

1R - 110

**Annual GW
Mon. Report**

Year:
2012

**2012
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 2013

RECEIVED OGD
2013 MAR 28 A 11:05

Handwritten signature of Nikki Green in black ink.

Nikki Green
Project Manager

Handwritten signature of Brittan K. Byerly in black ink.

Brittan K. Byerly, P.G.
President



**PLAINS
ALL AMERICAN**

March 15, 2013

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

RECEIVED OCD
2013 MAR 28 A 11:05

Re: Plains All American – 2012 Annual Monitoring Reports
15 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:

<u>34 Junc. to Lea Sta.</u>	<u>1R-0386</u>	<u>Section 21, Township 20 South, Range 37 East, Lea County</u>
<u>34 Junction South</u>	<u>1R-0456</u>	<u>Section 02, Township 17 South, Range 36 East, Lea County</u>
<u>Bob Durham</u>	<u>AP-0016</u>	<u>Section 32, Township 19 South, Range 37 East, Lea County</u>
<u>HDO-90-23</u>	<u>AP-009</u>	<u>Section 06, Township 20 South, Range 37 East, Lea County</u>
<u>LF-59</u>	<u>1R-0103</u>	<u>Section 32, Township 19 South, Range 37 East, Lea County</u>
<u>Monument 2</u>	<u>1R-0110</u>	<u>Section 06, Township 20 South, Range 37 East, Lea County</u> <u>Section 07, Township 20 South, Range 37 East, Lea, County</u>
<u>Monument 10</u>	<u>1R-0119</u>	<u>Section 30, Township 19 South, Range 37 East, Lea County</u>
<u>Monument 17</u>	<u>1R-123</u>	<u>Section 29, Township 19 South, Range 37 East, Lea County</u>
<u>Monument 18</u>	<u>1R-0124</u>	<u>Section 07, Township 20 South, Range 37 East, Lea County</u>
<u>SPS-11</u>	<u>GW-0140</u>	<u>Section 18, Township 18 South, Range 36 East, Lea County</u>
<u>Texaco Skelly F</u>	<u>1R-0420</u>	<u>Section 11, Township 21 South, Range 37 East, Lea County</u>
<u>TNM 97-04</u>	<u>GW-0294</u>	<u>Section 11, Township 16 South, Range 35 East, Lea County</u>
<u>TNM 97-17</u>	<u>AP-017</u>	<u>Section 21, Township 20 South, Range 37 East, Lea County</u>
<u>TNM 97-18</u>	<u>AP-0013</u>	<u>Section 28, Township 20 South, Range 37 East, Lea County</u>
<u>TNM 98-05A</u>	<u>AP-12</u>	<u>Section 26, Township 21 South, Range 37 East, Lea County</u>

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.



**PLAINS
ALL AMERICAN**

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

TABLE OF CONTENTS

INTRODUCTION	1
SITE DESCRIPTION AND BACKGROUND INFORMATION	1
FIELD ACTIVITIES	1
LABORATORY RESULTS	2
SUMMARY	4
ANTICIPATED ACTIONS.....	4
LIMITATIONS.....	5
DISTRIBUTION.....	6

FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map February 9, 2012

2B – Inferred Groundwater Gradient Map May 21, 2012

2C – Inferred Groundwater Gradient Map August 3, 2012

2D – Inferred Groundwater Gradient Map December 12, 2012

3A – Groundwater Concentration and Inferred PSH Extent Map February 9, 2012

3B – Groundwater Concentration and Inferred PSH Extent Map May 21, 2012

3C – Groundwater Concentration and Inferred PSH Extent Map August 3, 2012

3D – Groundwater Concentration and Inferred PSH Extent Map December 12, 2012

TABLES

Table 1 – 2012 Groundwater Elevation Data

Table 2 – 2012 Concentrations of BTEX and TPH in Groundwater

Table 3 – 2012 Concentrations of PAH in Groundwater

APPENDICES

Appendix A – Annual Monitoring Report (2011) Anticipated Actions Approval –
November 6, 2012

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

ENCLOSED ON DATA DISK

2012 Annual Monitoring Report

2012 Tables 1, 2 and 3 – Groundwater Elevation and BTEX Concentration Data

2012 Figures 1, 2A-2D, and 3A-3D

Annual Monitoring Report (2011) Anticipated Actions Approval – November 6, 2012

Electronic Copies of Laboratory Reports

Historic Table 1, 2 and 3 – Groundwater Elevation, BTEX and PAH Concentration Tables.

INTRODUCTION

On behalf of Plains Marketing, L.P., (Plains), NOVA Safety and Environmental (NOVA) is pleased to submit this 2012 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 2012 only. However, historic data tables as well as 2012 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 2012 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 $\frac{1}{4}$ SW $\frac{1}{4}$ Section 6, Township 20 South, Range 37 East and NW $\frac{1}{4}$ NW $\frac{1}{4}$ 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 Pipe Line 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 9, May 21, August 3, and December 12, 2012. 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 2012 is provided as Table 1. Historic groundwater elevation data beginning at project inception is provided on the enclosed disk.

The most recent Inferred Groundwater Gradient Map, Figure 2D, indicates a general gradient of to the south-southeast.

LABORATORY RESULTS

Groundwater samples obtained during the quarterly sampling events of 2012 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 conducted on monitor wells MW-2 and MW-8 during 2012. Based upon historic PAH analytical data, only those wells exhibiting elevated constituent concentrations above WQCC standards are sampled, with the exclusion of those wells containing measurable PSH thicknesses. A listing of BTEX constituent concentrations for 2012 are summarized in Table 2 and the historic PAH constituent concentrations are summarized in Table 3. Copies of the laboratory reports generated for 2012 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 BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during the 4th quarter sampling event. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last 17 consecutive sampling events. PAH analysis was not conducted during the 4th quarter sampling event.

Monitor well MW-2 is sampled on a quarterly schedule. Analytical results indicate benzene concentrations ranged from <0.005 mg/L during the 4th quarter to 0.0116 mg/L during the 3rd quarter of 2012. Benzene concentrations were above NMOCD regulatory standards of 0.01 mg/L, during the 2nd and 3rd quarters of the reporting period. Toluene concentrations were below the MDL and NMOCD regulatory standard of 0.75 mg/L during the four quarters of the reporting period. Ethyl-benzene concentrations ranged from 0.0332 mg/L during the 4th quarter

to 0.0586 mg/L during the 2nd quarter of 2012. Ethyl-benzene concentrations were below NMOCD regulatory standard of 0.75 mg/L, during the four quarters of the reporting period. Xylene concentrations ranged from <0.005 mg/L during the 4th quarter to 0.0470 mg/L during the 3rd quarter of 2012. Xylene concentrations were below NMOCD regulatory standard of 0.62 mg/L, during the four quarters of the reporting period. PAH analysis during the 4th quarter sampling event indicated elevated concentrations above WQCC Drinking Water Standards of phenanthrene (0.006 mg/L). Additional PAH constituents detected above MDLs include 1-methylnaphthalene (0.0206 mg/L) and dibenzofuran (0.00556 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 MDL and NMOCD regulatory standard during the four quarters of the reporting period. PAH analysis was not conducted during the 4th 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 2nd and 4th quarter sampling events. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last 40 consecutive sampling events. PAH analysis was not conducted during the 4th quarter sampling event.

Monitor well MW-5 is sampled on quarterly schedule and the analytical results indicate benzene concentrations ranged from <0.001 mg/L during the 1st, 3rd, and 4th quarters to 0.0011 mg/L during the 2nd quarter of 2012. Benzene concentrations were below NMOCD regulatory standards during the four quarters of the reporting period. Toluene, ethyl-benzene, and xylene constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during the four quarters of the reporting period. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last 18 consecutive sampling events. PAH analysis was not conducted during the 4th quarter sampling event.

Monitor well MW-6 was scheduled to be sampled on an annual basis, but was sampled during the 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 the four quarters of the reporting period. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last 42 consecutive sampling events. PAH analysis was not conducted during the 4th quarter sampling event.

Monitor well MW-7 is sampled on an annual schedule. Analytical results indicate BTEX constituent concentrations were below the MDL and NMOCD regulatory standards for each BTEX constituent during the 4th quarter sampling event. The analytical results indicate BTEX concentrations have been below NMOCD regulatory standards for the last 27 consecutive sampling events. PAH analysis was not conducted during the 4th quarter sampling event.

Monitor well MW-8 is sampled on a quarterly schedule and the analytical results indicate benzene concentrations ranged from <0.001 mg/L during the 3rd quarter to 0.0441 mg/L during the 1st quarter of 2012. Benzene concentrations were above NMOCD regulatory standard during

the 1st quarter of the reporting period. Toluene concentrations ranged from <0.001 mg/L during the 1st and 3rd quarters to 0.0014 mg/L during the 2nd quarter of 2012. Toluene concentrations were below NMOCD regulatory standard during the four quarters of the reporting period. Ethylbenzene concentrations ranged from <0.001 mg/L during the 3rd quarter to 0.109 mg/L during the 1st quarter of 2012. Ethylbenzene concentrations were below NMOCD regulatory standard during the four quarters of the reporting period. Xylene concentrations ranged from <0.001 mg/L during the 3rd quarter to 0.1750 mg/L during the 2nd quarter of 2012. Xylene concentrations were below NMOCD regulatory standard during the four quarters of the reporting period. PAH analysis during the 4th quarter sampling event indicated elevated concentrations above WQCC Drinking Water Standards for phenanthrene (0.00558 mg/L), naphthalene (0.0124 mg/L), 1-methylnaphthalene (0.0283 mg/L) and 2-methylnaphthalene (0.0213 mg/L). Additional PAH constituents detected above MDLs include dibenzofuran (0.00471 mg/L), which was below the WQCC Drinking Water Standards.

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 2012 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 Inferred Groundwater Gradient Map, Figure 2D, indicates a general gradient 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 during two of the four quarterly sampling events and in one of the four quarterly sampling events for monitor well MW-8. Review of PAH analysis indicates a fluctuating trend in constituent concentrations in monitor wells MW-2 and MW-8 as compared to previous years sample results.

ANTICIPATED ACTIONS

Quarterly monitoring and groundwater sampling will continue in 2013. Per the conditions of NMOCD's approval of the 2011 Annual Monitoring Report's Anticipated Actions on November 6, 2012, Plains will modify the sampling schedule for the following monitor wells:

- Monitor wells MW-3 and MW-6 will revert back to an annual sampling schedule.
- Monitor well MW-5 will be modified to an annual sampling schedule.

Based on the results of the PAH analysis over the past several years, Plains recommends that further PAH analysis be conducted on monitor wells MW-2 and MW-8.

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.

Quarterly monitoring, PSH recovery (as necessary) and groundwater sampling will continue in 2013. A 2013 annual monitoring report will be submitted to the NMOCD by April 1, 2014.

LIMITATIONS

NOVA has prepared this 2012 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
- Copy 4: Jeff Dann
Plains Marketing, L.P.
333 Clay Street
Suite 1600
Houston, TX 77002
jpdann@paalp.com
- Copy 5: NOVA Safety and Environmental
2057 Commerce Street
Midland, TX 79703
ngreen@novatraining.cc

FIGURES



LEGEND:



NMOCD Reference #1R-0103

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

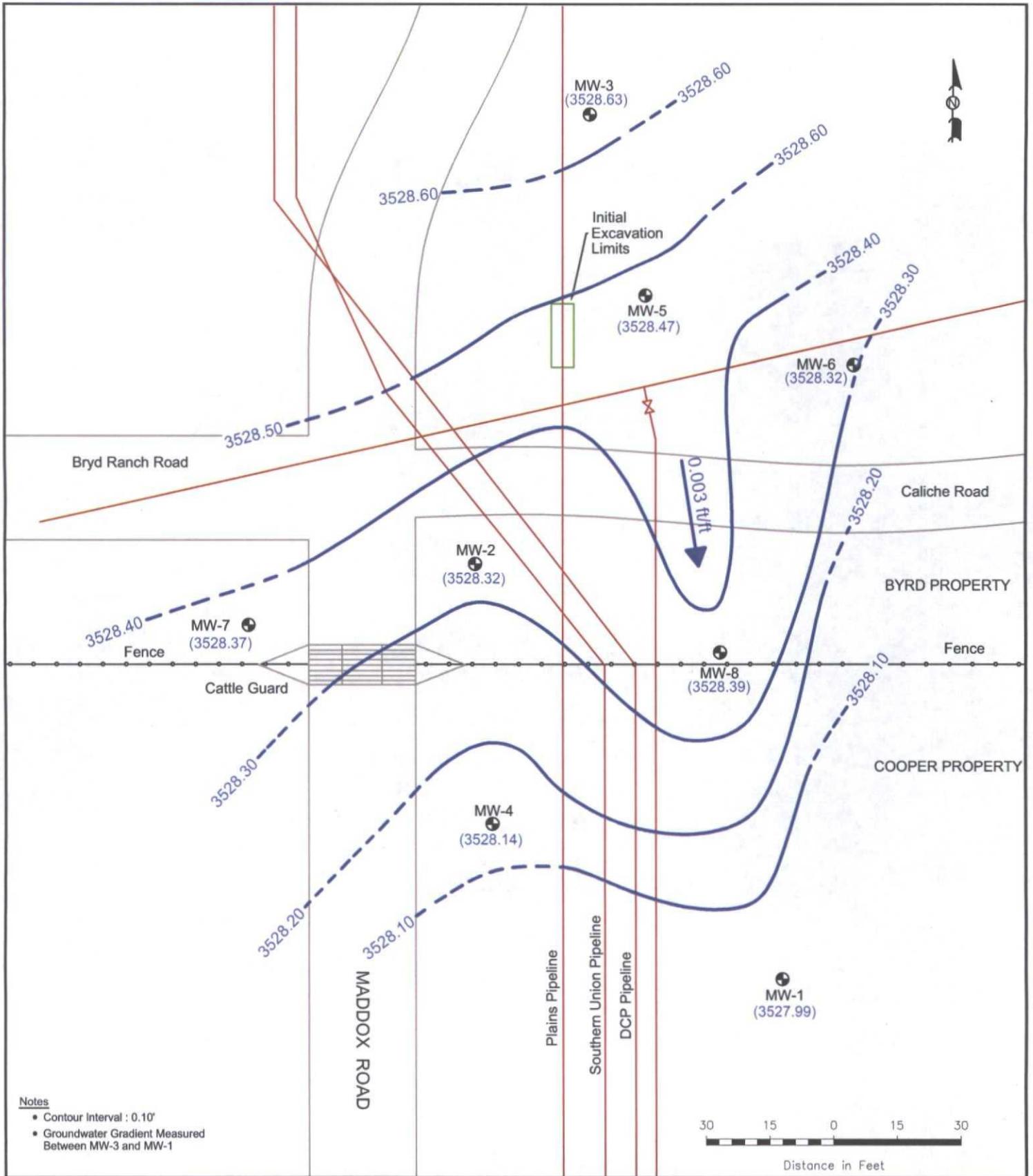


2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

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"



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

LEGEND:

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

Figure 2A
Inferred Groundwater
Gradient Map
 (2/9/2012)
 NMOCD Reference # 1R-0110
 Plains Marketing, L.P.
 Monument 2
 Lea County, NM

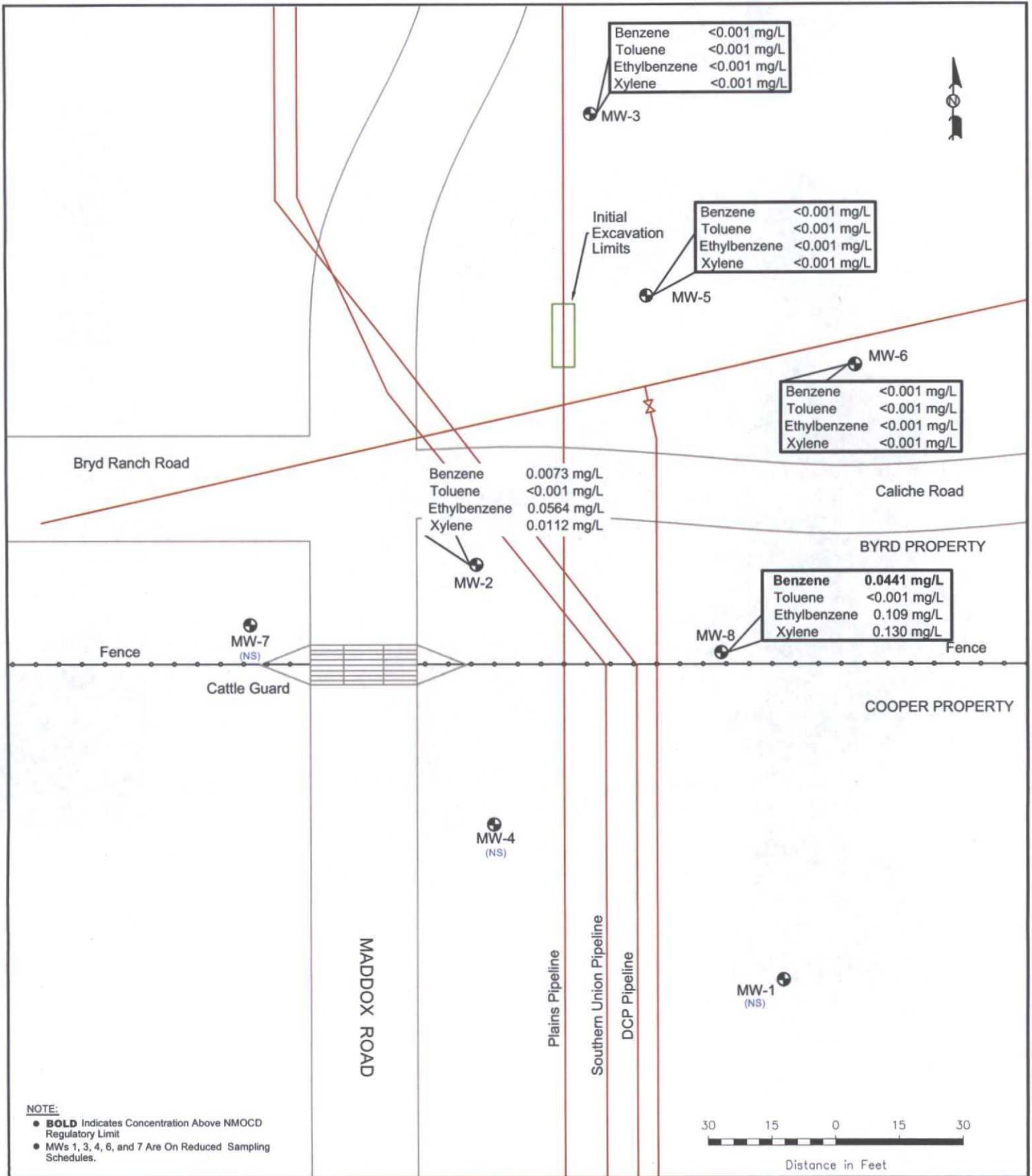


2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

www.novasafetyandenvironmental.com

April 13, 2012 Scale: 1" = 30' CAD By: TA Checked By: RKR

Lat. N 32° 35' 42.4" Long. W 103° 17' 56.5" NW1/4 SW1/4 Sec 32 T19S R37E



NOTE:

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

LEGEND:

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

Figure 3A
Groundwater Concentration
and Inferred PSH Extent
(2/9/2012)
NMOCD Reference # 1R-0110
Plains Marketing, L.P.
Monument 2
Lea County, NM

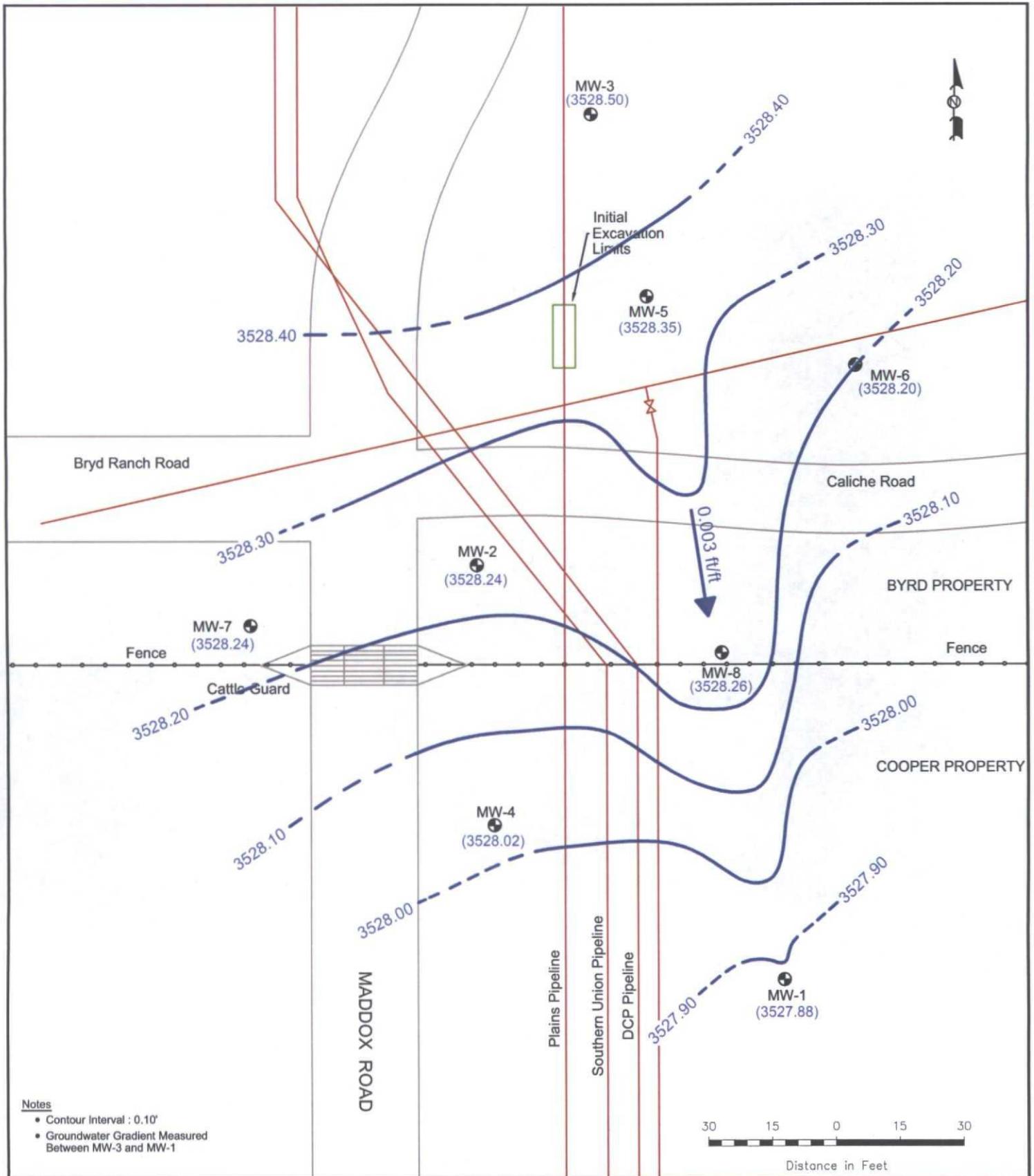


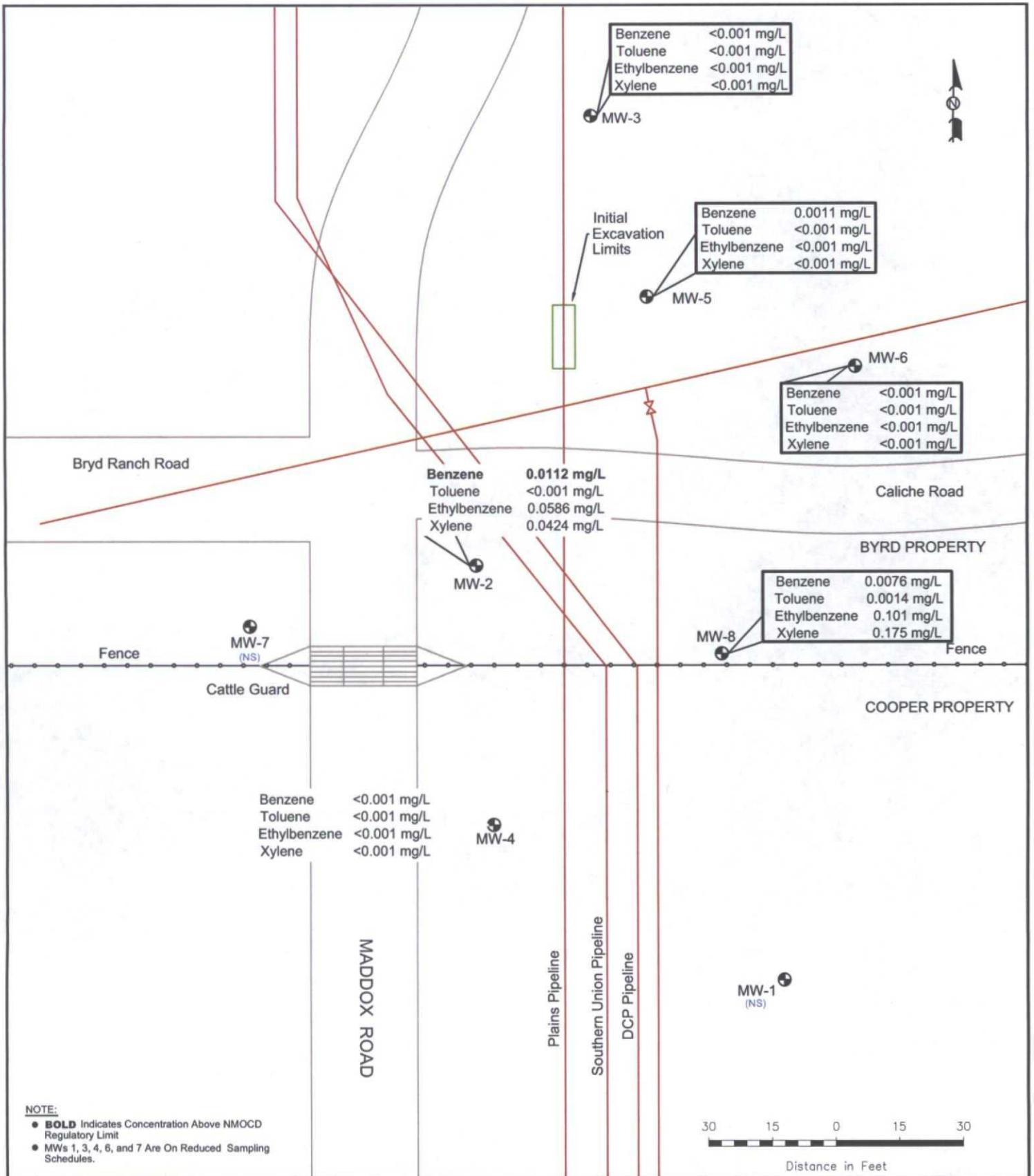
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

April 13, 2012 Scale: 1" = 30' CAD By: TA Checked By: RKR

Lat. N 32° 35' 42.4" Long. W 103° 17' 56.5" NW1/4 SW1/4 Sec 32 T19S R37E





NOTE:

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

LEGEND:

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

Figure 3B
 Groundwater Concentration
 and Inferred PSH Extent
 (5/21/2012)
 NMOCD Reference # 1R-0110
 Plains Marketing, L.P.
 Monument 2
 Lea County, NM

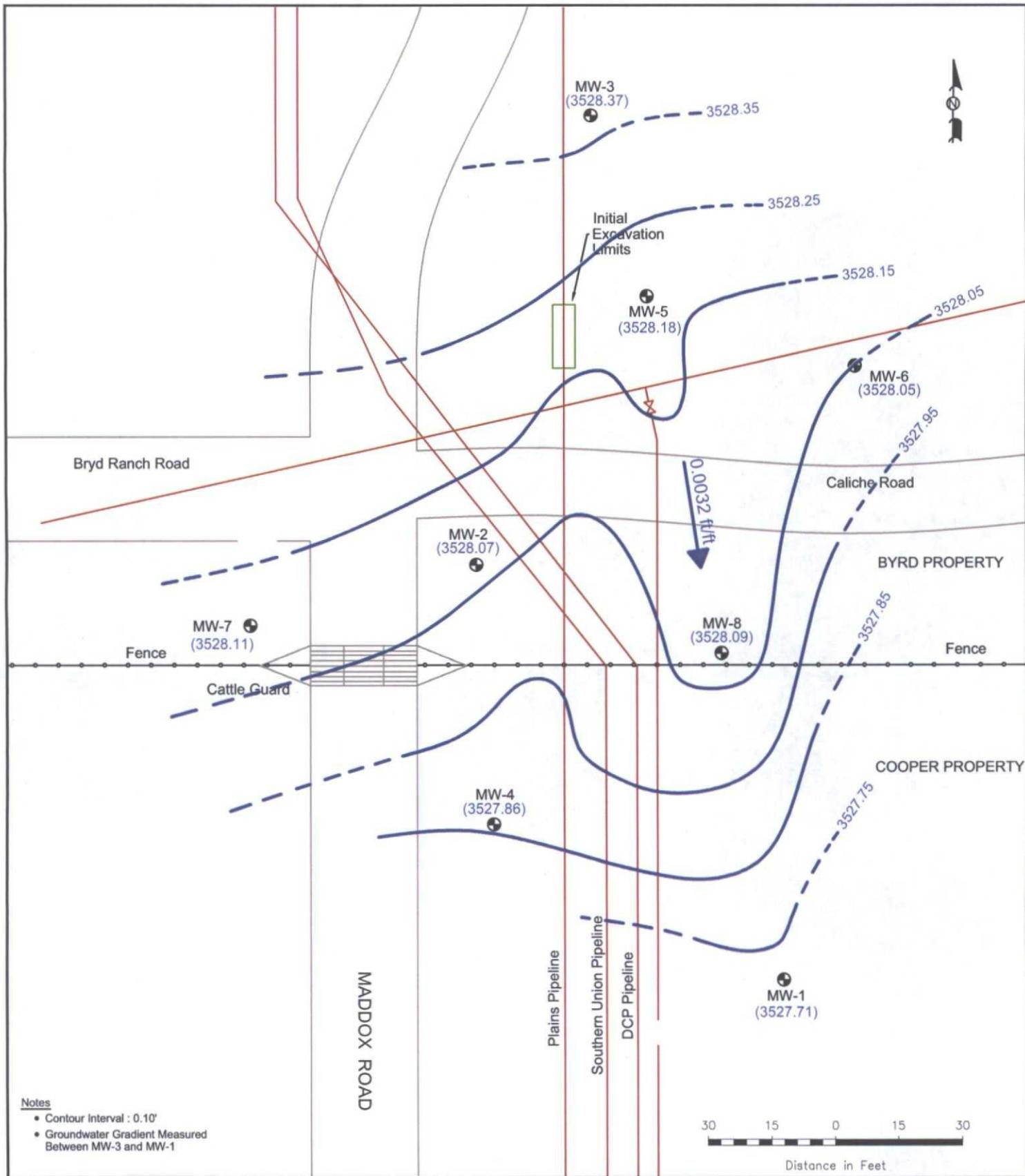


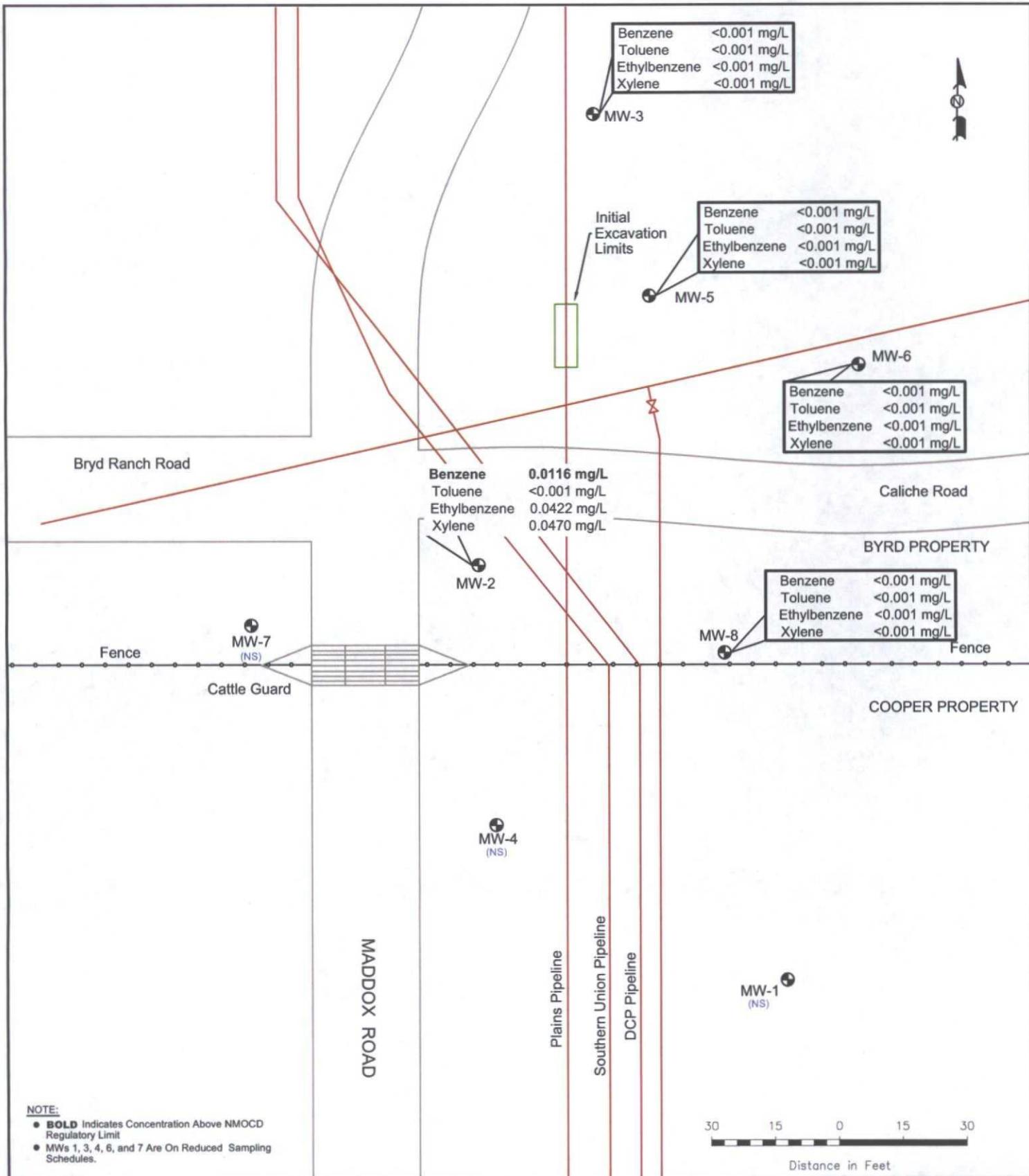
2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

www.novasafetyandenvironmental.com

May 31, 2012 | Scale: 1" = 30' | CAD By: TA | Checked By: RKR

Lat. N 32° 35' 42.4" Long. W 103° 17' 56.5" | NW1/4 SW1/4 Sec 32 T19S R37E





NOTE:

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

LEGEND:

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

Figure 3C
Groundwater Concentration
and Inferred PSH Extent
(8/3/2012)
NMOCD Reference # 1R-0110
Plains Marketing, L.P.
Monument 2
Lea County, NM

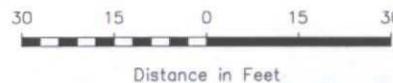


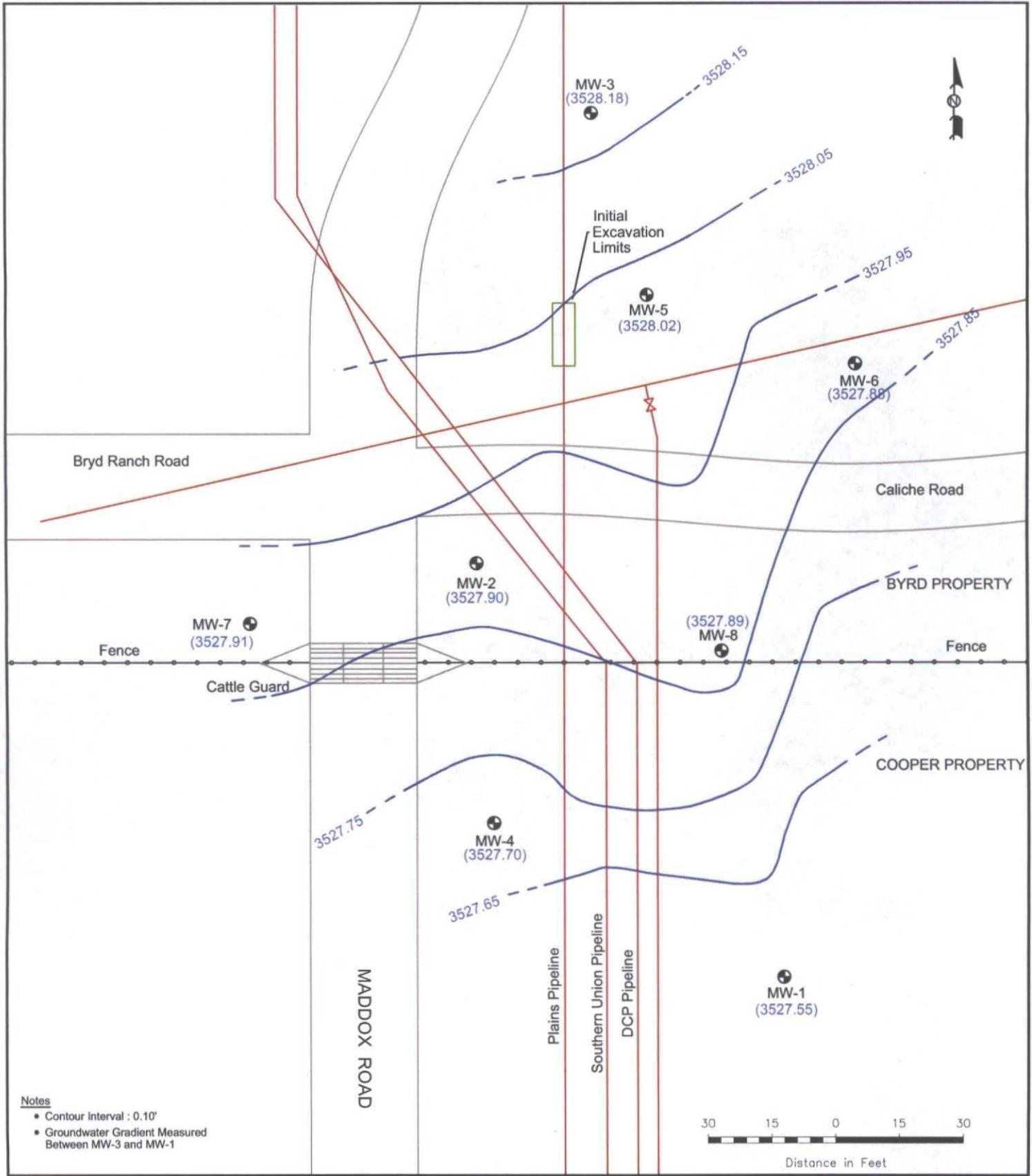
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

August 24, 2012 | Scale: 1" = 30' | CAD By: TA | Checked By: RKR

Lat. N 32° 35' 42.4" Long. W 103° 17' 56.5" | NW1/4 SW1/4 Sec 32 T19S R37E





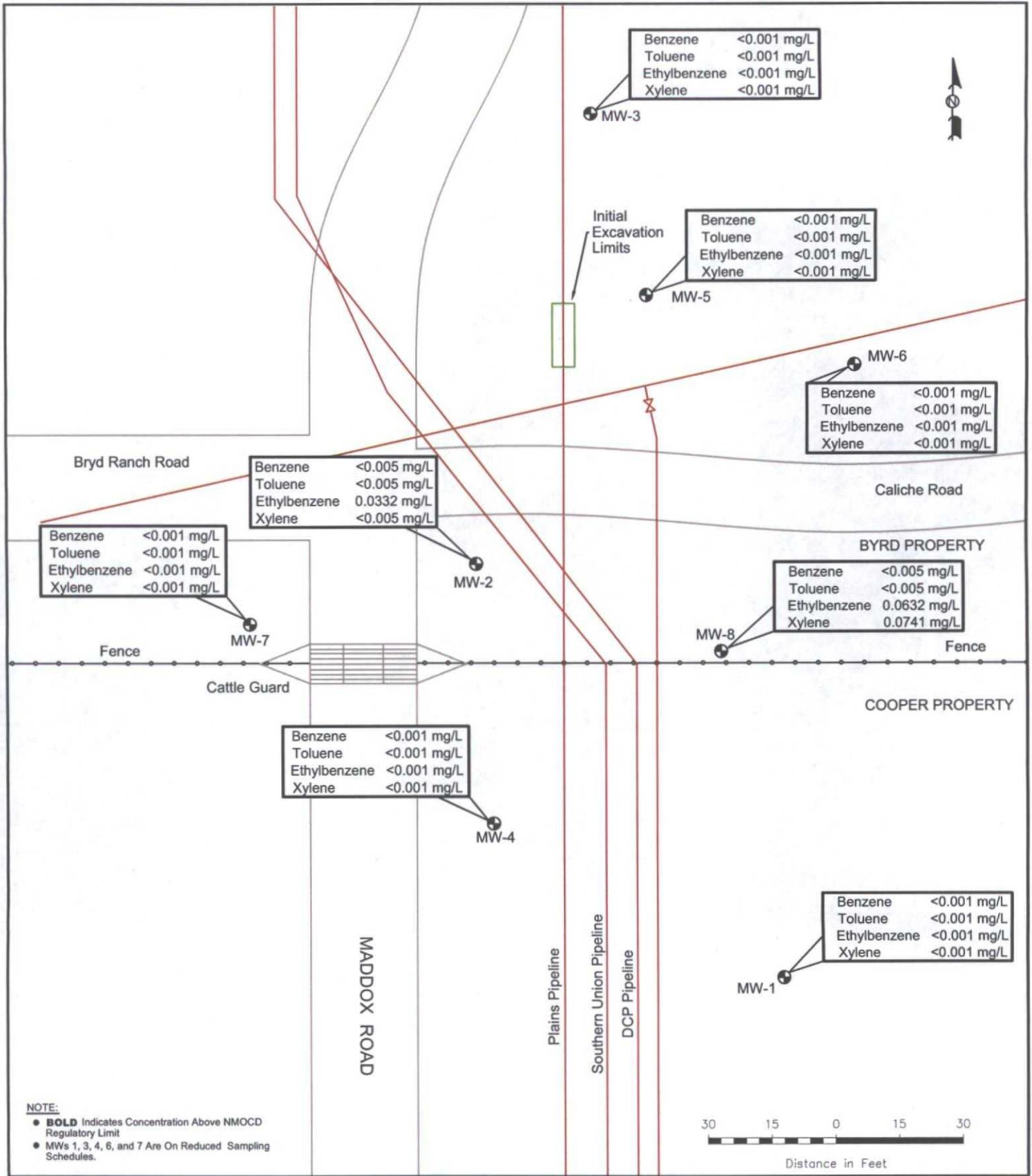
- Notes**
- Contour Interval : 0.10'
 - Groundwater Gradient Measured Between MW-3 and MW-1

LEGEND:

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

Figure 2D
Inferred Groundwater
Gradient Map
 (12/12/2012)
 NMOCD Reference # 1R-0110
 Plains Marketing, L.P.
 Monument 2
 Lea County, NM

 safety and environmental		2057 Commerce Drive Midland, Texas 79703 432.520.7720	
www.novasafetyandenvironmental.com			
March 4, 2013	Scale: 1" = 30'	CAD By: CAS	Checked By:
Lat. N 32° 35' 42.4"		Long. W 103° 17' 56.5"	



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

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

Figure 3D
 Groundwater Concentration and Inferred PSH Extent (12/12/2012)
 NMOCD Reference # 1R-0110
 Plains Marketing, L.P.
 Monument 2
 Lea County, NM

NOVA
 safety and environmental
 2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720
 www.novasafetyandenvironmental.com

March 5, 2013	Scale: 1" = 30'	CAD By: CAS	Checked By: RKR
Lat. N 32° 35' 42.4" Long. W 103° 17' 56.5"		NW1/4 SW1/4 Sec 32 T19S R37E	

TABLES

TABLE 1

GROUNDWATER ELEVATION DATA - 2012

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	02/09/12	3,560.60	-	32.61	0.00	3527.99
MW - 1	05/21/12	3,560.60	-	32.72	0.00	3527.88
MW - 1	08/03/12	3,560.60	-	32.89	0.00	3527.71
MW - 1	12/12/12	3,560.60	-	33.05	0.00	3527.55
MW - 2	02/13/12	3,561.14	-	32.69	0.00	3528.45
MW - 2	03/02/12	3,561.14	-	32.85	0.00	3528.29
MW - 2	04/09/12	3,561.14	-	32.86	0.00	3528.28
MW - 2	05/21/12	3,561.14	-	32.90	0.00	3528.24
MW - 2	06/11/12	3,561.14	-	32.91	0.00	3528.23
MW - 2	06/25/12	3,561.14	-	32.88	0.00	3528.26
MW - 2	07/09/12	3,561.14	-	33.00	0.00	3528.14
MW - 2	08/03/12	3,561.14	-	33.07	0.00	3528.07
MW - 2	08/15/12	3,561.14	-	33.15	0.00	3527.99
MW - 2	08/21/12	3,561.14	-	33.17	0.00	3527.97
MW - 2	09/04/12	3,561.14	-	33.17	0.00	3527.97
MW - 2	09/24/12	3,561.14	-	33.24	0.00	3527.90
MW - 2	10/08/12	3,561.14	-	33.24	0.00	3527.90
MW - 2	10/22/12	3,561.14	-	33.14	0.00	3528.00
MW - 2	11/29/12	3,561.14	-	33.31	0.00	3527.83
MW - 2	12/12/12	3,561.14	-	33.24	0.00	3527.90
MW - 2	12/17/12	3,561.14	-	33.28	0.00	3527.86
MW - 3	02/09/12	3,560.39	-	31.76	0.00	3528.63
MW - 3	05/21/12	3,560.39	-	31.89	0.00	3528.50
MW - 3	08/03/12	3,560.39	-	32.02	0.00	3528.37
MW - 3	12/12/12	3,560.39	-	32.21	0.00	3528.18
MW - 4	02/09/12	3,561.08	-	32.94	0.00	3528.14
MW - 4	05/21/12	3,561.08	-	33.06	0.00	3528.02
MW - 4	08/03/12	3,561.08	-	33.22	0.00	3527.86
MW - 4	12/12/12	3,561.08	-	33.38	0.00	3527.70
MW - 5	02/09/12	3,560.20	-	31.73	0.00	3528.47
MW - 5	05/21/12	3,560.20	-	31.85	0.00	3528.35
MW - 5	08/03/12	3,560.20	-	32.02	0.00	3528.18
MW - 5	12/12/12	3,560.20	-	32.18	0.00	3528.02
MW - 6	02/09/12	3,560.32	-	32.00	0.00	3528.32
MW - 6	05/21/12	3,560.32	-	32.12	0.00	3528.20
MW - 6	08/03/12	3,560.32	-	32.27	0.00	3528.05
MW - 6	12/12/12	3,560.32	-	32.44	0.00	3527.88
MW - 7	02/09/12	3,561.07	-	32.70	0.00	3528.37
MW - 7	05/21/12	3,561.07	-	32.83	0.00	3528.24

TABLE 1

GROUNDWATER ELEVATION DATA - 2012

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 - 7	08/03/12	3,561.07	-	32.96	0.00	3528.11
MW - 7	12/12/12	3,561.07	-	33.16	0.00	3527.91
MW - 8	01/18/12	3561.07	-	32.67	0.00	3528.40
MW - 8	02/09/12	3561.07	-	32.68	0.00	3528.39
MW - 8	02/13/12	3561.07	-	32.79	0.00	3528.28
MW - 8	03/02/12	3561.07	-	32.73	0.00	3528.34
MW - 8	04/09/12	3561.07	-	32.74	0.00	3528.33
MW - 8	05/21/12	3561.07	-	32.81	0.00	3528.26
MW - 8	06/11/12	3561.07	-	32.83	0.00	3528.24
MW - 8	06/25/12	3561.07	-	32.74	0.00	3528.33
MW - 8	07/09/12	3561.07	-	32.88	0.00	3528.19
MW - 8	08/03/12	3561.07	-	32.98	0.00	3528.09
MW - 8	08/15/12	3561.07	-	33.06	0.00	3528.01
MW - 8	08/21/12	3561.07	-	33.08	0.00	3527.99
MW - 8	09/04/12	3561.07	-	33.09	0.00	3527.98
MW - 8	09/24/12	3561.07	-	33.15	0.00	3527.92
MW - 8	10/08/12	3561.07	-	33.15	0.00	3527.92
MW - 8	10/22/12	3561.07	-	33.24	0.00	3527.83
MW - 8	11/29/12	3561.07	-	33.16	0.00	3527.91
MW - 8	12/12/12	3561.07	-	33.18	0.00	3527.89
MW - 8	12/17/12	3561.07	-	33.15	0.00	3527.92

* Complete Historical Tables are provided on the attached CD.

TABLE 2

CONCENTRATIONS OF BTEX IN GROUNDWATER - 2012

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
NMOCD REGULATORY LIMIT		0.01	0.750	0.750	0.620	
MW - 1	02/09/12	Not Sampled on Current Sample Schedule				
MW - 1	05/21/12	Not Sampled on Current Sample Schedule				
MW - 1	08/03/12	Not Sampled on Current Sample Schedule				
MW - 1	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 2	02/09/12	0.0073	<0.001	0.0564	0.0112	
MW - 2	05/21/12	0.0112	<0.001	0.0586	0.0424	
MW - 2	08/03/12	0.0116	<0.001	0.0422	0.0470	
MW - 2	12/12/12	<0.005	<0.005	0.0332	<0.005	
MW - 3	02/09/12	<0.001	<0.001	<0.001	<0.001	
MW - 3	05/21/12	<0.001	<0.001	<0.001	<0.001	
MW - 3	08/03/12	<0.001	<0.001	<0.001	<0.001	
MW - 3	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 4	02/09/12	Not Sampled on Current Sample Schedule				
MW - 4	05/21/12	<0.001	<0.001	<0.001	<0.001	
MW - 4	08/03/12	Not Sampled on Current Sample Schedule				
MW - 4	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 5	02/09/12	<0.001	<0.001	<0.001	<0.001	
MW - 5	05/21/12	0.0011	<0.001	<0.001	<0.001	
MW - 5	08/03/12	<0.001	<0.001	<0.001	<0.001	
MW - 5	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 6	02/09/12	<0.001	<0.001	<0.001	<0.001	
MW - 6	05/21/12	<0.001	<0.001	<0.001	<0.001	
MW - 6	08/03/12	<0.001	<0.001	<0.001	<0.001	
MW - 6	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 7	02/09/12	Not Sampled on Current Sample Schedule				
MW - 7	05/21/12	Not Sampled on Current Sample Schedule				
MW - 7	08/03/12	Not Sampled on Current Sample Schedule				
MW - 7	12/12/12	<0.001	<0.001	<0.001	<0.001	
MW - 8	02/09/12	0.0441	<0.001	0.109	0.1300	
MW - 8	05/21/12	0.0076	0.0014	0.101	0.1750	
MW - 8	08/03/12	<0.001	<0.001	<0.001	<0.001	
MW - 8	12/12/12	<0.005	<0.005	0.0632	0.0741	

* Complete Historical Tables are provided on the attached CD.

TABLE 3

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P.
MONUMENT 2
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE NUMBER 1R-0110

All water concentrations are reported in µg/L

EPA SW846-8770C, 3510

SAMPLE LOCATION	SAMPLE DATE	Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101, LU and 3-103-A.																		
		Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Phenanthrene	Pyrene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran
MW-1	11/04/08	<0.000185	<0.000185	0.001 mg/L	0.0001 mg/L	0.0007 mg/L	0.001 mg/L	—	0.001 mg/L	0.0002 mg/L	0.0003 mg/L	0.001 mg/L	0.0004 mg/L	0.001 mg/L	0.001 mg/L	—	0.03 mg/L	—	—	<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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.0236	<0.000185	0.019	0.0854	0.0387	0.0143	<0.000185
	11/02/09	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	<0.000926	0.00338	<0.000926	0.0171	<0.000926	0.0112	0.0722	0.0324	0.0102	<0.000926
	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	0.00715	<0.000184	0.00605	0.0317	0.0105	0.00399	<0.000184
MW-3	12/15/11	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.0146	<0.000184	0.00717	0.473	0.00835	0.0085	<0.000184
	12/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	0.00626	<0.00100	0.0206	<0.00100	0.00556	0.00556	<0.00100
	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
MW-4	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	<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
	12/15/11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	<0.000184	<0.000184	<0.000184
	12/15/11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 3

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER

PLAINS MARKETING, L.P.
 MONUMENT 2
 LEA COUNTY, NEW MEXICO
 NMOCD REFERENCE NUMBER 1R-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[ghi]perylene	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.		-	-	0.001 mg/L	0.0001 mg/L	0.0007 mg/L	0.001 mg/L	-	0.001 mg/L	0.0002 mg/L	0.0003 mg/L	0.001 mg/L	0.001 mg/L	0.0004 mg/L	0.001 mg/L	0.001 mg/L		0.03 mg/L		-
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.																		
	12/15/11	Not Sampled as part of Quarterly Monitoring Event.																		
	12/12/12	Not Sampled as part of Quarterly Monitoring Event.																		
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	<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	<0.000185	<0.000185
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
	12/15/11	Not Sampled as part of Quarterly Monitoring Event.																		
	12/12/12	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	0.000421	<0.000184	<0.000184	0.00235	<0.000184	0.00287	<0.000184	0.00578	0.0148	0.00568	0.00266
	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	0.00204	<0.000184	0.00431	0.0113	0.00356	0.00184
	11/03/10	Not Sampled as part of Quarterly Monitoring Event.																		
	12/15/11	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00298	<0.000184	0.0106	0.0214	0.0147	0.00238	
	12/12/12	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	0.00558	<0.00100	0.0124	0.0283	0.0213	0.00471	

APPENDICES

APPENDIX A:

**Annual Monitoring Report (2011) Anticipated
Actions Approval – November 6, 2012**

Nikki Green

From: Jason Henry <JHenry@paalp.com>
Sent: Tuesday, November 06, 2012 4:15 PM
To: 'Camille Bryant'
Subject: FW: Anticipated Actions Approval (2011 Report) (1R-110) - Plains Monument 2 Release Site

From: Hansen, Edward J., EMNRD [<mailto:edwardj.hansen@state.nm.us>]
Sent: Tuesday, November 06, 2012 4:09 PM
To: Jason Henry
Cc: Leking, Geoffrey R, EMNRD; Jeffrey P Dann
Subject: Anticipated Actions Approval (2011 Report) (1R-110) - Plains Monument 2 Release Site

**RE: Annual Monitoring Report (2011) for the Plains Marketing's
Monument 2 Release Site (1R-110)
Unit M, Section 6, T20S, R37E, NMPM, Lea County, New Mexico
Anticipated Actions Approval**

Dear Mr. Henry:

The New Mexico Oil Conservation Division (OCD) has received Plains' report (including proposed "Anticipated Actions") the above-referenced site (dated March 2012). The above-referenced report, submitted in partial fulfillment of 19.15.29 NMAC (Rule 29, formally, Rule 116), indicates that Plains has partially met the requirements of 19.15.29 NMAC for this site. Therefore, the OCD hereby approves the Anticipated Actions for the Monument 2 Release Site.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

APPENDIX B:

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

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
Was Immediate Notice Given? Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
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.		

OIL CONSERVATION DIVISION

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

* Attach Additional Sheets If Necessary