

1R - 124

# REPORTS

DATE:

2005



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**  
Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

May 2, 2006

Ms. Camille Reynolds  
Plains Marketing, L.P.  
3112 West Highway 82  
Lovington, NM 88260

RE: 2005 Annual Monitoring Reports  
Various Plains Marketing, L.P. Sites

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the Annual Monitoring Reports shown below. All are accepted and approved with the understandings and conditions, if any, shown:

1. **TNM 97-17**; NE/4 SW/4 Section 21, Township 20 South, Range 37 East; EMS number TNM 97-17, NMOCD file AP-017; quarterly gauging and sampling will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a "Site Restoration Work Plan and Soil Closure Strategy Report" by June 30, 2006.
2. **Bob Durham**; NW/4 NW/4 Section 32, Township 19 South, Range 37 East; EMS number TNM LF2000-07; NMOCD file AP-0016; quarterly monitoring and sampling will continue in 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007.
3. **Monument 17**; SE/4 NW/4 Section 29, Township 19 South, Range 37 East; EMS number TNM Monument-17-Known; NMOCD file 1R-0123; monitor well gauging and sampling, and product recovery will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a "Soil Investigation Work Plan" by June 30, 2006.
4. **Monument 10**; SE/4 NE/4 Section 30, Township 19 South, Range 37 East; EMS number TNM monument-10; NMOCD file 1R-0119; monitor well gauging and sampling, and product recovery will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a "Soil Investigation Work Plan" by June 30, 2006.
5. **Lea Station to Monument 6 Inch**; NE/4 SE/4 Section 5, Township 20 South, Range 37 East; EMS number 2001-11056; NMOCD file 1R-~~04~~04; monitor well gauging and sampling will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring

Report due by April 1, 2007. The NMOCD expects a separate report on additional soil investigation/remediation by September 30, 2006.

6. **Monument Barber 10-Inch Sour**; SW/4 SW/4 Section 32, Township 19 South, Range 37 East; EMS number 2000-10655; NMOCD file 1R-0388; monitor well gauging and sampling will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a work plan, by June 30, 2006, to address further excavation of the sidewalls of the existing excavation for possible soil closure at the site.
7. **Monument 18**; NW/4 NW/4 Section 7, Township 20 South, Range 37 East; EMS number TNM Monument 18-Known; NMOCD file 1R-0124; monitor well gauging and sampling, and product recovery will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a "Soil Investigation Work Plan" by September 30, 2006.
8. **Monument 2**; SW/4 SW/4 Section 6, Township 20 South, Range 37 East and the NW/4 NW/4 Section 7, Township 20 South, Range 37 East; EMS number TNM Monument 2-Known; NMOCD file 1R-0110; monitor well gauging and sampling, and product recovery will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007. The NMOCD expects a "Soil Investigation Work Plan" by September 30, 2006.
9. **LF-59**; NW/4 SW/4 Section 32, Township 19 South, Range 37 East; EMS number TNM-LF-59; NMOCD file 1R-0103; monitor well gauging and sampling will continue throughout 2006, the results of which will be reported in the 2006 Annual Monitoring Report due by April 1, 2007.

NMOCD approval of these reports does not relieve Plains of liability should its operations at any of these sites prove to have been harmful to public health or the environment. Nor does it relieve Plains of its responsibility to comply with the rules and regulations of any other governmental agency.

If you have any questions, contact me at (505) 476-3492 or [ed.martin@state.nm.us](mailto:ed.martin@state.nm.us)

NEW MEXICO OIL CONSERVATION DIVISION



Edwin E. Martin  
Environmental Bureau

Copy: NMOCD, Hobbs  
Curt Stanley, NOVA



# **PLAINS Marketing, L.P.**

March 24, 2006

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

Re: Plains – Annual Monitoring Reports  
16 Sites in Lea County, New Mexico

Dear Mr. Martin:

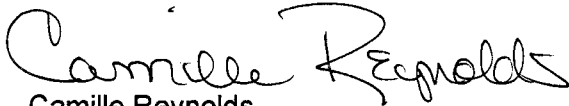
Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico 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:

TNM 97-17	Section 21, Township 20 South, Range 37 East, Lea County
TNM 97-18	Section 28, Township 20 South, Range 37 East, Lea County
TNM 98-05A	Section 26, Township 21 South, Range 37 East, Lea County
TNM 98-05B	Section 26, Township 21 South, Range 37 East, Lea County
TNM 97-04	Section 11, Township 16 South, Range 35 East, Lea County
Texaco Skelly "F"	Section 21, Township 20 South, Range 37 East, Lea County
Darr Angell #2	Sections 11 and 14, Township 15 South, Range 37 East, Lea County
LF-59	Section 32, Township 19 South, Range 37 East, Lea County
SPS-11	Section 18, Township 18 South, Range 36 East, Lea County
Monument #2	Sections 6 and 7, Township 20 South, Range 37 East, Lea County
Monument #10	Section 32, Township 19 South, Range 37 East, Lea County
Monument #17	Section 29, Township 19 South, Range 37 East, Lea County
Monument #18	Section 7, Township 20 South, Range 37 East, Lea County
Bob Durham	Sections 31 and 32, Township 19 South, Range 37 East, Lea County
Monument Barber 10" Sour	Section 32, Township 19 South, Range 37 East, Lea County
Lea Station to Monument 6"	Section 5, Township 20 South, Range 37 East, Lea County

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 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 (505) 441-0965.

Sincerely,

A handwritten signature in cursive script that reads "Camille Reynolds". The signature is written in dark ink and is positioned above the printed name and title.

Camille Reynolds  
Remediation Coordinator  
Plains All American Pipeline

CC: Larry Johnson, NMOCD, Hobbs, New Mexico

Enclosure

2005  
ANNUAL MONITORING REPORT

*Report is on  
the L-Drive*

**MONUMENT 18**

NW ¼ NW ¼ SECTION 7, TOWNSHIP 20 SOUTH, RANGE 37 EAST  
LEA COUNTY, NEW MEXICO  
PLAINS EMS NUMBER: TNM MONUMENT 18-KNOWN  
NMOCD Reference 1R-0124

Prepared For:

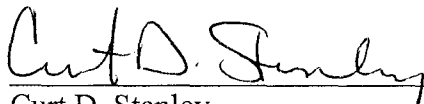
**PLAINS MARKETING, L.P.**  
333 CLAY STREET, SUITE 1600  
HOUSTON, TEXAS 77002




Prepared By:

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

**March 2006**

  
Curt D. Stanley  
Project Manager

  
Todd K. Choban, P.G.  
Vice-President Technical Services

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Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map March 11, 2005

2B – Inferred Groundwater Gradient Map June 14, 2005

2C – Inferred Groundwater Gradient Map September 13, 2005

2D – Inferred Groundwater Gradient Map December 19, 2005

3B – Groundwater Concentration and Inferred PSH Extent Map June 14, 2005

3C – Groundwater Concentration and Inferred PSH Extent Map September 13, 2005

3D – Groundwater Concentration and Inferred PSH Extent Map December 19, 2005

### TABLES

Table 1 – 2005 Groundwater Elevation Data

Table 2 – 2005 Concentrations of BTEX in Groundwater

### APPENDICES

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

**ENCLOSED ON DATA DISK**

2005 Annual Monitoring Report

2005 Tables 1 and 2 – Groundwater Elevation and BTEX Concentration Data

2005 Figures 1, 2A-2D, and 3A-3D

Electronic Copies of Laboratory Reports

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



## **INTRODUCTION**

On behalf of Plains Marketing, L.P., (Plains), NOVA Safety and Environmental (NOVA) is pleased to submit this 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 were assumed by NOVA, having previously been managed by Environmental Technology Group, Inc. (ETGI). The Monument 18 site (the site), formally 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 figures, attachments, tables and text. The report presents the results of the quarterly groundwater monitoring events conducted in calendar year 2005 only. For reference, the Site Location Map is provided as Figure 1. Cumulative tables and laboratory data are provided on the enclosed data disk.

Groundwater monitoring was conducted each quarter of 2005 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 is NW ¼ NW ¼, Section 7, Township 20 South, Range 37 East, Lea County, New Mexico. No information with respect to the release date or volume of crude oil released and recovered is available as the release occurred while the pipeline was operated by Texas New Mexico Pipeline Company (TNM). The Release Notification and Corrective Action Form (C-141) is provided as Appendix A. The initial site investigation consisted of the installation of eight (8) groundwater monitor wells (MW-1 through MW-8) installed under previous consultants. NOVA directed the installation of two (2) new monitor wells (MW-9 and MW-10) on November 4, 2004.

Monitor well MW-2 was plugged and abandoned on September 13, 2005 with NMOCD approval. Currently, there are nine (9) monitor wells (MW-1 and MW-3 through MW-10) on site. Manual recovery of PSH is performed on a bi-monthly basis.

## **FIELD ACTIVITIES**

A measurable thickness of PSH was present in monitor wells MW-1, MW-3, and MW-4 during the reporting period. PSH thickness in monitor well MW-1 ranged from 0.77 feet to 0.25 feet. PSH thickness in MW-3 ranged from 0.61 feet to a sheen. PSH thickness in MW-4 ranged from 0.10 feet to a sheen. The average PSH thickness across the site was 0.40 feet. PSH data for the 2005 gauging events can be found in Table 1. Approximately 20 gallons (approximately 0.5 barrel) of PSH was recovered from the site during the 2005 reporting period. Approximately 278 gallons (6.6 barrels) of PSH have been recovered since project inception. Recovery of PSH at the site is by manual recovery methods and is monitored on a bi-monthly basis. The 2005 gauging data is provided in Table 1.

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 amend by NMOCD correspondence dated June 22, 2005.

NMOCD APPROVED SAMPLING SCHEDULE			
Location	Schedule	Location	Schedule
MW-1	Quarterly	MW-6	Annually
MW-2	Plugged and Abandoned	MW-7	Annually
MW-3	Quarterly	MW-8	Annually
MW-4	Quarterly	MW-9	Quarterly
MW-5	Semi-Annually	MW-10	Quarterly

The site monitor wells were gauged and sampled on March 11, June 14, September 13, and December 19, 2005. During each sampling event the monitor wells were purged of approximately 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 by Key Energy utilizing a licensed disposal facility (NMOCD AO SWD-730).

Locations of the monitor wells and the inferred groundwater gradient, which were constructed from measurements collected during the four (4) quarterly monitoring events, are depicted on Figures 2A through 2D, the Inferred Groundwater Gradient Maps. Groundwater elevation data for 2005 is provided as Table 1. Historic groundwater elevation data beginning at project inception is provided on the enclosed data disk.

The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.002 feet/foot. to the southeast. This is consistent with data presented on Figures 2A through 2C from earlier in the year. The corrected groundwater elevations ranged between 3525.30 to 3526.64 feet above mean sea level, in MW-4 on February 16, 2005 and in MW-7 on December 19, 2005, respectively.

## LABORATORY RESULTS

Monitor well MW-1 contained measurable PSH and were not sampled during the reporting period. Monitor well MW-3 contained measurable PSH during the third and fourth quarters of the 2005 reporting period and was sampled in these quarters. Monitor well MW-4 contained measurable PSH during the second, third and fourth quarters of the 2005 reporting period and was not sampled in these quarters.

Groundwater samples collected during 2005 quarterly sampling events were delivered to Trace Analysis, Inc., of Lubbock, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituent concentrations by EPA Method SW846-8021b. The 2005 BTEX constituent concentrations are summarized on Table 2. Historical BTEX constituent concentrations and copies of the laboratory reports for 2005 are provided on the enclosed data disk. The quarterly groundwater sample results for benzene and BTEX constituent concentrations are depicted on Figures 3A-3D.

As mentioned above, monitor well MW-2 was plugged and abandoned on September 13, 2005. Currently, there are nine (9) monitor wells on site. Monitor well MW-1 exhibited measurable thicknesses of PSH during each quarterly sampling event and was not sampled. Monitor wells MW-3 and MW-4 returned analytical results indicating benzene concentrations above the NMOCD regulatory limit. Monitor well MW-5 through MW-10 returned analytical results indicating benzene and total BTEX constituent concentration below the NMOCD regulatory standard. 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 2005 annual monitoring period. Currently, there are nine (9) groundwater monitor wells (MW-1 and MW-3 through MW-10) on site. Recovery of PSH at the site is achieved using manual recovery methods and is monitored on a bi-monthly basis. The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.002 feet/foot to the southeast.

As discussed above, three (3) monitor wells contained measurable PSH thicknesses in 2005. PSH thicknesses have fluctuated throughout the 2005 reporting period, with an average PSH of 0.40 feet in the area of monitor wells MW-1, MW-3 and MW-4. In monitor well MW-1, the average observed PSH thickness in 2003 was 2.78 feet, in 2004 the average observed PSH thickness had decreased to 1.32 feet and in 2005 the average observed PSH thickness was 0.52 feet. The minimum thickness of PSH in monitor well MW-1 during 2003 was 2.72 feet, in 2004 the minimum thickness was 0.50 feet and in 2005 the minimum thickness was 0.25 feet. Monitor wells MW-3 and MW-4 exhibited an average thickness of 0.15 feet and 0.01 feet, respectively, during the 2005 reporting period. Groundwater gauging data indicates an apparent trend toward decreasing PSH thicknesses at the site.

Benzene and total BTEX constituent concentrations were below NMOCD regulatory standards in six (6) of the nine (9) monitor wells during 2005. There were three (3) monitor well locations that contained measurable amounts of PSH during the annual monitoring period and were not sampled during at least one sampling event. Dissolved phase and phase separated hydrocarbon impacts appear to be limited to monitor wells MW-1, MW-3 and MW-4.

## **ANTICIPATED ACTIONS**

Quarterly monitoring and sampling will continue in 2006. Manual product recovery and gauging will continue on a bi-monthly schedule and will be adjusted according to site conditions.

A Soil Investigation Work Plan will be submitted to the NMOCD in 2006 to address soil issues at the site.

## **LIMITATIONS**

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

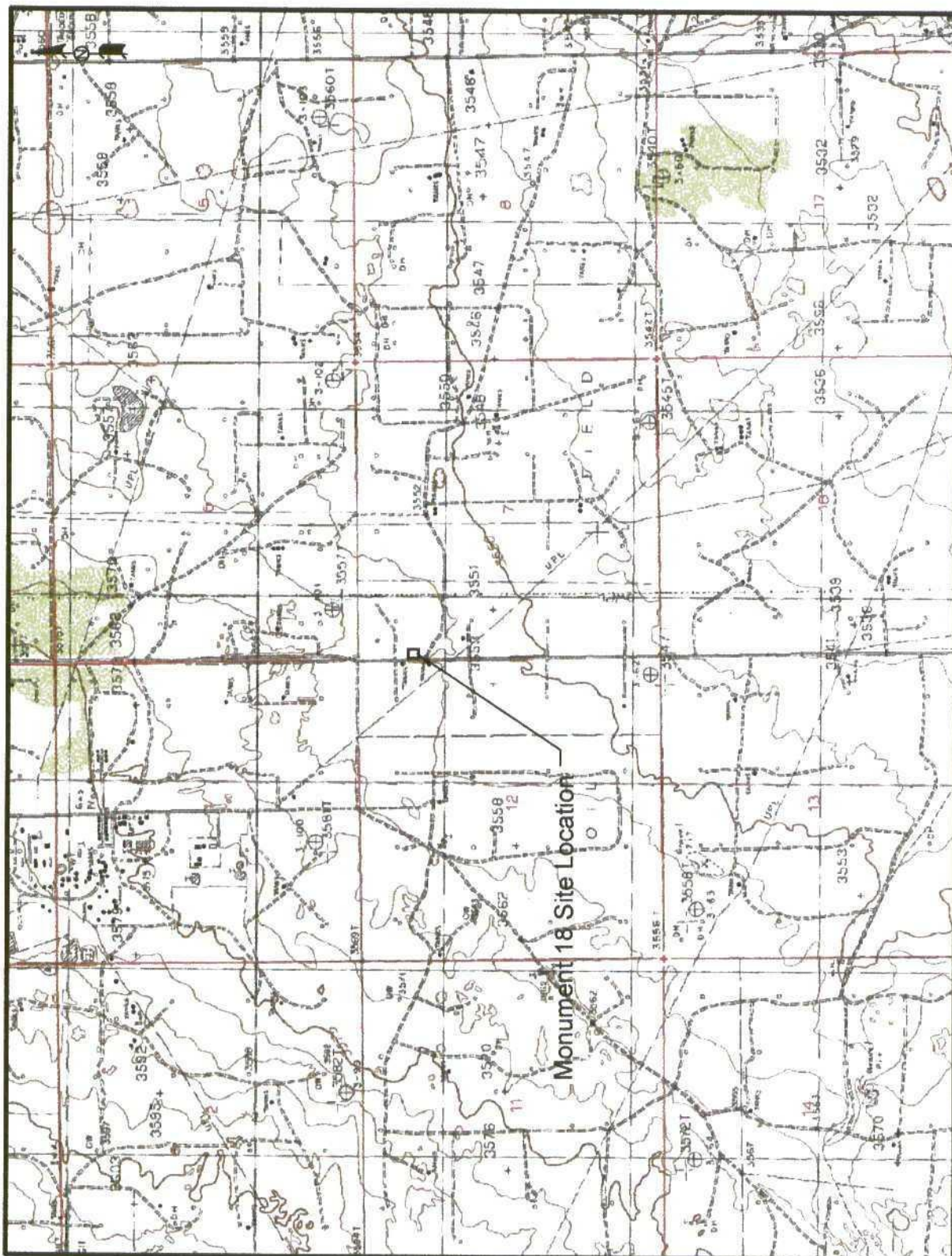
NOVA has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that 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 Martin  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505
- Copy 2:     Larry Johnson and Paul Sheeley  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division, District 1  
1625 French Drive  
Hobbs, NM 88240
- Copy 3:     Camille Reynolds  
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cjreynolds@paalp.com
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jpdann@paalp.com
- Copy 5:     NOVA Safety and Environmental  
2057 Commerce Street  
Midland, TX 79703  
cstanley@novatraining.cc

## Figures



NW1/4 NW1/4 Sec 7 T20S R37E  
NE1/4 NE1/4 Sec 12 T20S R36E

Figure 1  
Site Location Map

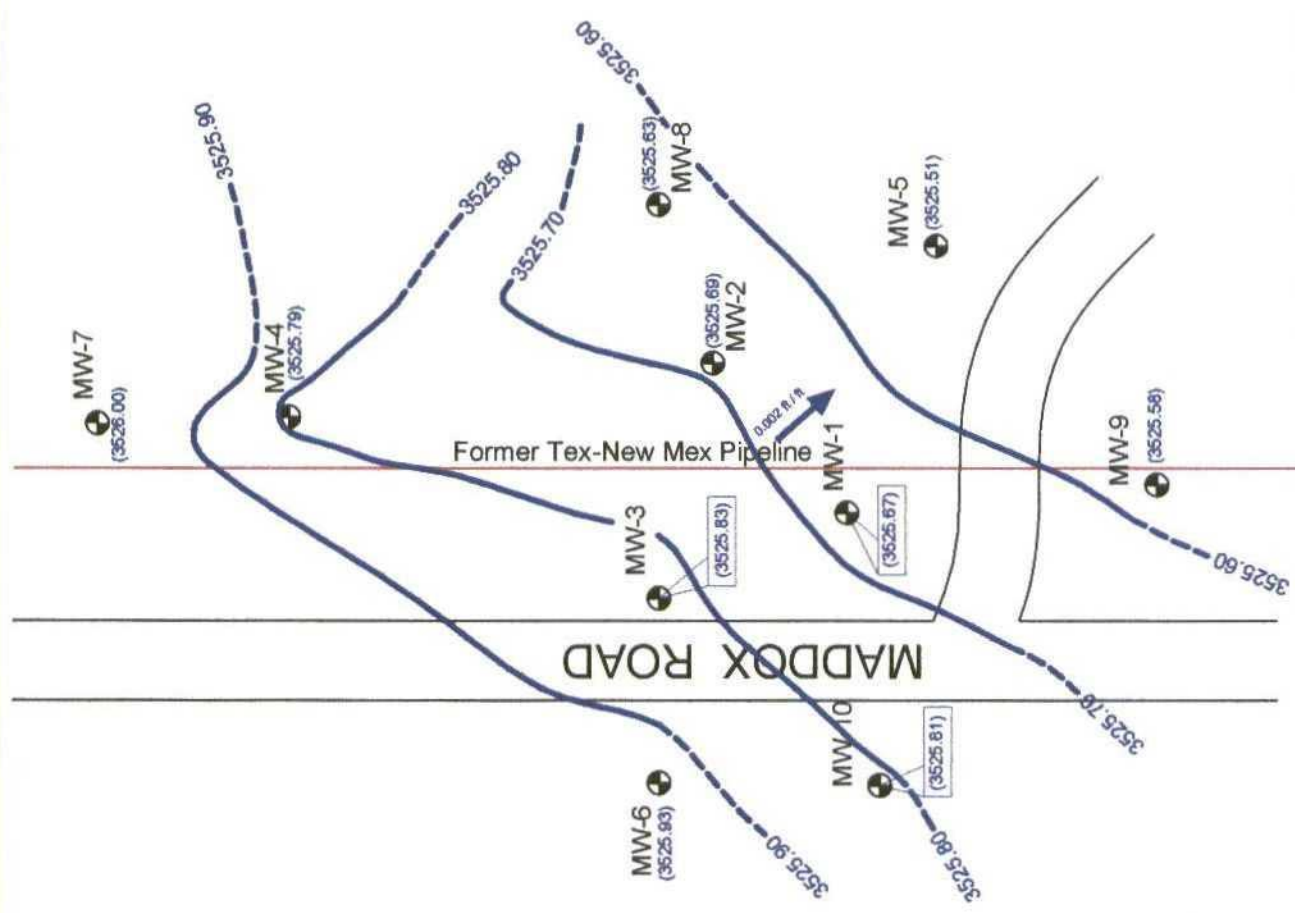
Plains Marketing, L.P.  
Monument 18  
Lea County, NM

NOVA Safety and Environmental

Scale: 1" = 3 Miles  
Prep By: COS  
Checked By: RHM  
February 23, 2005  
Section 7, Township 20S Range 37E  
Lat 32° 36' 30.0"N Long 103° 17' 55.0"W







**NOTE:**

- Contour Interval = 0.10'
- GW Gradient Measured Between MW-3 and MW-5

0 30 60  
Distance in Feet

**Legend:**

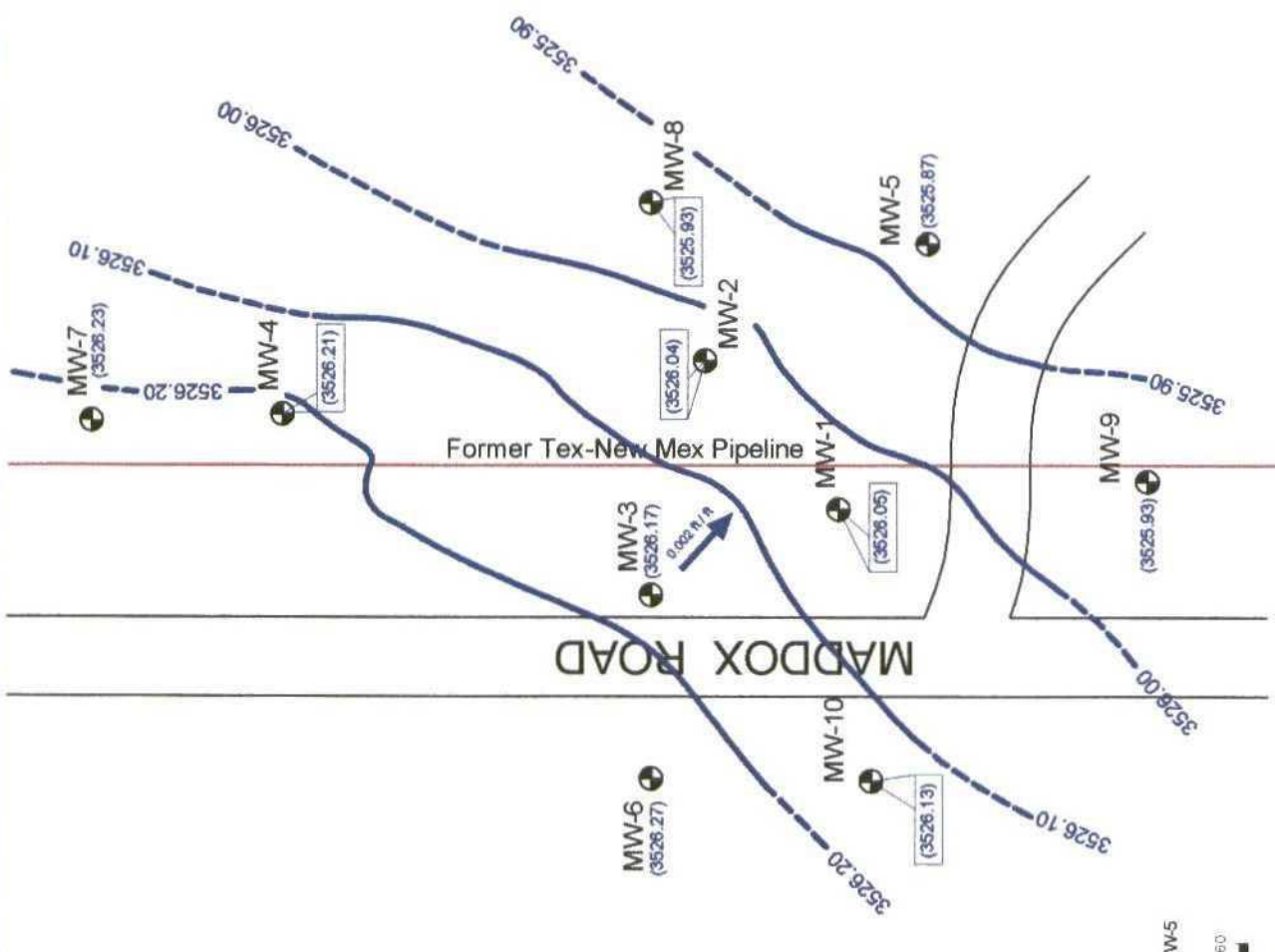
- Monitor Well Location
- Groundwater Elevation Contour Line
- Groundwater Gradient Direction and Magnitude

**Figure 2A**  
Inferred Groundwater  
Gradient Map  
(3/11/06)  
Plains Marketing, L.P.  
Monument 18  
Lea County, NM

**NOVA**  
NOVA Safety and Environmental

Scale: 1" = 80'  
Drawn By: DPM  
Prepared By: COS  
May 11, 2005





NOTE:

- Contour Interval = 0.10'
- GW Gradient Measured Between MW-3 and MW-5



Legend:

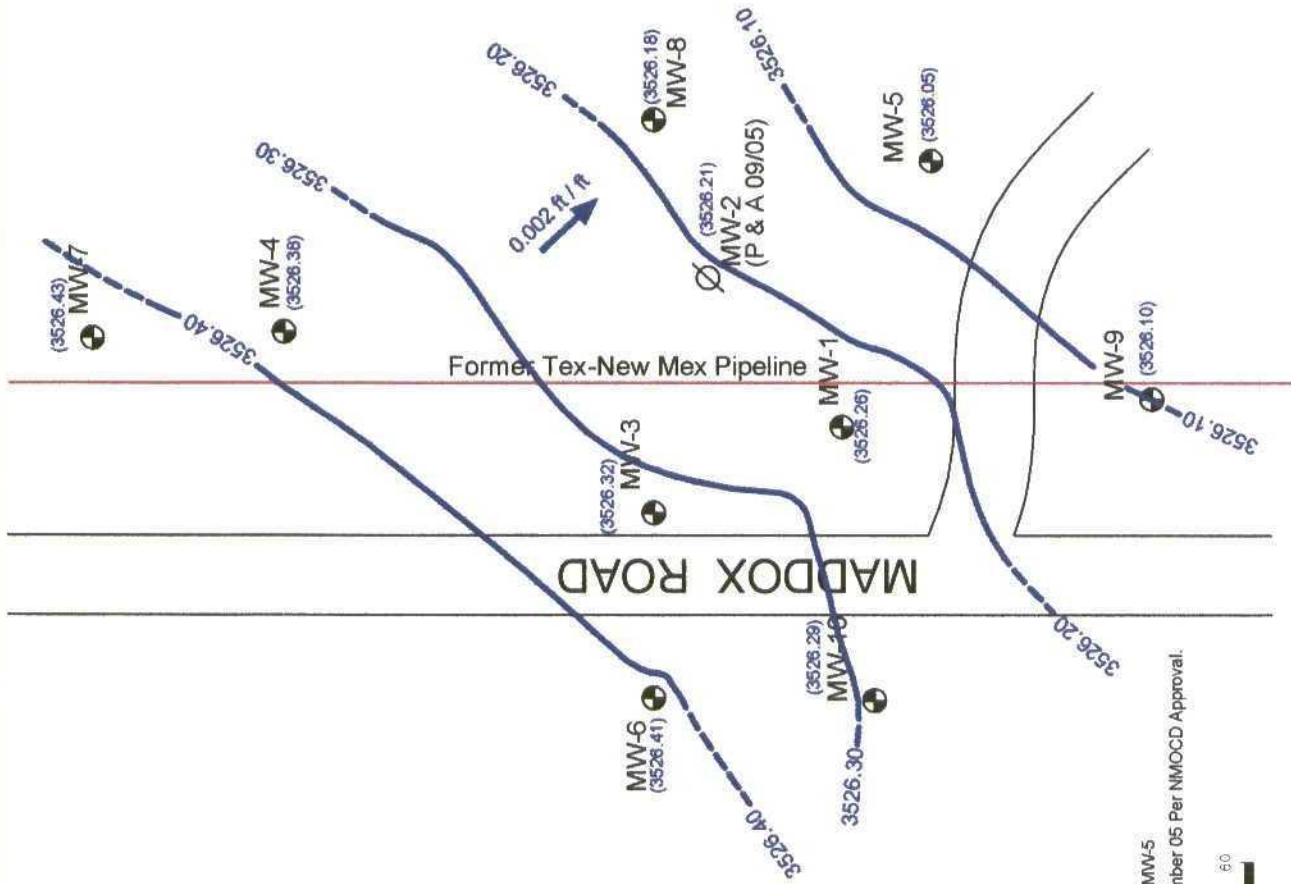
- Monitor Well Location
- Groundwater Contour Line
- (3526.00) Groundwater Elevation (feet)
- 0.002 ft / ft Groundwater Gradient Direction and Magnitude

Figure 2B  
Inferred Groundwater  
Gradient Map  
(8/14/05)  
Plains Marketing, L.P.  
Monument 18  
Leas County, NM

NOVA Safety and Environmental

NOVA

Scale: 1" = 60'  
Drawn By: DPM  
June 22, 2005  
Prepared By: CDS



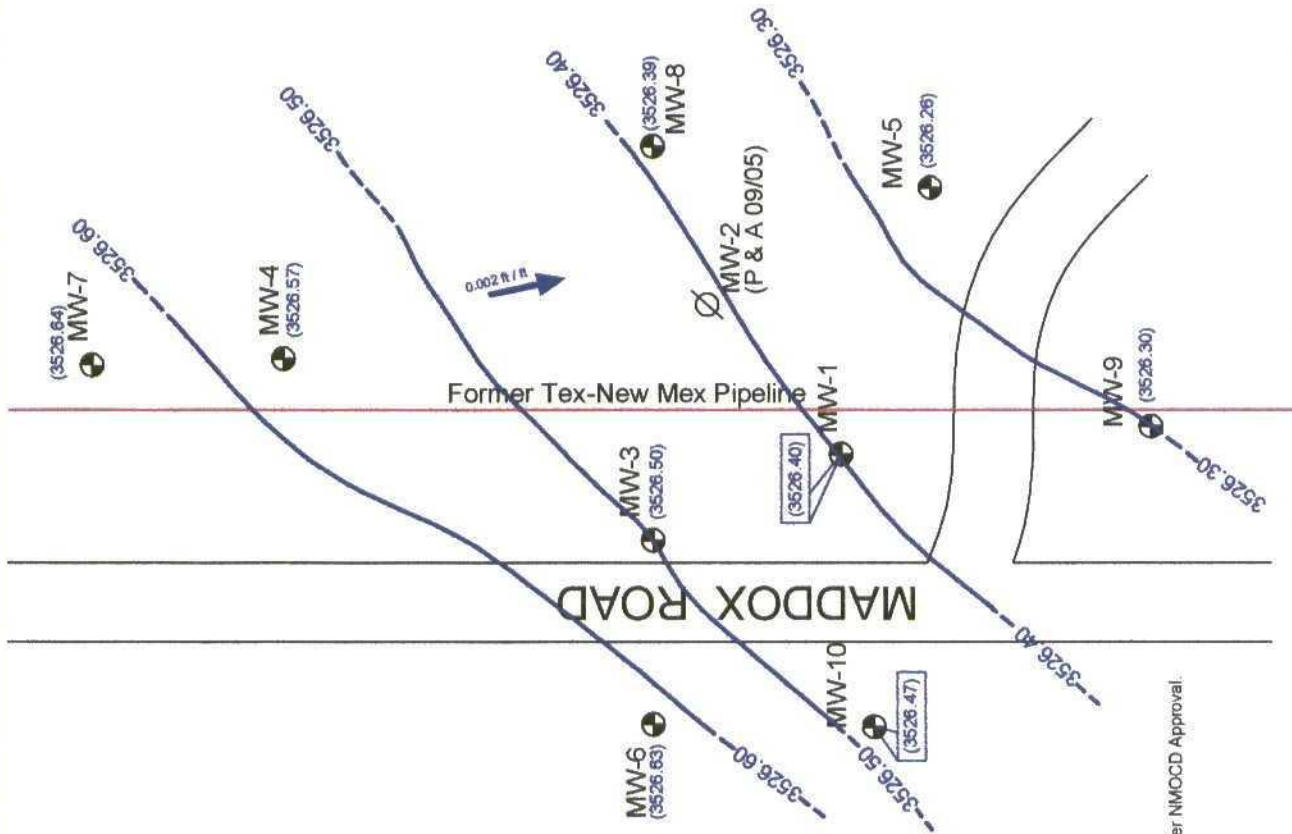
**NOTE:**

- Contour Interval = 0.10'
- GW Gradient Measured Between MW-3 and MW-5
- MW-2 Was Plugged and Abandoned September 05 Per NMOCDD Approval.

**Legend:**

- Monitor Well Location
- Well Plugged and Abandoned
- Pipeline
- Ground Water Contour Line
- (3526.05) Groundwater Elevation (feet)
- 0.002 ft/ft Groundwater Gradient Direction and Magnitude

Figure 2C  
Inferred Groundwater  
Gradient Map  
(9/13/05)  
Plains Marketing, L.P.,  
Monument 18  
Lea County, NM



NOTE:

- Contour Interval = 0.10'
- GW Gradient Measured Between MW-3 and MW-5
- MW- 2 Was Plugged and Abandoned September 05 Per NMOCD Approval.



- Legend:
- Monitor Well Location
  - Well Plugged and Abandoned
  - Pipeline
  - Ground Water Contour Line
  - (3526.05) Groundwater Elevation (feet)
  - 0.002 ft/ft Groundwater Gradient Direction and Magnitude

Figure 2D  
Inferred Groundwater  
Gradient Map  
(12/19/05)  
Plains Marketing, L.P.  
Monument 18  
Lea County, NM





MW-7  
(NS)

MW-4

Benzene **0.047 mg/L**  
BTEX 0.127 mg/L

(NS) MW-8

(NS) MW-2

MW-5  
(NS)

Former Tex-New Mex Pipeline

MW-3

MW-1  
(NS)

0.39'

MW-9

Benzene <0.001 mg/L  
BTEX <0.001 mg/L

MADDOX ROAD

MW-6  
(NS)

Benzene **0.043 mg/L**  
BTEX 0.073 mg/L

MW-10

Benzene 0.002 mg/L  
BTEX 0.002 mg/L

NOTE:

- MWs 5, 6, 7, and 8 Are On Reduced Sampling Schedules.
- **BOLD** Indicates Concentration Above NMOCD Regulatory Limit



Legend:

● Monitor Well Location

<0.001 Constituent Concentration (mg/L)

(NS) Not Sampled

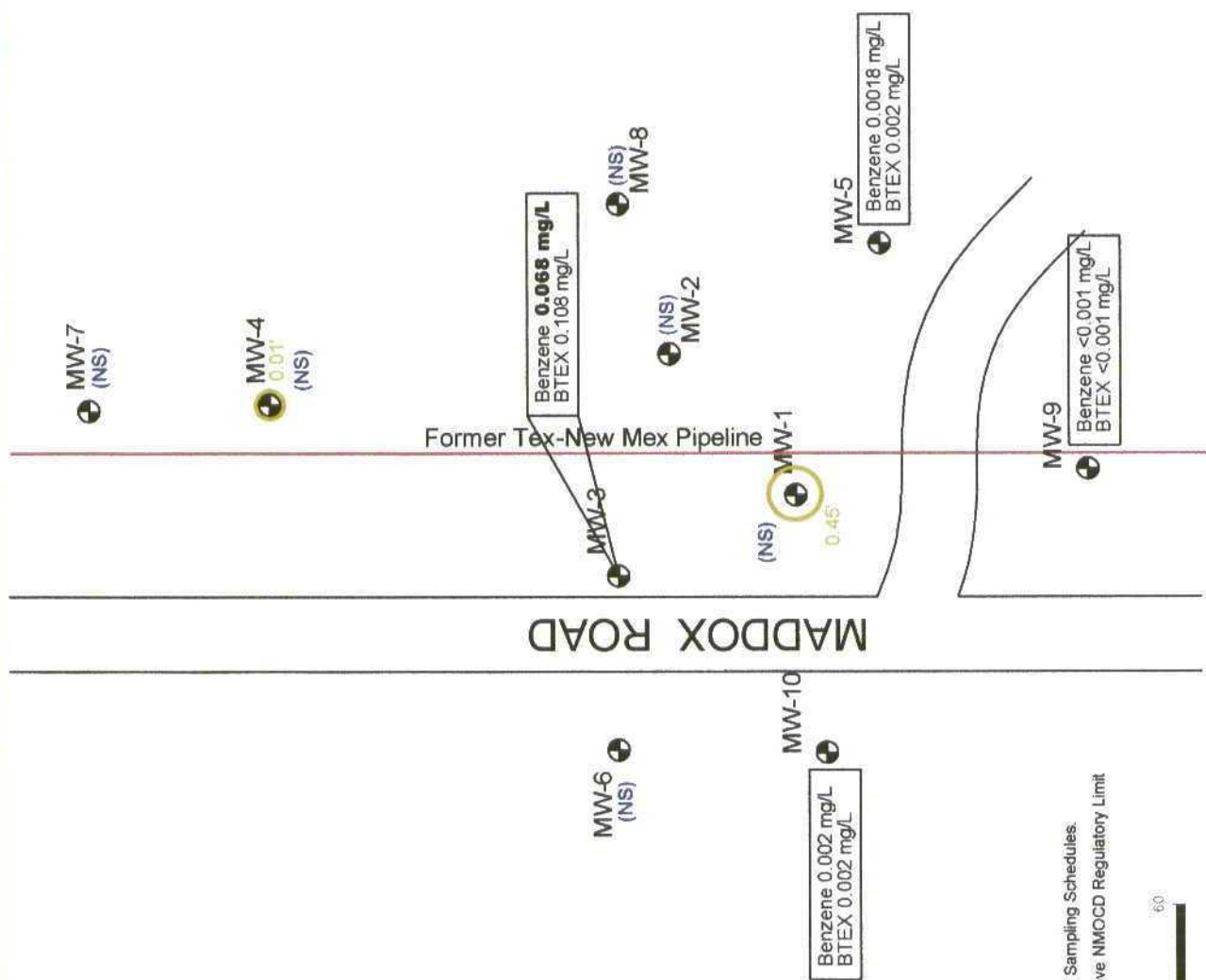
Figure 3A  
Groundwater Concentration  
and Inferred PSH Extent Map  
(3/11/05)

Plains Marketing, L.P.  
Monument 18  
Lee County, NM

NOVA Safety and Environmental



Scale: 1" = 50'  
Drawn By: JPM  
Prepared By: GDS  
May 11, 2005



- NOTE:
- MWs 5, 6, 7, and 8 Are On Reduced Sampling Schedules.
  - **BOLD** Indicates Concentration Above NMOC Regulatory Limit



**Legend:**

- Monitor Well Location
- Inferred PSH Extent

**Figure 3B**  
Groundwater Concentration and Inferred PSH Extent Map (6/14/05)

Plains Marketing, L.P.  
Monument 18  
Leas County, NM

**NOVA Safety and Environmental**

Scale: 1" = 60'  
Drawn By: DPM | Prepared By: CDS  
July 21, 2005



MW-7  
(NS)

PSH MW-4  
(NS)  
0.01'

MW-3  
(NS)  
0.31'

MW-6  
(NS)

MW-8  
(NS)

MW-2  
(P & A 09/05)

MW-5  
(NS)

MW-10  
(NS)

Benzene 0.002 mg/L  
BTEX 0.002 mg/L

MW-1  
(NS)  
0.77'

MW-9

Benzene <0.001 mg/L  
BTEX <0.001 mg/L

Former Tex-New Mex Pipeline

MADDOX ROAD

NOTE:

- MWs 5, 6, 7, and 8 Are On Reduced Sampling Schedules.
- **BOLD** Indicates Concentration Above NMOCD Regulatory Limit
- MW-2 Was Plugged and Abandoned September 05 Per NMOCD Approval.



Distance in Feet

Legend:

- Monitor Well Location
- Well Plugged and Abandoned
- Pipeline

Inferred PSH Extent  
<0.001  
0.77  
Constituent Concentration (mg/L)  
Thickness of PSH (feet)

(NS) Not Sampled

Figure 3C  
Groundwater Concentration  
and Inferred PSH Extent Map  
(8/13/05)  
Plains Marketing, L.P.  
Monument 18  
Lea County, NM

NOVA Safety and Environmental



Scale: 1" = 60'  
Drawn By: JPM  
Prepared By: CCS  
October 28, 2005



MW-7  
Benzene <0.001 mg/L  
BTEX <0.001 mg/L

PSH MW-4  
(NS)  
0.07

MW-8  
Benzene <0.001 mg/L  
BTEX <0.001 mg/L

MW-2  
(P & A 09/05)

MW-5  
Benzene 0.0018 mg/L  
BTEX 0.0018 mg/L

MW-9  
Benzene <0.001 mg/L  
BTEX <0.001 mg/L

Former Tex-New Mex Pipeline

MADDOX ROAD

MW-6  
Benzene <0.001 mg/L  
BTEX <0.001 mg/L

MW-10  
Benzene 0.0025 mg/L  
BTEX 0.0025 mg/L

MW-3  
(NS)  
0.39

MW-1  
(NS)  
0.52

NOTE:

- MWs 5, 6, 7, and 8 Are On Reduced Sampling Schedules.
- MW- 2 Was Plugged and Abandoned September 05 Per NMOCDD Approval.



Legend:

- Monitor Well Location
- ⊘ Well Plugged and Abandoned
- Pipeline

Inferred PSH Extent  
<0.001  
0.39  
Thickness of PSH (feet)

(NS) Not Sampled

Figure 3D  
Groundwater Concentration  
and Inferred PSH Extent Map  
(12/19/05)  
Plains Marketing, L.P.  
Monument 18  
Lea County, NM

# Tables



TABLE 1

## 2005 GROUNDWATER ELEVATION DATA

PLAINS MAREKTING, L.P.  
 MONUMENT 18  
 LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW-1	01/12/05	3,558.71	32.96	33.51	0.55	3,525.67
	01/19/05	3,558.71	32.97	33.40	0.43	3,525.68
	01/26/05	3,558.71	33.00	33.67	0.67	3,525.61
	02/01/05	3,558.71	33.01	33.61	0.60	3,525.61
	02/09/05	3,558.71	33.21	33.69	0.48	3,525.43
	02/16/05	3,558.71	32.99	33.60	0.61	3,525.63
	02/23/05	3,558.71	33.00	33.49	0.49	3,525.64
	03/02/05	3,558.71	33.00	33.41	0.41	3,525.65
	03/09/05	3,558.71	32.98	33.39	0.41	3,525.67
	03/11/05	3,558.71	32.98	33.37	0.39	3,525.67
	03/17/05	3,558.71	33.04	33.54	0.50	3,525.60
	03/23/05	3,558.71	32.96	33.49	0.53	3,525.67
	03/30/05	3,558.71	32.92	33.32	0.40	3,525.73
	04/06/05	3,558.71	32.90	33.34	0.44	3,525.74
	04/14/05	3,558.71	32.89	33.25	0.36	3,525.77
	05/24/05	3,558.71	32.69	32.99	0.30	3,525.98
	06/08/05	3,558.71	32.61	33.25	0.64	3,526.00
	06/14/05	3,558.71	32.59	33.04	0.45	3,526.05
	06/22/05	3,558.71	32.59	33.00	0.41	3,526.06
	07/13/05	3,558.71	32.54	33.05	0.51	3,526.09
	07/28/05	3,558.71	32.54	32.90	0.36	3,526.12
	08/11/05	3,558.71	32.50	32.75	0.25	3,526.17
	08/24/05	3,558.71	32.66	33.02	0.36	3,526.00
	09/13/05	3,558.71	32.78	33.01	0.23	3,525.90
	09/13/05	3,558.71	32.33	33.10	0.77	3,526.26
	09/30/05	3,558.71	32.36	33.12	0.76	3,526.24
	10/11/05	3,558.71	32.36	33.11	0.75	3,526.24
	10/28/05	3,558.71	32.34	33.10	0.76	3,526.26
	11/17/05	3,558.71	32.27	33.04	0.77	3,526.32
	12/02/05	3,558.71	32.22	32.80	0.58	3,526.40
	12/07/05	3,558.71	32.31	32.75	0.44	3,526.33
	12/19/05	3,558.71	32.23	32.75	0.52	3,526.40
	12/30/05	3,558.71	32.20	32.80	0.60	3,526.42

TABLE 1

## 2005 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, L.P.  
MONUMENT 18  
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW-2	03/11/05	3,559.64	-	33.95	0.00	3,525.69
	06/14/05	3,559.64	-	33.60	0.00	3,526.04
	08/11/05	3,559.64	sheen	33.48	0.00	3,526.16
	09/13/05	3,559.64	sheen	33.43	0.00	3,526.21
	09/13/05	Plugged and Abandoned				
MW-3	01/12/05	3,558.53	sheen	32.76	0.00	3,525.77
	01/19/05	3,558.53	sheen	32.79	0.00	3,525.74
	01/26/05	3,558.53	sheen	32.79	0.00	3,525.74
	02/01/05	3,558.53	sheen	32.80	0.00	3,525.73
	02/09/05	3,558.53	sheen	32.80	0.00	3,525.73
	02/16/05	3,558.53	sheen	32.79	0.00	3,525.74
	02/23/05	3,558.53	sheen	32.78	0.00	3,525.75
	03/02/05	3,558.53	sheen	32.76	0.00	3,525.77
	03/09/05	3,558.53	sheen	32.70	0.00	3,525.83
	03/11/05	3,558.53	sheen	32.70	0.00	3,525.83
	03/17/05	3,558.53	sheen	32.81	0.00	3,525.72
	03/23/05	3,558.53	sheen	32.70	0.00	3,525.83
	03/30/05	3,558.53	sheen	32.69	0.00	3,525.84
	04/06/05	3,558.53	sheen	32.68	0.00	3,525.85
	04/14/05	3,558.53	sheen	32.81	0.00	3,525.72
	05/24/05	3,558.53	sheen	32.47	0.00	3,526.06
	06/08/05	3,558.53	sheen	32.41	0.00	3,526.12
	06/14/05	3,558.53	-	32.36	0.00	3,526.17
	06/22/05	3,558.53	sheen	32.36	0.00	3,526.17
	07/13/05	3,558.53	sheen	32.33	0.00	3,526.20
	07/28/05	3,558.53	sheen	32.33	0.00	3,526.20
	08/24/05	3,558.53	32.25	32.33	0.08	3,526.27
	09/13/05	3,558.53	32.18	32.45	0.27	3,526.31
	09/13/05	3,558.53	32.16	32.47	0.31	3,526.32
	09/30/05	3,558.53	32.11	32.65	0.54	3,526.34
	10/11/05	3,558.53	32.11	32.70	0.59	3,526.33
	10/28/05	3,558.53	32.10	32.70	0.60	3,526.34
	11/17/05	3,558.53	32.05	32.66	0.61	3,526.39

TABLE 1

## 2005 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, L.P.  
MONUMENT 18  
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW-3	12/02/05	3,558.53	32.00	32.21	0.21	3,526.50
	12/07/05	3,558.53	32.02	32.30	0.28	3,526.47
	12/19/05	3,558.53	31.97	32.36	0.39	3,526.50
	12/30/05	3,558.53	31.95	32.29	0.34	3,526.53
MW-4	01/12/05	3,558.14	sheen	32.38	0.00	3,525.76
	01/19/05	3,558.14	sheen	32.39	0.00	3,525.75
	01/26/05	3,558.14	sheen	32.40	0.00	3,525.74
	02/01/05	3,558.14	sheen	32.43	0.00	3,525.71
	02/09/05	3,558.14	sheen	32.39	0.00	3,525.75
	02/16/05	3,558.14	sheen	32.84	0.00	3,525.30
	02/23/05	3,558.14	sheen	32.36	0.00	3,525.78
	03/02/05	3,558.14	sheen	32.34	0.00	3,525.80
	03/09/05	3,558.14	sheen	32.31	0.00	3,525.83
	03/11/05	3,558.14	sheen	32.35	0.00	3,525.79
	03/17/05	3,558.14	sheen	32.39	0.00	3,525.75
	03/23/05	3,558.14	sheen	32.32	0.00	3,525.82
	03/30/05	3,558.14	sheen	32.28	0.00	3,525.86
	04/06/05	3,558.14	sheen	32.27	0.00	3,525.87
	04/14/05	3,558.14	sheen	32.23	0.00	3,525.91
	05/24/05	3,558.14	sheen	32.20	0.00	3,525.94
	06/08/05	3,558.14	sheen	31.97	0.00	3,526.17
	06/14/05	3,558.14	31.93	31.94	0.01	3,526.21
	06/22/05	3,558.14	sheen	31.94	0.00	3,526.20
	07/13/05	3,558.14	sheen	32.00	0.00	3,526.14
	07/28/05	3,558.14	sheen	31.88	0.00	3,526.26
	08/24/05	3,558.14	sheen	31.55	0.00	3,526.59
	09/13/05	3,558.14	31.76	31.77	0.01	3,526.38
	09/30/05	3,558.14	31.73	31.76	0.03	3,526.41
	10/11/05	3,558.14	31.73	31.76	0.03	3,526.41
	10/28/05	3,558.14	31.71	31.78	0.07	3,526.42
	11/17/05	3,558.14	31.69	31.71	0.02	3,526.45
	12/07/05	3,558.14	31.59	31.69	0.10	3,526.54
	12/19/05	3,558.14	31.56	31.63	0.07	3,526.57
	12/30/05	3,558.14	31.55	31.65	0.10	3,526.58

TABLE 1

## 2005 GROUNDWATER ELEVATION DATA

PLAINS MAREKTING, L.P.  
 MONUMENT 18  
 LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
MW-5	03/11/05	3,560.07	-	34.56	0.00	3,525.51
	06/14/05	3,560.07	-	34.20	0.00	3,525.87
	09/13/05	3,560.07	-	34.02	0.00	3,526.05
	12/07/05	3,560.07	-	33.85	0.00	3,526.22
	12/19/05	3,560.07	-	33.81	0.00	3,526.26
MW-6	03/11/05	3,557.64	-	31.71	0.00	3,525.93
	06/14/05	3,557.64	-	31.37	0.00	3,526.27
	09/13/05	3,557.64	-	31.23	0.00	3,526.41
	12/07/05	3,557.64	-	31.07	0.00	3,526.57
	12/19/05	3,557.64	-	31.01	0.00	3,526.63
MW-7	03/11/05	3,558.65	-	32.65	0.00	3,526.00
	06/14/05	3,558.65	-	32.42	0.00	3,526.23
	09/13/05	3,558.65	-	32.22	0.00	3,526.43
	12/07/05	3,558.65	-	32.04	0.00	3,526.61
	12/19/05	3,558.65	-	32.01	0.00	3,526.64
MW-8	03/11/05	3,559.30	-	33.67	0.00	3,525.63
	06/14/05	3,559.30	-	33.31	0.00	3,525.99
	09/13/05	3,559.30	-	33.12	0.00	3,526.18
	12/07/05	3,559.30	-	32.95	0.00	3,526.35
	12/19/05	3,559.30	-	32.91	0.00	3,526.39
MW-9	03/11/05	3,559.94	-	34.36	0.00	3,525.58
	06/14/05	3,559.94	-	34.01	0.00	3,525.93
	09/13/05	3,559.94	-	33.84	0.00	3,526.10
	12/07/05	3,559.94	-	33.68	0.00	3,526.26
	12/19/05	3,559.94	-	33.64	0.00	3,526.30
MW-10	03/11/05	3,558.06	-	32.25	0.00	3,525.81
	06/14/05	3,558.06	-	31.93	0.00	3,526.13
	09/13/05	3,558.06	-	31.77	0.00	3,526.29
MW-10	12/07/05	3,558.06	-	31.62	0.00	3,526.44

TABLE 1

2005 GROUNDWATER ELEVATION DATA

PLAINS MAREKTING, L.P.  
MONUMENT 18  
LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	TOP OF CASING ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUND WATER ELEVATION
	12/19/05	3,558.06	-	31.59	0.00	3,526.47

Note: NM indicates parameter not measured due to site access limitations imposed by landowner.

TABLE 2

## 2005 CONCENTRATIONS OF BTEX IN GROUNDWATER

PLAINS MARKETING, L.P.

MONUMENT 18

LEA COUNTY, NEW MEXICO

*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	0.75	0.75	0.62	
MW-1	3/11/2005	Not Sampled Due to PSH in Well				
	6/14/2005	Not Sampled Due to PSH in Well				
	9/13/2005	Not Sampled Due to PSH in Well				
	12/19/2005	Not Sampled Due to PSH in Well				
MW-2	03/11/05	Not Sampled Due to Sample Reduction				
	06/14/05	Not Sampled Due to Sample Reduction				
	09/13/05	Plugged and Abandoned				
MW-3	03/11/05	0.043	0.007	0.005	0.018	
	06/14/05	0.068	<0.005	0.007	0.033	
	09/13/05	Not Sampled Due to PSH in Well				
	12/19/05	Not Sampled Due to PSH in Well				
MW-4	03/11/05	0.047	<0.005	0.049	0.031	
	06/14/05	Not Sampled Due to PSH in Well				
	09/13/05	Not Sampled Due to PSH in Well				
	12/19/05	Not Sampled Due to PSH in Well				
MW-5	03/11/05	Not Sampled Due to Sample Reduction				
	06/14/05	0.0018	<0.001	<0.001	<0.001	
	09/13/05	Not Sampled Due to Sample Reduction				
	12/19/05	0.0018	<0.001	<0.001	<0.001	
MW-6	03/11/05	Not Sampled Due to Sample Reduction				
	06/14/05	Not Sampled Due to Sample Reduction				
	09/13/05	Not Sampled Due to Sample Reduction				
	12/19/05	<0.001	<0.001	<0.001	<0.001	
MW-7	03/11/05	Not Sampled Due to Sample Reduction				
	06/14/05	Not Sampled Due to Sample Reduction				
	09/13/05	Not Sampled Due to Sample Reduction				
	12/19/05	<0.001	<0.001	<0.001	<0.001	
MW-8	03/11/05	Not Sampled Due to Sample Reduction				
	06/14/05	Not Sampled Due to Sample Reduction				
	09/13/05	Not Sampled Due to Sample Reduction				
	12/19/05	<0.001	<0.001	<0.001	<0.001	
MW-9	03/11/05	<0.001	<0.001	<0.001	<0.001	

LEA COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	SW 846-8012B, 5030				
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE
NMOCD REGULATORY LIMIT		0.01	0.75	0.75	0.62	
MW-9	06/14/05	<0.001	<0.001	<0.001	<0.001	
	09/13/05	<0.001	<0.001	<0.001	<0.001	
	12/19/05	<0.001	<0.001	<0.001	<0.001	
MW-10	03/11/05	0.002	<0.001	<0.001	<0.001	
	06/14/05	0.002	<0.001	<0.001	<0.001	
	09/13/05	0.002	<0.001	<0.001	<0.001	
	12/19/05	0.0025	<0.001	<0.001	<0.001	

*Note: NA indicates well not sampled due to access limitations imposed by landowner.*

# Appendices



Appendix A:  
Notification of Release 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**

☒ 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 # 18	Facility Type:	Pipeline
Surface Owner: Jim B Cooper	Mineral Owner	Lease No.	

**LOCATION OF RELEASE**

Unit Letter D	Section 7	Township 20S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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**Latitude** 32 degrees 35' 30.0" **Longitude** 103 degrees 17' 55.9"

**NATURE OF RELEASE**

Type of Release:	Volume of Release:	Volume Recovered
Source of Release:	Date and Hour of Occurrence Unknown	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:		Attached <input type="checkbox"/>
E-mail Address: cjreynolds@paalp.com			
Date: 3/21/2005 Phone: (505)441-0965			

Attach Additional Sheets If Necessary