18
MW - 1	02/02/10	3,560.60	-	32.49	0.00	3528.11
MW - 1	05/05/10	3,560.60	-	32.50	0.00	3528.10
MW - 1	08/04/10	3,560.60	-	32.51	0.00	3528.09
MW - 1	11/03/10	3,560.60	-	32.51	0.00	3528.09
MW - 2	01/07/10	3,561.14	-	32.76	0.00	3528.38
MW - 2	01/21/10	3,561.14	-	32.67	0.00	3528.47
MW - 2	02/02/10	3,561.14	-	32.79	0.00	3528.35
MW - 2	03/01/10	3,561.14	-	32.77	0.00	3528.37
MW - 2	03/16/10	3,561.14	-	32.67	0.00	3528.47
MW - 2	04/16/10	3,561.14	-	32.79	0.00	3528.35
MW - 2	05/05/10	3,561.14	-	32.74	0.00	3528.40
MW - 2	05/27/10	3,561.14	-	32.72	0.00	3528.42
MW - 2	06/07/10	3,561.14	-	32.88	0.00	3528.26
MW - 2	06/25/10	3,561.14	-	32.46	0.00	3528.68
MW - 2	07/16/10	3,561.14	-	32.76	0.00	3528.38
MW - 2	07/30/10	3,561.14	-	32.69	0.00	3528.45
MW - 2	08/04/10	3,561.14	-	32.69	0.00	3528.45
MW - 2	08/20/10	3,561.14	-	32.58	0.00	3528.56
MW - 2	09/10/10	3,561.14	-	32.68	0.00	3528.46
MW - 2	09/24/10	3,561.14	-	32.53	0.00	3528.61
MW - 2	10/08/10	3,561.14	-	32.56	0.00	3528.58
MW - 2	11/03/10	3,561.14	-	32.73	0.00	3528.41
MW - 2	12/03/10	3,561.14	-	32.44	0.00	3528.70
MW - 2	12/16/10	3,561.14	-	32.58	0.00	3528.56
MW - 3	01/07/10	3,560.39	-	31.57	0.00	3528.82
MW - 3	02/02/10	3,560.39	-	31.64	0.00	3528.75
MW - 3	05/05/10	3,560.39	-	31.62	0.00	3528.77
MW - 3	08/04/10	3,560.39	-	31.62	0.00	3528.77
MW - 3	11/03/10	3,560.39	-	31.61	0.00	3528.78
MW - 4	01/07/10	3,561.08	-	32.71	0.00	3528.37
MW - 4	02/02/10	3,561.08	-	32.83	0.00	3528.25
MW - 4	05/05/10	3,561.08	-	32.87	0.00	3528.21
MW - 4	08/04/10	3,561.08	-	32.87	0.00	3528.21
MW - 4	11/03/10	3,561.08	-	32.86	0.00	3528.22
MW - 5	01/07/10	3,560.20	-	31.61	0.00	3528.59
MW - 5	02/02/10	3,560.20	-	31.68	0.00	3528.52
MW - 5	03/01/10	3,560.20	-	31.71	0.00	3528.49
MW - 5	03/16/10	3,560.20	-	31.66	0.00	3528.54

TABLE 1

## GROUNDWATER ELEVATION DATA - 2010

PLAINS MARKETING, L.P.  
 MONUMENT 2  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference No. 1R-0110

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW - 5	04/16/10	3,560.20	-	31.72	0.00	3528.48
MW - 5	05/05/10	3,560.20	-	31.69	0.00	3528.51
MW - 5	06/07/10	3,560.20	-	31.79	0.00	3528.41
MW - 5	06/25/10	3,560.20	-	31.39	0.00	3528.81
MW - 5	08/04/10	3,560.20	-	31.70	0.00	3528.50
MW - 5	09/10/10	3,560.20	-	31.71	0.00	3528.49
MW - 5	11/03/10	3,560.20	-	31.71	0.00	3528.49
MW - 6	01/07/10	3,560.32	-	31.79	0.00	3528.53
MW - 6	02/02/10	3,560.32	-	31.89	0.00	3528.43
MW - 6	05/05/10	3,560.32	-	31.83	0.00	3528.49
MW - 6	08/04/10	3,560.32	-	31.82	0.00	3528.50
MW - 6	11/03/10	3,560.32	-	31.85	0.00	3528.47
MW - 7	01/07/10	3,561.07	-	32.53	0.00	3528.54
MW - 7	02/02/10	3,561.07	-	32.61	0.00	3528.46
MW - 7	05/05/10	3,561.07	-	32.63	0.00	3528.44
MW - 7	08/04/10	3,561.07	-	32.63	0.00	3528.44
MW - 7	11/03/10	3,561.07	-	32.62	0.00	3528.45
MW - 8	01/07/10	3,561.07	-	32.67	0.00	3528.40
MW - 8	01/21/10	3,561.07	-	32.55	0.00	3528.52
MW - 8	02/02/10	3,561.07	-	32.65	0.00	3528.42
MW - 8	03/01/10	3561.07	-	32.71	0.00	3528.36
MW - 8	03/16/10	3561.07	-	32.60	0.00	3528.47
MW - 8	04/16/10	3561.07	-	32.68	0.00	3528.39
MW - 8	05/05/10	3561.07	-	32.63	0.00	3528.44
MW - 8	05/27/10	3561.07	-	32.58	0.00	3528.49
MW - 8	06/07/10	3561.07	-	32.74	0.00	3528.33
MW - 8	06/25/10	3561.07	-	32.35	0.00	3528.72
MW - 8	07/16/10	3561.07	-	32.62	0.00	3528.45
MW - 8	07/30/10	3561.07	-	32.53	0.00	3528.54
MW - 8	08/04/10	3561.07	-	32.53	0.00	3528.54
MW - 8	08/20/10	3561.07	-	32.48	0.00	3528.59
MW - 8	09/10/10	3561.07	-	32.52	0.00	3528.55
MW - 8	09/24/10	3561.07	-	32.47	0.00	3528.60
MW - 8	10/08/10	3561.07	-	32.45	0.00	3528.62
MW - 8	11/03/10	3561.07	-	32.63	0.00	3528.44
MW - 8	12/03/10	3561.07	-	32.30	0.00	3528.77
MW - 8	12/16/10	3561.07	-	32.61	0.00	3528.46

\* Complete Historical Tables are provided on the attached CD.

TABLE 2

**CONCENTRATIONS OF BTEX IN GROUNDWATER - 2010**  
**PLAINS MARKETING, L.P.**  
**MONUMENT 2**  
**LEA COUNTY, NEW MEXICO**  
**NMOCD Reference No. 1R-0110**

*All concentrations are reported in mg/L.*

SAMPLE LOCATION	SAMPLE DATE	SW 846-8012B, 5030				
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE
<b>NMOCD REGULATORY LIMIT</b>		<b>0.01</b>	<b>0.750</b>	<b>0.750</b>	<b>0.620</b>	
MW - 1	02/02/10	Not sampled due to sample reduction				
MW - 1	05/05/10	Not sampled due to sample reduction				
MW - 1	08/04/10	Not sampled due to sample reduction				
MW - 1	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 2	02/02/10	Not sampled				
MW - 2	05/05/10	0.0141	<0.005	0.0743	0.0420	
MW - 2	08/04/10	<0.001	0.0148	0.1190	0.0586	
MW - 2	11/03/10	0.0109	0.0040	0.0821	0.0291	
MW - 3	02/02/10	<0.001	<0.001	<0.001	<0.001	
MW - 3	05/05/10	<0.001	<0.001	<0.001	<0.001	
MW - 3	08/04/10	<0.001	<0.001	<0.001	<0.001	
MW - 3	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 4	02/02/10	Not sampled due to sample reduction				
MW - 4	05/05/10	<0.001	<0.001	<0.001	<0.001	
MW - 4	08/04/10	Not sampled due to sample reduction				
MW - 4	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 5	02/02/10	<0.001	<0.001	<0.001	<0.001	
MW - 5	05/05/10	<0.001	<0.001	<0.001	<0.001	
MW - 5	08/04/10	<0.001	<0.001	<0.001	<0.001	
MW - 5	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 6	02/02/10	<0.001	<0.001	<0.001	<0.001	
MW - 6	05/05/10	<0.001	<0.001	<0.001	<0.001	
MW - 6	08/04/10	<0.001	<0.001	<0.001	<0.001	
MW - 6	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 7	02/02/10	<0.001	<0.001	<0.001	<0.001	
MW - 7	05/05/10	Not sampled due to sample reduction				
MW - 7	08/04/10	Not sampled due to sample reduction				
MW - 7	11/03/10	<0.001	<0.001	<0.001	<0.001	
MW - 8	02/02/10	0.0541	<0.001	0.104	0.1560	
MW - 8	05/05/10	0.0432	<0.001	0.099	0.1620	
MW - 8	08/04/10	0.0284	0.0087	0.112	0.2280	
MW - 8	11/03/10	0.1330	<0.001	0.083	0.0916	

\* Complete Historical Tables are provided on the attached CD.

TABLE 3

POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P.  
MONUMENT 2

LEA COUNTY, NEW MEXICO

NMOC REFERENCE NUMBER IR-0110

EPA SW846-8270C, 3510

All water concentrations are reported in mg/L

SAMPLE LOCATION	SAMPLE DATE	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benz[a]pyrene	Benz[b]fluoranthene	Benz[e,h,i]perylene	Benz[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A.																				
MW-1	11/04/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
	11/02/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000393
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
MW-2	11/04/08	<0.000185	<0.000185	0.0033	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.018	<0.000185	<0.000185	0.0236	<0.000185	0.019	0.0854	0.0387	0.0143
	11/02/09	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	0.0171	<0.000926	0.0112	0.0722	0.0324	0.0102
	11/03/10	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00338	<0.000184	<0.000184	0.00715	<0.000184	0.0605	0.0317	0.0105	0.00399
MW-3	11/04/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
	11/02/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
MW-4	11/04/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000698	<0.000184	<0.000184
	11/02/09	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
MW-5	11/04/08	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917	<0.000917
	11/02/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000698	<0.000184	<0.000184
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
MW-6	11/04/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
	11/02/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000698	<0.000184	<0.000184
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		

TABLE 3

POLYCYCLIC AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P.  
MONUMENT 2

LEA COUNTY, NEW MEXICO

NMOCD REFERENCE NUMBER IR-0110

All water concentrations are reported in mg/L

SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8270C, 3510																	
		Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A.																			
	MW-7	11/04/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
		11/02/09	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185
	11/03/10																		
		Not Sampled as part of Quarterly Monitoring Event.																	
MW-8	11/04/08	<0.000184	<0.000184	<0.000184	0.00027	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
		11/02/09	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
		11/03/10																	
		Not Sampled as part of Quarterly Monitoring Event.																	



## Appendices



Appendix A  
Release Notification and Corrective Action  
(Form C-141)

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

**OPERATOR** x Initial Report  Final Report

Name of Company	Plains Pipeline, LP	Contact:	Camille Reynolds
Address:	3705 E. Hwy 158, Midland, TX 79706	Telephone No.	505-441-0965
Facility Name	Monument # 2	Facility Type:	Pipeline

Surface Owner:	Mineral Owner	Lease No.
BLM, Jim T Cooper		

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	6	20S	37E					Lea

Latitude 32 degrees, 35' 42.4" Longitude 32 degrees, 17' 56.5"

**NATURE OF RELEASE**

Type of Release:	Volume of Release:	Volume Recovered
Source of Release:	Date and Hour of Occurrence	Date and Hour of Discovery
	Unknown	
Was Immediate Notice Given?	If YES, To Whom?	
Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required <input type="checkbox"/>		
By Whom?	Date and Hour	
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Describe Area Affected and Cleanup Action Taken.\*

**NOTE: Texas-New Mexico Pipeline was the owner/operator of the pipeline system at the time of the release, initial response information is unavailable.**

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

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Camille Reynolds		Approved by District Supervisor:	
Title: Remediation Coordinator	Approval Date:	Expiration Date:	
E-mail Address: cjreynolds@paalp.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 3/21/2005	Phone: (505)441-0965		

\* Attach Additional Sheets If Necessary