

1R - 386

# Annual GW Mon. REPORTS

DATE:

2008



**2008  
ANNUAL MONITORING REPORT**

RECEIVED  
2009 MAR 18 PM 1 27

**JUNCTION 34 TO LEA STATION**  
LEA COUNTY, NEW MEXICO  
NW ¼ SW ¼, SECTION 21, TOWNSHIP 20 SOUTH, RANGE 37 EAST  
PLAINS SRS NUMBER: 2002-10286  
NMOCD Reference # 1R-0386

PREPARED FOR:


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

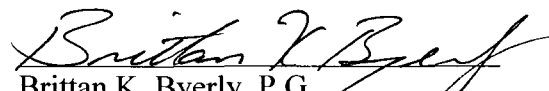


PREPARED BY:

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

**February 2009**

  
Ronald K. Rounsaville  
Project Manager

  
Brittan K. Byerly, P.G.  
President



**PLAINS  
ALL AMERICAN**

RECEIVED

2009 MAR 18 PM 1 27

March 13, 2009

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

Re: Plains All American – 2008 Annual Monitoring Reports  
22 Sites in Lea County, New Mexico

Dear Mr. Hansen:

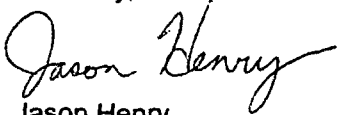
Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico 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 AP-3	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 11	1R-120	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
Red Byrd #1	1R-0085	Section 01, Township 20 South, Range 36 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

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,

A handwritten signature in cursive script that reads "Jason Henry".

Jason Henry  
Remediation Coordinator  
Plains All American

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

## TABLE OF CONTENTS

INTRODUCTION .....	1
SITE DESCRIPTION AND BACKGROUND INFORMATION.....	1
FIELD ACTIVITIES .....	1
LABORATORY RESULTS .....	2
SUMMARY .....	6
ANTICIPATED ACTIONS .....	6
LIMITATIONS .....	6
DISTRIBUTION.....	7

### FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map – February 26, 2008

2B – Inferred Groundwater Gradient Map – May 22, 2008

2C – Inferred Groundwater Gradient Map – August 28, 2008

2D – Inferred Groundwater Gradient Map – November 20, 2008

Figure 3A – Groundwater Concentration and Inferred PSH Extent Map – February 26, 2008

3B – Groundwater Concentration and Inferred PSH Extent Map – May 22, 2008

3C – Groundwater Concentration and Inferred PSH Extent Map – August 28, 2008

3D – Groundwater Concentrations and Inferred PSH Extent Map – November 20, 2008

### TABLES

Table 1 – 2008 Groundwater Elevation Data

Table 2 – 2008 Concentrations of BTEX and TPH in Groundwater

Table 2 – 2008 Concentrations of PAH in Groundwater

### APPENDICES

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

### ENCLOSED ON DATA DISK

2008 Annual Monitoring Report

2008 Tables 1, 2 and 3 – Groundwater Elevation, BTEX, TPH and PAH Concentration Data

2008 Figures 1, 2A-2D, and 3A-3D

Electronic Copies of Laboratory Reports

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

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

## **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 or about January 16, 2007, project management responsibilities were assumed by NOVA. The site was previously managed by Environmental Plus, Inc. (EPI). This report is intended to be viewed as a complete document with figures, appendices, tables and text. The report presents the results of the four quarterly groundwater monitoring events conducted in calendar year 2007. For reference, the Site Location Map is provided as Figure 1.

Groundwater monitoring was conducted during each quarter of 2008 to assess the levels and extent of dissolved phase constituents and Phase Separated Hydrocarbon (PSH). Each groundwater monitoring event consisted of measuring static water levels in monitor wells, checking for the presence of PSH on the water column and purging and sampling of each well exhibiting sufficient recharge. Monitor wells containing a thickness of PSH greater than 0.01 foot were sampled as per a NMOCD directive.

## **SITE DESCRIPTION AND BACKGROUND INFORMATION**

The Junction 34 to Lea (2002-10286) Release Site is located approximately 10-miles northwest of Eunice in Lea County, New Mexico. The site is located in the NW  $\frac{1}{4}$  SW  $\frac{1}{4}$ , Section 21, Township 20 South, Range 37 East. The Release Notification and Corrective Action (Form C-141) submitted by EOTT reported approximately 300 barrels of crude oil released with 190 barrels recovered. The release is reported to have been due to internal corrosion of the pipeline. The release covered approximately 10,769 square feet of pipeline right-of-way, caliche road and land owned by the Deck Estate. Upon discovery of the release on November 6, 2002, a contractor and EOTT personnel mobilized to the site, exposed the pipeline and installed a pipe repair clamp. Hydrocarbon impacted soil excavated during the emergency response activities was transported to an NMOCD approved land farm. In February 2003, hydrocarbon impacted soil, previously identified by the advancement of nine soil borings, was excavated to a depth of approximately twenty five (25) below ground surface (bgs). The excavated soil was stockpiled on site for future remediation.

Currently, there are eleven groundwater monitor wells (MW-1 through MW-11) on site.

## **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 with the exception of monitor well MW-3, which exhibited a thickness of 0.02 feet during the 3<sup>rd</sup> quarter sampling event on August 28, 2008. Gauging data for the 2008 monitoring events is provided in Table 1.

## Groundwater Monitoring

Quarterly monitoring events for the reporting period were performed according to the following sampling schedule, which was approved by the NMOCD.

NMOCD Approved Sampling Schedule							
MW-1	Quarterly	MW-4	Annual	MW-7	Quarterly	MW-10	Quarterly
MW-2	Quarterly	MW-5	Quarterly	MW-8	Quarterly	MW-11	Quarterly
MW-3	Quarterly	MW-6	Quarterly	MW-9	Quarterly		

The site monitor wells were gauged and sampled on February 26, May 22, August 28, and November 20, 2008. During each sampling event, monitor wells were purged of a minimum of three well volumes of water or until the wells failed to produce water. Purging was performed using a disposable polyethylene bailer for each well or electrical Grundfos pump and dedicated tubing. Groundwater was allowed to recharge and samples were collected using disposable Teflon samplers. Water samples were placed 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.

Locations of the monitor wells and the inferred groundwater gradient, which were constructed from measurements collected during quarterly sampling events performed in 2008, are depicted on the Inferred Groundwater Gradient Maps, Figures 2A-2D. Groundwater elevation data for 2008 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 0.008 feet/foot to the south-southeast as measured between monitor wells MW-5 and MW-9. This is consistent with data presented on Figures 2A through 2C from earlier in the year.

## LABORATORY RESULTS

During the 2008 reporting period, PSH was reported in one monitor well (MW-3) during the 3<sup>rd</sup> quarter sampling event.

Groundwater samples obtained during the quarterly sampling events of 2008 were delivered to TraceAnalysis, Inc. in Midland, Texas for determination of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) constituent concentrations by EPA Method 8021B, and Polynuclear Aromatic Hydrocarbons (PAH) concentrations by EPA Method 8270C. Monitoring wells containing measurable amounts of PSH were analyzed for Total Petroleum Hydrocarbons (TPH) concentrations by EPA Method 8015M. A listing of BTEX and TPH constituent concentrations for 2008 are summarized in Table 2 and the PAH constituent concentrations for 2008 are summarized in Table 3. Copies of the laboratory reports generated for 2008 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 a quarterly schedule and analytical results indicate benzene concentrations ranged from 0.463 during the 2<sup>nd</sup> quarter to 0.870 mg/L during the 1<sup>st</sup> quarter of 2008. Benzene concentrations were above the NMOCD regulatory standard of 0.01 mg/L during all four quarters of the reporting period. Toluene concentrations were below the laboratory method detection limit (MDL) and NMOCD regulatory standard of 0.75 mg/L during all four quarters of the reporting period. Ethylbenzene concentrations ranged from 0.468 mg/L during the 4<sup>th</sup> quarter to 0.770 mg/L during the 1<sup>st</sup> quarter of 2008. Ethylbenzene concentrations were above the NMOCD regulatory standard of 0.75 mg/L during the 1<sup>st</sup> quarter of the reporting period. Xylene concentrations ranged from 0.102 mg/L during the 2<sup>nd</sup> quarter to 0.195 mg/L during the 1<sup>st</sup> quarter of 2008. Xylene concentrations were below regulatory standard of 0.62 mg/L during all four quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above WQCC Drinking Water Standards of 1-methylnaphthalene (0.0303 mg/L). Additional PAH constituents detected above MDLs include naphthalene (0.010 mg/L), 2-methylnaphthalene (0.00294 mg/L), fluorene (0.00216 mg/L), phenanthrene (0.00139 mg/L) and dibenzofuran (0.00134 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-2** is sampled on a quarterly schedule and analytical results indicate benzene concentrations ranged from 0.0546 mg/L during the 4<sup>th</sup> quarter to 0.4080 mg/L during the 1<sup>st</sup> quarter of 2008. Benzene concentrations were above the NMOCD regulatory standard during all four quarters of the reporting period. Toluene concentrations were below the MDL and NMOCD regulatory standard during all four quarters of the reporting period. Ethylbenzene concentrations ranged from 0.0227 mg/L during the 4<sup>th</sup> quarter to 0.1830 mg/L during the 1<sup>st</sup> quarter. Ethylbenzene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. Xylene concentrations ranged from 0.0220 mg/L during the 4<sup>th</sup> quarter to 0.150 mg/L during the 1<sup>st</sup> quarter of 2008. Xylene concentrations were below regulatory standard during all four quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above MDLs for naphthalene (0.000269 mg/L), 1-methylnaphthalene (0.00614 mg/L), fluorine (0.000383 mg/L) and phenanthrene (0.000367 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-3** is sampled on a quarterly schedule and was not sampled during the 3<sup>rd</sup> quarter of 2008, due to the presence of PSH in the monitor well. A PSH thickness of 0.02 feet was reported in the 3<sup>rd</sup> quarter of 2008. Analytical results collected during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period indicate benzene concentrations ranged from 0.948 mg/L during the 4<sup>th</sup> quarter to 1.280 mg/L during the 2<sup>nd</sup> quarter. Benzene concentrations were above the NMOCD regulatory standard during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period. Toluene concentrations ranged from <0.005 mg/L during the 4<sup>th</sup> quarter to 0.0298 mg/L during the 1<sup>st</sup> quarter of 2008. Toluene concentrations were below the NMOCD regulatory standard during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period. Ethylbenzene concentrations ranged from 0.381 mg/L during the 4<sup>th</sup> quarter to 0.582 mg/L during the 1<sup>st</sup> quarter. Ethylbenzene concentrations were below the NMOCD regulatory standard during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period. Xylene concentrations ranged from 0.1180 mg/L during the 4<sup>th</sup> quarter to 0.2080 mg/L during the 1<sup>st</sup> quarter of 2008. Xylene concentrations were below regulatory standard during the 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above WQCC Drinking Water Standards of 1-



methylnaphthalene (0.0366 mg/L). Additional PAH constituents detected above MDLs include naphthalene (0.00547 mg/L), 2-methylnaphthalene (0.00206 mg/L), fluorene (0.00329 mg/L), phenanthrene (0.00263 mg/L), fluoranthene (0.000218 mg/L) and dibenzofuran (0.00245 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-4** is sampled on an annual schedule and analytical results indicate all constituents of BTEX were below the MDL and NMOCD regulatory standards during the 4<sup>th</sup> quarter sampling event. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last twenty consecutive quarters. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above MDLs for fluorine (0.00045 mg/L) and dibenzofuran (0.00035 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-5** is sampled on a quarterly schedule and analytical results indicate benzene concentrations ranged from 0.0053 mg/L during the 2<sup>nd</sup> quarter to 0.0282 mg/L during the 4<sup>th</sup> quarter. Benzene concentrations were above the NMOCD regulatory standard during the 1<sup>st</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters of the reporting period. Toluene concentrations were below the MDL and NMOCD regulatory standard during all four quarters of the reporting period. Ethylbenzene concentrations ranged from 0.0098 mg/L during the 2<sup>nd</sup> and 3<sup>rd</sup> quarters to 0.0225 mg/L during the 1<sup>st</sup> quarter. Ethylbenzene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. Xylene concentrations ranged from <0.001 mg/L during the 1<sup>st</sup> quarter to 0.0206 mg/L during the 4<sup>th</sup> quarter of 2008. Xylene concentrations were below regulatory standard during all four quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above MDLs for 1-methylnaphthalene (0.0034 mg/L), fluorine (0.000555 mg/L), phenanthrene (0.000788 mg/L) and dibenzofuran (0.00086 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-6** is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethylbenzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last seventeen consecutive quarters. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

**Monitor well MW-7** is sampled on a quarterly schedule and analytical results indicate benzene concentrations ranged from 1.060 mg/L during the 1<sup>st</sup> and 2<sup>nd</sup> quarters to 1.180 mg/L during the 4<sup>th</sup> quarter. Benzene concentrations were above the NMOCD regulatory standard all four quarters of the reporting period. Toluene concentrations were below the MDL and NMOCD regulatory standard during all four quarters of the reporting period. Ethylbenzene concentrations ranged from 0.672 mg/L during the 3<sup>rd</sup> quarter to 0.704 mg/L during the 1<sup>st</sup> quarter. Ethylbenzene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. Xylene concentrations ranged from 0.264 mg/L during the 1<sup>st</sup> quarter to 0.293 mg/L during the 4<sup>th</sup> quarter. Xylene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above MDLs for naphthalene (0.0216 mg/L), 1-methylnaphthalene (0.0212 mg/L), 2-methylnaphthalene (0.00878 mg/L), fluorine

(0.00125 mg/L), phenanthrene (0.00073 mg/L) and dibenzofuran (0.00104 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-8** is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethylbenzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last twelve consecutive quarters. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

**Monitor well MW-9** is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethylbenzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last seventeen consecutive quarters. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

**Monitor well MW-10** is sampled on a quarterly schedule and analytical results indicate benzene concentrations ranged from 0.0302 mg/L during the 3<sup>rd</sup> quarter to 0.084 mg/L during the 1<sup>st</sup> quarter. Benzene concentrations were above the NMOCD regulatory standard all four quarters of the reporting period. Toluene concentrations ranged from <0.001 mg/L during the 3<sup>rd</sup> and 4<sup>th</sup> quarters to 0.002 mg/L during the 1<sup>st</sup> quarter. Toluene concentrations were below NMOCD regulatory standard during all four quarters of the reporting period. Ethylbenzene concentrations ranged from 0.0261 mg/L during the 3<sup>rd</sup> quarter to 0.171 mg/L during the 1<sup>st</sup> quarter. Ethylbenzene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. Xylene concentrations ranged from 0.0079 mg/L during the 3<sup>rd</sup> quarter to 0.0572 mg/L during the 1<sup>st</sup> quarter. Xylene concentrations were below the NMOCD regulatory standard during all four quarters of the reporting period. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated elevated concentrations above MDLs for naphthalene (0.000646 mg/L), 1-methylnaphthalene (0.000828 mg/L) and 2-methylnaphthalene (0.000196 mg/L), which are below the WQCC Drinking Water Standards.

**Monitor well MW-11** is sampled on a quarterly schedule and analytical results indicate benzene, toluene, ethylbenzene and xylene concentrations were below the MDL and NMOCD regulatory standards during all four quarters of the reporting period. The analytical results indicate BTEX constituent concentrations have been below NMOCD regulatory standards for the last seventeen consecutive quarters. PAH analysis during the 4<sup>th</sup> quarter sampling event indicated no elevated concentrations were detected above the respective MDLs.

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 2008 annual monitoring period. Currently, there are eleven groundwater monitor wells (MW-1 through MW-11) on site. The most recent Groundwater Gradient Map, Figure 2D, indicates a general gradient of approximately 0.008 feet/foot to the south-southeast.

Monitor well MW-3 exhibited a PSH thickness of 0.02 feet during the 3<sup>rd</sup> quarter sampling event conducted on August 28, 2008. No measurable thicknesses of PSH were reported in any of the remaining site monitor wells during the reporting period.

Review of the laboratory analytical results of the groundwater samples obtained during this annual reporting period indicate BTEX constituent concentrations are below the applicable NMOCD regulatory standards in five of the eleven monitor wells on site.

## **ANTICIPATED ACTIONS**

Quarterly monitoring and groundwater sampling will continue in 2009. Gauging will continue on a monthly schedule and will be adjusted according to site conditions. An Annual Monitoring Report will be submitted to the NMOCD by April 1, 2010.

Soil remediation activities are scheduled to commence during the 1<sup>st</sup> quarter of 2009. A Soil Closure Request will be submitted to the NMOCD following the completion of these activities.

## **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 and information generated by EPI. 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.

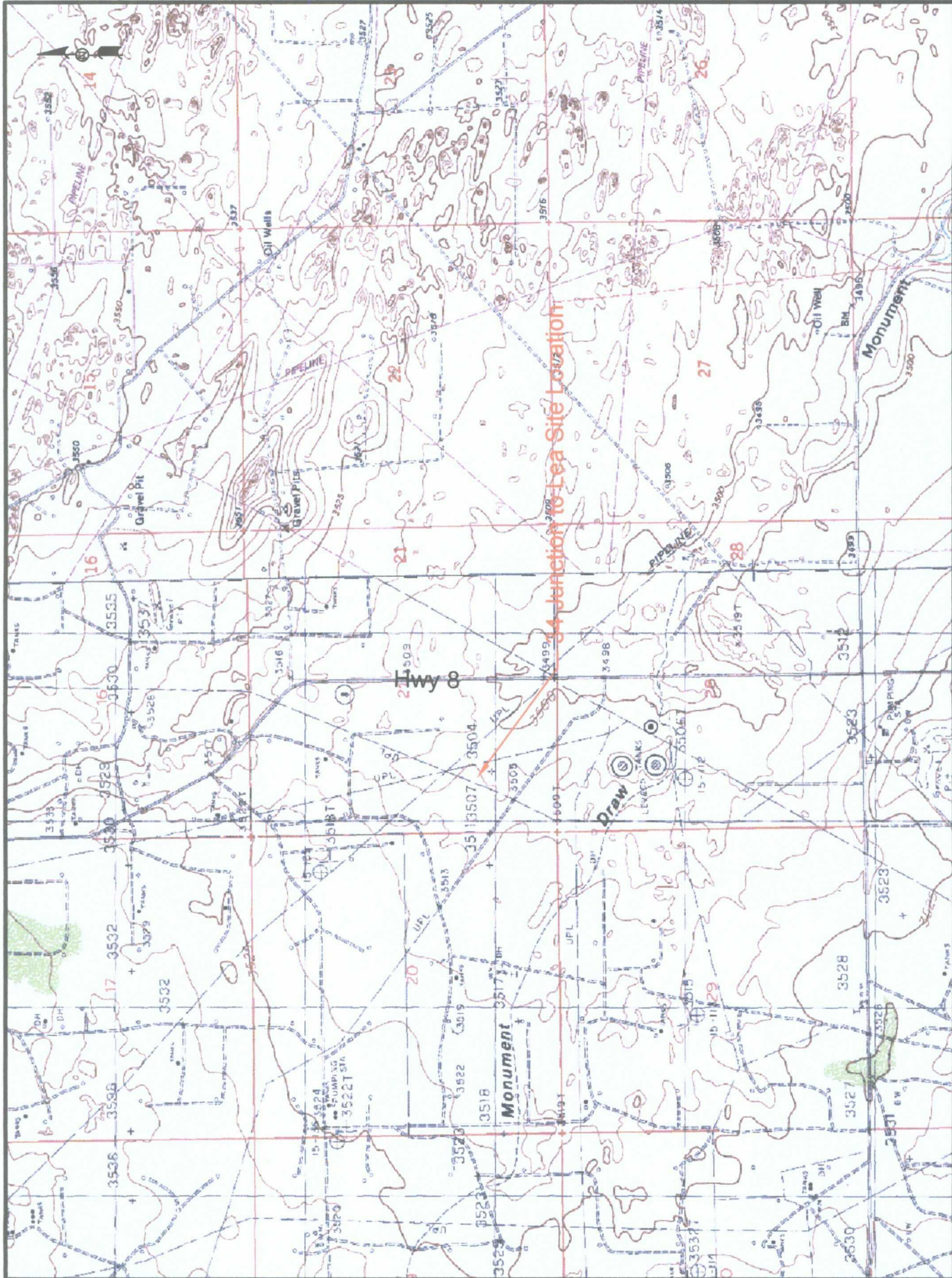
This report has been prepared for the benefit of Plains. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA and/or Plains.

## 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
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New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division, District 1  
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jpdann@paalp.com
- Copy 5:     NOVA Safety and Environmental  
2057 Commerce Street  
Midland, TX 79703  
rrounsaville@novatraining.cc

## FIGURES





Lat. N32° 33' 18.8"N Long. W103° 15' 39.7"W

Figure 1  
Site Location Map  
Plains Marketing, L.P.  
34 Junction to Lea  
Lea County, NM

NOVA Safety and Environmental

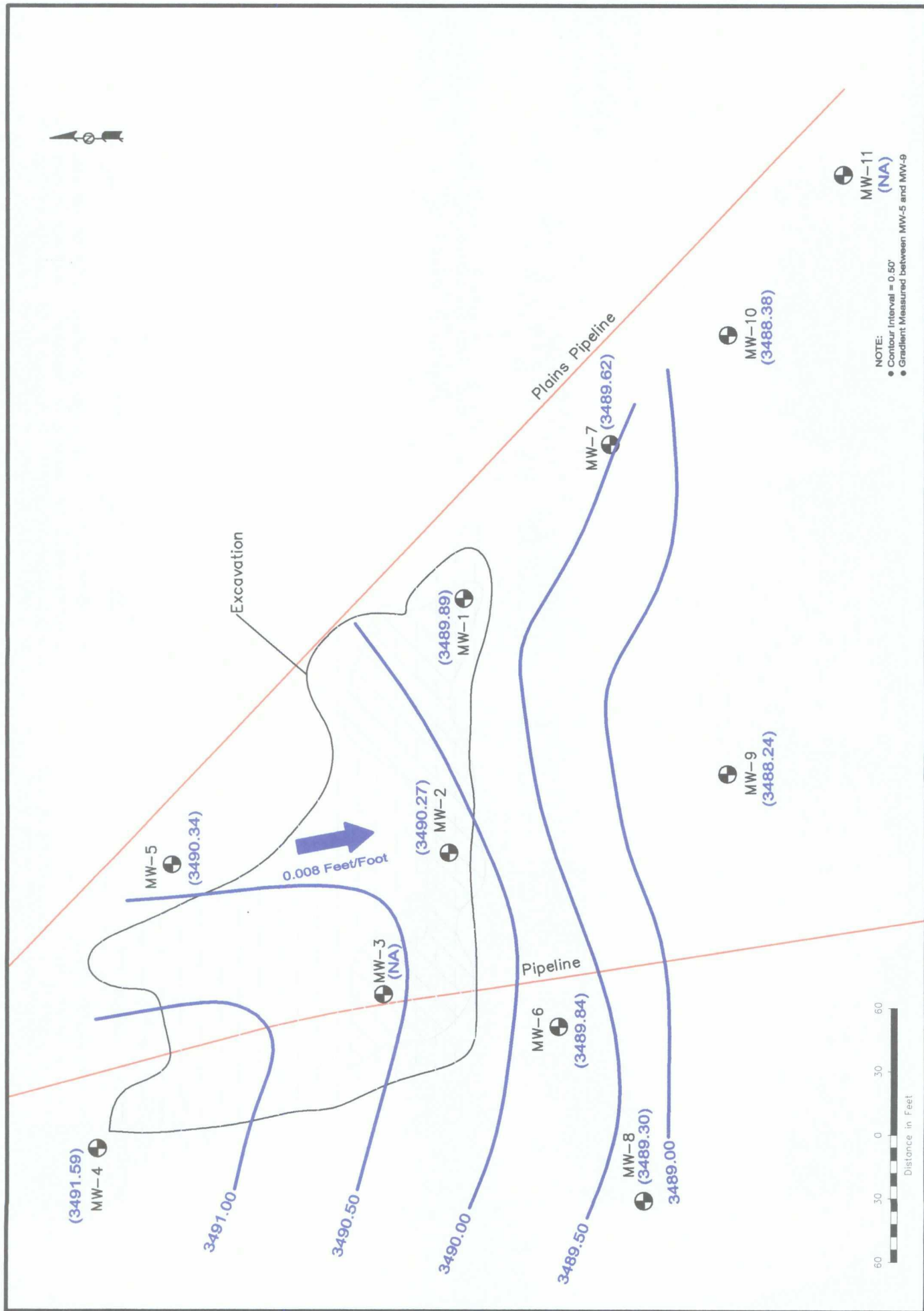
**NOVA**  
safety and environmental

Scale: NTS	Drawn By: CDS	Prepared By: CDS
March 24, 2007	NW1/4 SW1/4 Sec 21 T26S R37E	

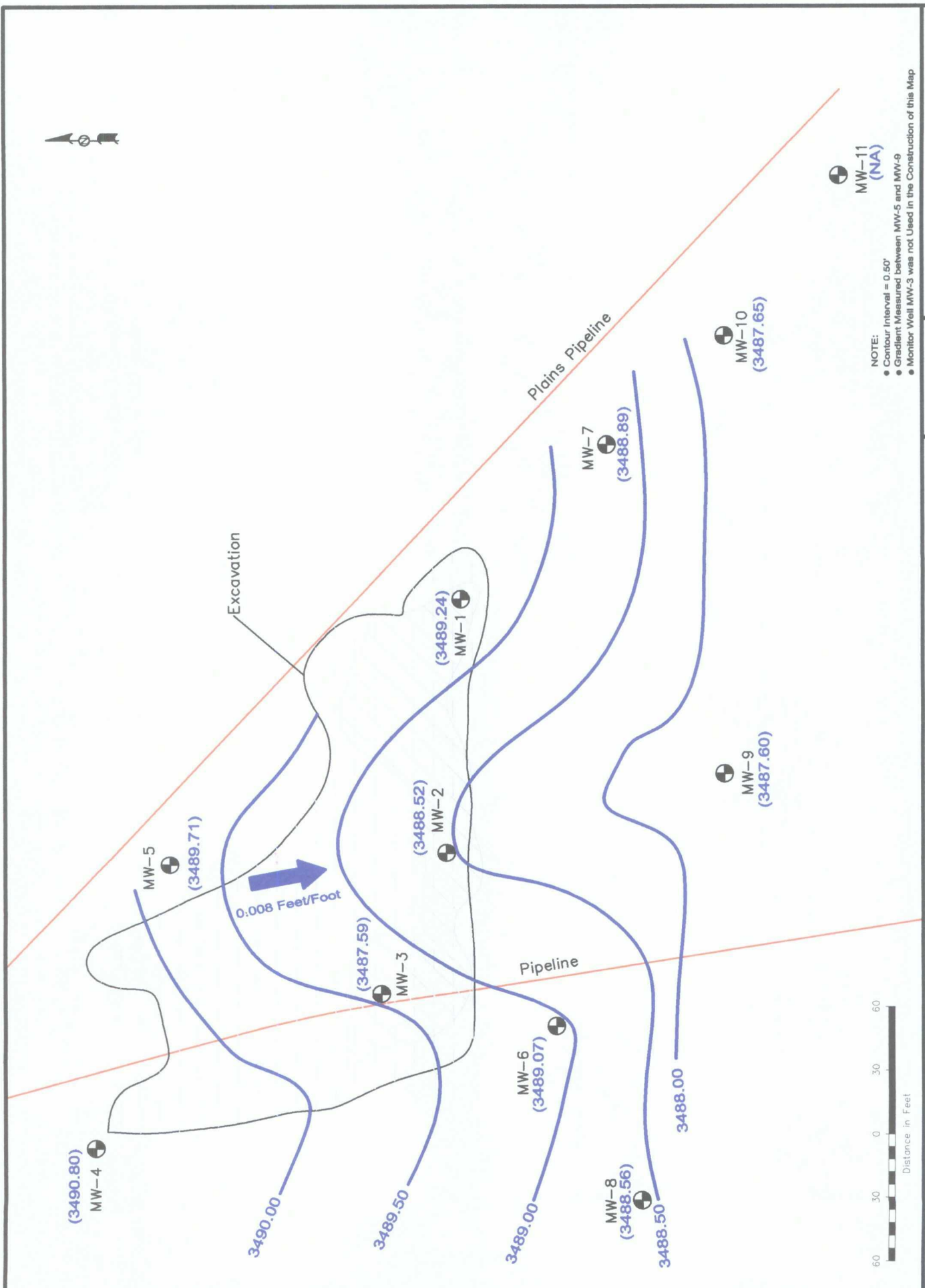
NMOC Reference # 1R-0386











**NOTE:**

- Contour Interval = 0.50'
- Gradient Measured between MW-5 and MW-9
- Monitor Well MW-3 was not Used in the Construction of this Map

**Figure 2C**  
Groundwater Gradient Map (06/27/08)  
Plains Marketing, L.P.  
34 Junction to Lea

**NOVA**  
NOVA Safety and Environmental

Scale: 1" = 60'  
October 15, 2008

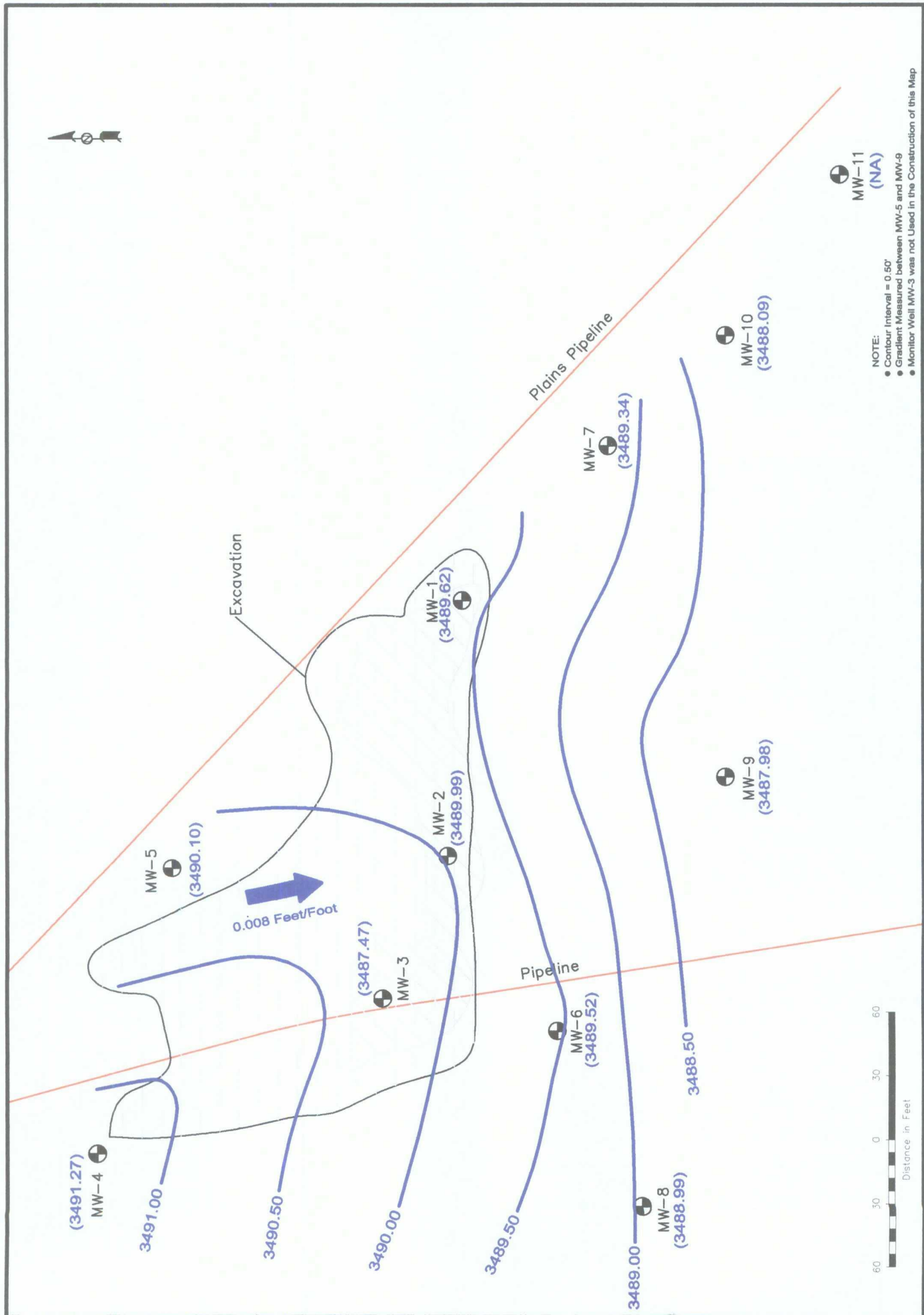
CAD By: DCC  
Checked By: CDS

Lea County, NM

**Legend:**

- Monitor Well Location
- Groundwater Elevation (Feet)
- Groundwater Direction and Magnitude
- Groundwater Elevation Contour Line
- Pipeline

NMOCID Ref# 1R-0386



**Legend:**

- Monitor Well Location
- Groundwater Elevation (Feet)
- Groundwater Elevation Contour Line
- Pipeline
- Groundwater Direction and Magnitude

**Figure 2D**  
Groundwater Gradient Map (11/20/08)  
Plains Marketing, L.P.  
34 Junction to Lea

**NOVA Safety and Environmental**

Scale: 1" = 60'  
December 5, 2008  
CAD By: DOC  
Checked By: RGR

Las County, NM

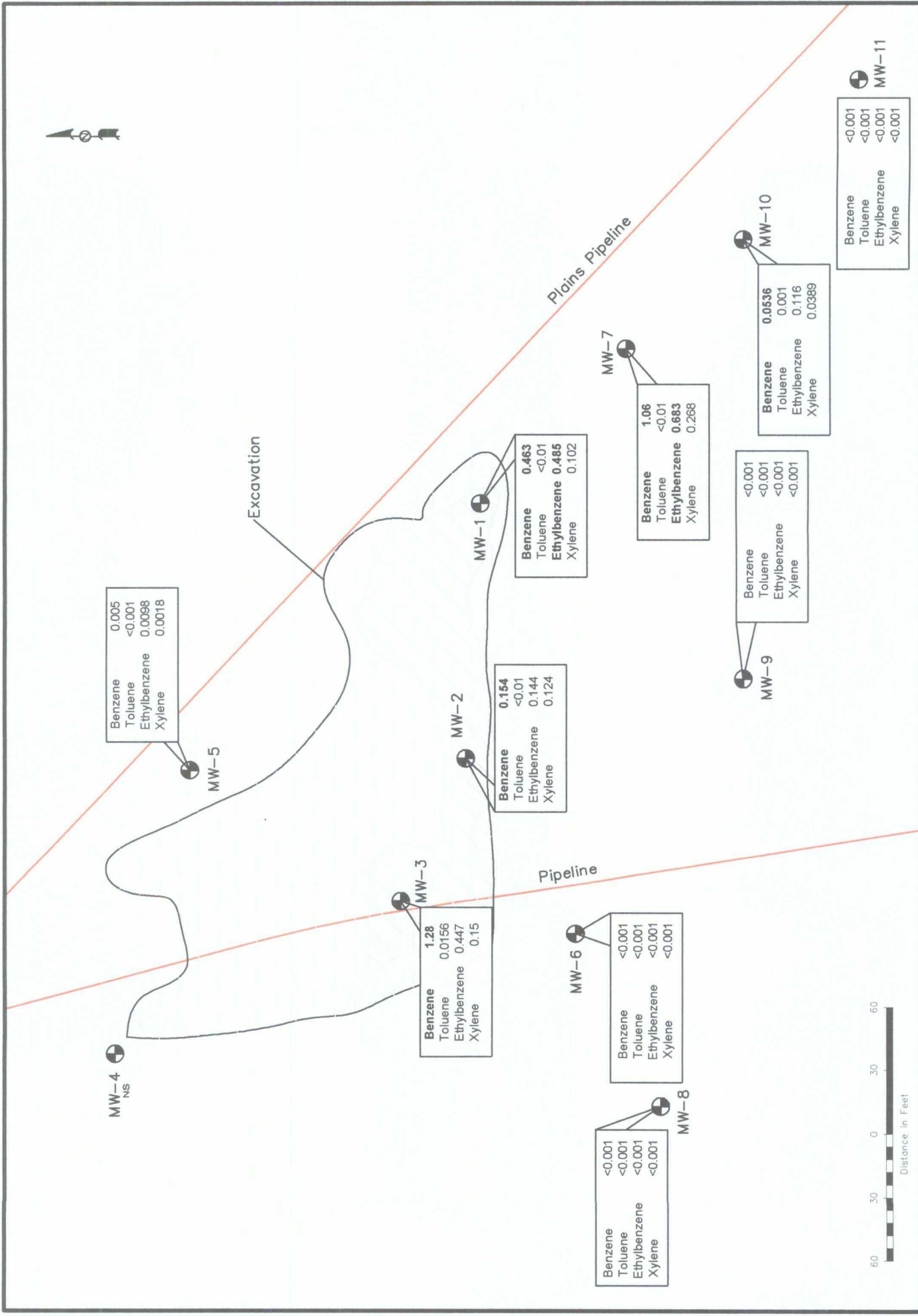
NMOCD Ref# 1R-0388

**NOTE:**

- Contour Interval = 0.50'
- Gradient Measured between MW-5 and MW-9
- Monitor Well MW-3 was not Used in the Construction of this Map







**Legend:**

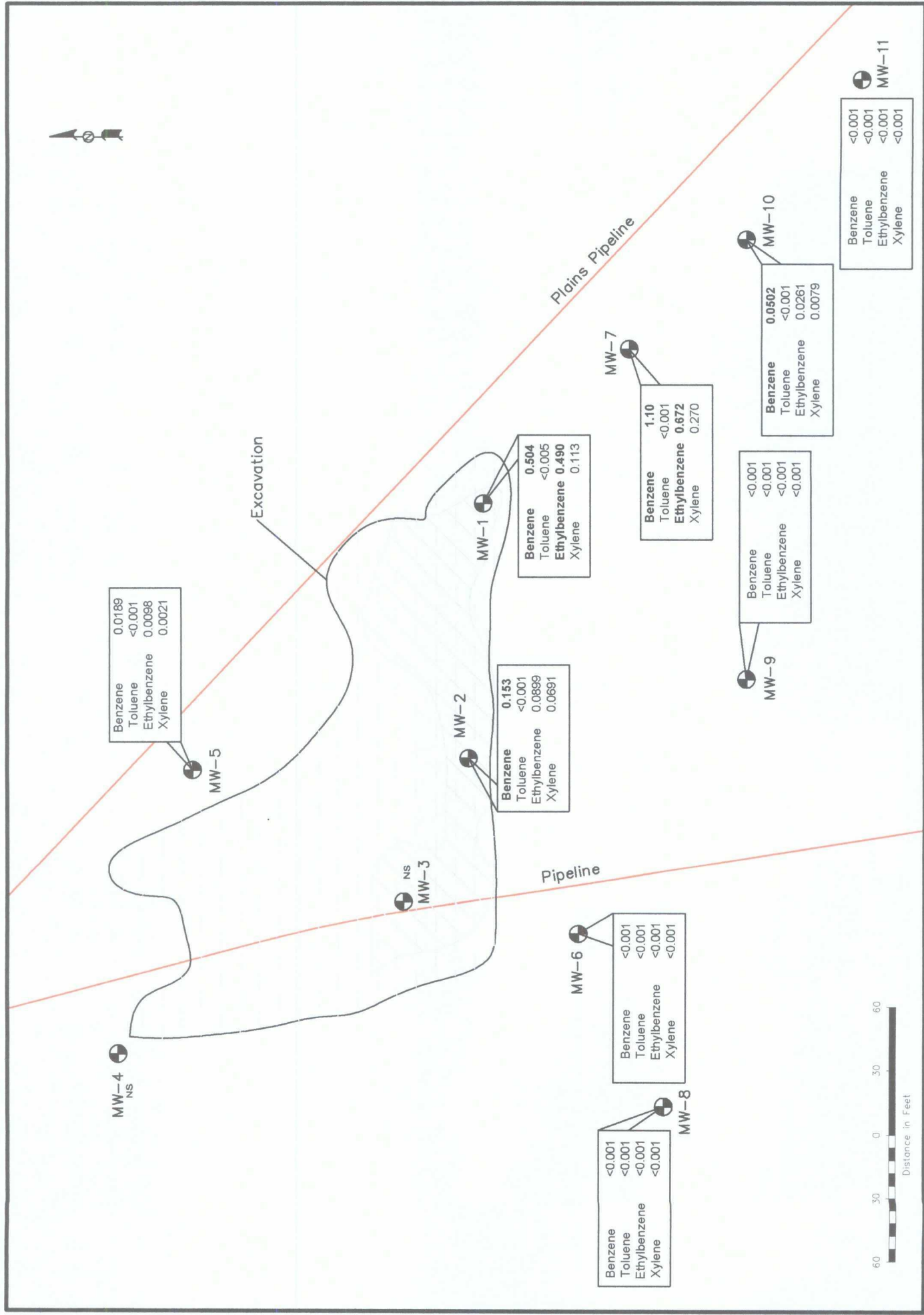
- Monitor Well Location
- Pipeline
- Inferred PSH Extent
- PSH Thickness (in feet)
- Constituent Concentration (mg/L)
- Not Sampled
- NS

**Figure 3B**  
Inferred PSH and  
Disclosed Phase Extent  
Map (05/22/08)  
Plains Marketing, L.P.  
34 Junction to Lea  
Lea County, NM

**NOVA Safety and Environmental**

Scale: 1" = 60'  
October 16, 2008  
CAD By: DDC  
Checked By: CDB

NMOCID Ref# 1R-0396



**Legend:**

- Monitor Well Location
- Pipeline

**Figure 3C:**  
Inferred PSH and  
Discolored Phase Extent  
Map (08/28/08)  
Plains Marketing, L.P.,  
34 Junction to Lea  
Lea County, NM

**Not Sampled**

NS

**Inferred PSH Extent**

PSH Thickness (in feet)

0.18'

<0.001

Constituent Concentration (mg/L)

**NOVA Safety and Environmental**

Scale: 1" = 50'

October 15, 2008

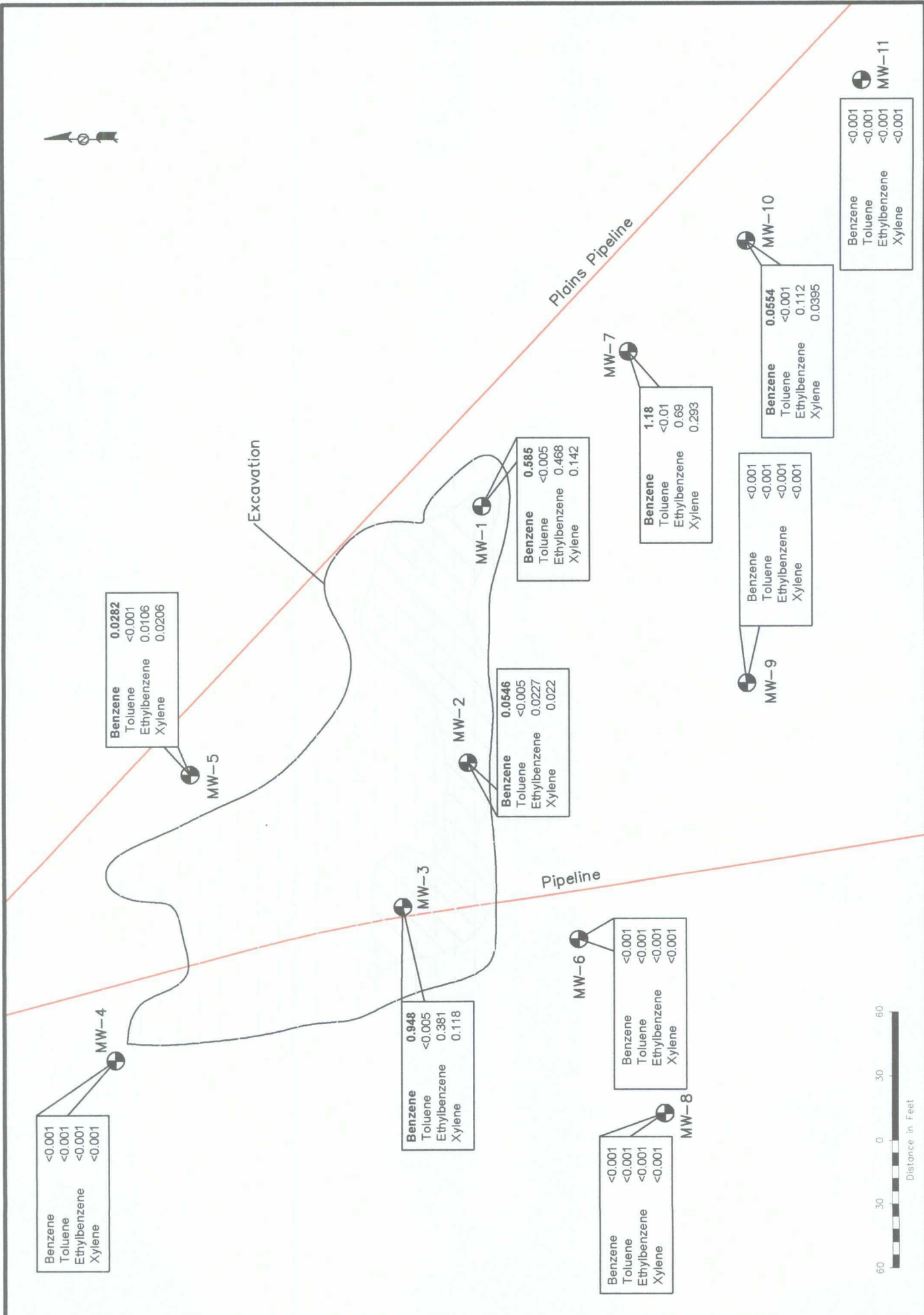
CAD By: DCC

Checked By: CDS

**NOVA**

NOVA Safety and Environmental

NMOC Ref: 1R-0388



**NOVA Safety and Environmental**

Scale: 1" = 60'

CAD By: DGC

Checked By: RKR

December 15, 2008

**Figure 3D**

Inferred PSH and Dissolved Phase Extent Map (11/20/08)

Plains Marketing, L.P.

34 Junction to Lea

Lea County, NM

**NMOC Ref# 1R-0386**

# TABLES

TABLE 1

## 2008 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, L.P.  
 34 JUNCTION TO LEA STATION  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference Number 1R-0386

Well Number	Date Measured	Casing Well Elevation	Depth To Product	Depth To Water	PSH Thickness	Corrected Groundwater Elevation
MW - 1	02/26/08	3,508.17	-	18.30	0.00	3,489.87
MW - 1	05/22/08	3,508.17	-	18.28	0.00	3,489.89
MW - 1	08/28/08	3,508.17	-	18.93	0.00	3,489.24
MW - 1	11/20/08	3,508.17	-	18.55	0.00	3,489.62
MW - 2	02/26/08	3,501.45	-	11.17	0.00	3,490.28
MW - 2	05/22/08	3,501.45	-	11.18	0.00	3,490.27
MW - 2	08/28/08	3,501.45	-	12.93	0.00	3,488.52
MW - 2	11/20/08	3,501.45	-	11.46	0.00	3,489.99
MW - 3	02/26/08	3,495.97	-	8.34	0.00	3,487.63
MW - 3	04/25/08	3,495.97	-	8.34	0.00	3,487.63
MW - 3	05/22/08	3,495.97	NOT GAUGED			
MW - 3	08/19/08	3,495.97	-	8.44	0.00	3,487.53
MW - 3	08/28/08	3,495.97	8.72	8.74	0.02	3,487.25
MW - 3	09/12/08	3,495.97	-	8.38	0.00	3,487.59
MW - 3	09/25/08	3,495.97	-	8.54	0.00	3,487.43
MW - 3	09/30/08	3,495.97	-	8.60	0.00	3,487.37
MW - 3	10/09/08	3,495.97	-	8.55	0.00	3,487.42
MW - 3	10/23/08	3,495.97	-	8.37	0.00	3,487.60
MW - 3	10/28/08	3,495.97	-	8.40	0.00	3,487.57
MW - 3	11/20/08	3,495.97	-	8.50	0.00	3,487.47
MW - 3	12/03/08	3,495.97	-	8.73	0.00	3,487.24
MW - 3	12/16/08	3,495.97	-	8.31	0.00	3,487.66
MW - 4	02/26/08	3,509.01	-	17.48	0.00	3,491.53
MW - 4	05/22/08	3,509.01	-	17.42	0.00	3,491.59
MW - 4	08/28/08	3,509.01	-	18.21	0.00	3,490.80
MW - 4	11/20/08	3,509.01	-	17.74	0.00	3,491.27
MW - 5	02/26/08	3,508.74	-	18.39	0.00	3,490.35
MW - 5	05/22/08	3,508.74	-	18.40	0.00	3,490.34
MW - 5	08/28/08	3,508.74	-	19.03	0.00	3,489.71
MW - 5	11/20/08	3,508.74	-	18.64	0.00	3,490.10
MW - 6	02/26/08	3,509.76	-	20.01	0.00	3,489.75
MW - 6	05/22/08	3,509.76	-	19.92	0.00	3,489.84
MW - 6	08/28/08	3,509.76	-	20.69	0.00	3,489.07
MW - 6	11/20/08	3,509.76	-	20.24	0.00	3,489.52
MW - 7	02/26/08	3,507.38	-	17.79	0.00	3,489.59
MW - 7	05/22/08	3,507.38	-	17.76	0.00	3,489.62
MW - 7	08/28/08	3,507.38	-	18.49	0.00	3,488.89
MW - 7	11/20/08	3,507.38	-	18.04	0.00	3,489.34
MW - 8	02/26/08	3,512.14	-	22.88	0.00	3,489.26
MW - 8	05/22/08	3,512.14	-	22.84	0.00	3,489.30
MW - 8	08/28/08	3,512.14	-	23.58	0.00	3,488.56
MW - 8	11/20/08	3,512.14	-	23.15	0.00	3,488.99



TABLE 1

## 2008 GROUNDWATER ELEVATION DATA

PLAINS MARKETING, L.P.  
 34 JUNCTION TO LEA STATION  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference Number 1R-0386

Well Number	Date Measured	Casing Well Elevation	Depth To Product	Depth To Water	PSH Thickness	Corrected Groundwater Elevation
MW - 9	02/26/08	3,509.34	-	21.08	0.00	3,488.26
MW - 9	05/22/08	3,509.34	-	21.10	0.00	3,488.24
MW - 9	08/28/08	3,509.34	-	21.74	0.00	3,487.60
MW - 9	11/20/08	3,509.34	-	21.36	0.00	3,487.98
MW - 10	02/26/08	3,506.66	-	18.30	0.00	3,488.36
MW - 10	05/22/08	3,506.66	-	18.28	0.00	3,488.38
MW - 10	08/28/08	3,506.66	-	19.01	0.00	3,487.65
MW - 10	11/20/08	3,506.66	-	18.57	0.00	3,488.09
MW - 11	02/26/08		-	20.24	0.00	
MW - 11	05/22/08		-	20.17	0.00	
MW - 11	08/28/08		-	20.85	0.00	
MW - 11	11/20/08		-	20.51	0.00	

\* Complete Historical Tables presented on the attached CD.

TABLE 2

## 2008 CONCENTRATIONS OF BTEX IN GROUNDWATER

PLAINS MARKETING, L.P.  
 34 JUNCTION TO LEA  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference Number 1R-0386

Sample Location	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	m,p-Xylenes (mg/L)	o-Xylene (mg/L)
NMOCD Regulatory Limit		0.01	0.75	0.75	0.62	
MW - 1	02/26/08	0.870	<0.01	0.770	0.195	
MW - 1	05/22/08	0.463	<0.0100	0.485	0.102	
MW - 1	08/28/08	0.504	<0.005	0.490	0.113	
MW - 1	11/20/08	0.585	<0.005	0.468	0.142	
MW - 2	02/26/08	0.4080	<0.01	0.1830	0.1500	
MW - 2	05/22/08	0.1540	<0.010	0.1440	0.1240	
MW - 2	08/28/08	0.1530	<0.001	0.0899	0.0691	
MW - 2	11/20/08	0.0546	<0.005	0.0227	0.0220	
MW - 3	02/26/08	1.170	0.0298	0.5820	0.2080	
MW - 3	05/22/08	1.280	0.0156	0.4470	0.1500	
MW - 3	08/28/08	Not Sampled due to PSH				
MW - 3	11/20/08	0.948	<0.005	0.3810	0.1180	
MW - 4	02/26/08	Not Sampled on Current Sample Schedule				
MW - 4	05/22/08	Not Sampled on Current Sample Schedule				
MW - 4	08/28/08	Not Sampled on Current Sample Schedule				
MW - 4	11/20/08	<0.001	<0.001	<0.001	<0.001	
MW - 5	02/26/08	0.0112	<0.001	0.0225	<0.001	
MW - 5	05/22/08	0.0053	<0.001	0.0098	0.0018	
MW - 5	08/28/08	0.0189	<0.001	0.0098	0.0021	
MW - 5	11/20/08	0.0282	<0.001	0.0106	0.0206	
MW - 6	02/26/08	<0.001	<0.001	<0.001	<0.001	
MW - 6	05/22/08	<0.001	<0.001	<0.001	<0.001	
MW - 6	08/27/08	<0.001	<0.001	<0.001	<0.001	
MW - 6	11/20/08	<0.001	<0.001	<0.001	<0.001	
MW - 7	02/26/08	1.060	<0.01	0.704	0.2640	
MW - 7	05/22/08	1.060	<0.0100	0.683	0.2680	
MW - 7	08/28/08	1.100	<0.0100	0.672	0.2700	
MW - 7	11/20/08	1.180	<0.0100	0.690	0.2930	
MW - 8	02/26/08	<0.001	<0.001	<0.001	<0.001	
MW - 8	05/22/08	<0.001	<0.001	<0.001	<0.001	
MW - 8	08/27/08	<0.001	<0.001	<0.001	<0.001	
MW - 8	11/20/08	<0.001	<0.001	<0.001	<0.001	

TABLE 2

## 2008 CONCENTRATIONS OF BTEX IN GROUNDWATER

PLAINS MARKETING, L.P.  
 34 JUNCTION TO LEA  
 LEA COUNTY, NEW MEXICO  
 NMOCD Reference Number 1R-0386

Sample Location	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	m,p-Xylenes (mg/L)	o-Xylene (mg/L)
NMOCD Regulatory Limit		0.01	0.75	0.75	0.62	
MW - 9	02/26/08	<0.001	<0.001	<0.001	<0.001	
MW - 9	05/22/08	<0.001	<0.001	<0.001	<0.001	
MW - 9	08/27/08	<0.001	<0.001	<0.001	<0.001	
MW - 9	11/20/08	<0.001	<0.001	<0.001	<0.001	
MW - 10	02/26/08	<b>0.0840</b>	0.002	0.1710	0.0572	
MW - 10	05/22/08	<b>0.0536</b>	0.001	0.1160	0.0389	
MW - 10	08/28/08	<b>0.0302</b>	<0.001	0.0261	0.0079	
MW - 10	11/20/08	<b>0.0554</b>	<0.001	0.1120	0.0395	
MW - 11	02/26/08	<0.001	<0.001	<0.001	<0.001	
MW - 11	05/22/08	<0.001	<0.001	<0.001	<0.001	
MW - 11	08/27/08	<0.001	<0.001	<0.001	<0.001	
MW - 11	11/20/08	<0.001	<0.001	<0.001	<0.001	

\* Complete Historical Tables presented on the attached CD.

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER - 2008

PLAINS MARKETING, L.P.  
34 JUNCTION TO LEA STATION  
LEA COUNTY, NEW MEXICO  
NMOC REFERENCE NUMBER 1R-0386

All water concentrations are reported in mg/L.

SAMPLE LOCATION		SAMPLE DATE	EPA SW846-8270C, 3510																		
Maximum Contaminant Levels from NM WQCC Drinking water standards Sections 1-101.UU and 3-103.A.			Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[e,h,j]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Phenanthrene	Pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Dibenzofuran	
	MW-1	03/20/07	<0.0002	<0.0002	0.0019	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	0.0026	<0.0004	0.0558	<0.0002	<0.0002	---	---	0.0025
		11/20/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.00216	<0.000185	0.01	0.00139	<0.000185	0.0303	0.00294	0.00134
	MW-2	03/20/07	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	0.001	<0.0004	0.0214	<0.0002	<0.0002	---	---	0.0008
		11/20/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.000383	<0.000185	0.000269	0.000367	<0.000185	0.00614	<0.000185	<0.000185
	MW-3	03/20/07	0.0166	<0.0002	0.216	0.0067	0.0081	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.148	<0.002	0.417	<0.001	0.0246	---	---	0.111
		11/20/08	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	0.00329	<0.000183	0.00347	0.00263	<0.000183	0.0366	0.00206	0.00245
	MW-4	03/20/07	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.0006	<0.0004	<0.0002	<0.0002	<0.0002	---	---	0.0007
		11/20/08	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.00045	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	<0.000185	0.00035
	MW-5	03/20/07	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.0006	<0.0004	0.0059	<0.0002	<0.0002	---	---	0.0006
		11/20/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.000555	<0.000184	<0.000184	0.000788	<0.000184	0.0034	<0.000184	0.00086
	MW-6	03/20/07	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	---	---	0.0003
		11/20/08	<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
	MW-7	03/20/07	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.0009	<0.0004	0.0252	<0.0002	<0.0002	---	---	0.0092
		11/20/08	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	0.00125	<0.000184	0.0216	0.00073	<0.000184	0.0212	0.00878	0.00104

POLYNUCLEAR AROMATIC HYDROCARBON CONCENTRATIONS IN GROUNDWATER - 2008

PLAINS MARKETING, L.P.  
34 JUNCTION TO LEA STATION  
LEA COUNTY, NEW MEXICO  
NMOC D REFERENCE NUMBER 1R-0386

*All water concentrations are reported in mg/L*

[illegible]

## **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 March 17, 1999

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 <b>EOTT Energy LLC</b>	Contact <b>Frank Hernandez</b>
Address PO Box 1660 5805 East Highway 80 Midland, Texas 79702	Telephone No. 915.638.3799
Facility Name Junction JCT 34 Line to Lea #2002-10286	Facility Type 10" Steel Pipeline

Surface Owner Deck Estate	Mineral Owner	Lease No.
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**LOCATION OF RELEASE**

Unit Letter 21	Section 21	Township T20S	Range R37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat. 32 32' 20.828"N Lon. 103 15' 38.480"W
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**NATURE OF RELEASE**

Type of Release Crude Oil	Volume of Release 300 bbls. barrels	Volume Recovered 190 bbls barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence 11-06-02 @ 11:00 AM	Date and Hour of Discovery 11-6-02 @ 4:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley	
By Whom? Pat McCasland, EPI	Date and Hour 11-07-02 @ 6:30 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* Pipe repair clamp installed.		
Describe Area Affected and Cleanup Action Taken.* Site will be delineated and a remediation plan developed. Remedial Goals: TPH 8015m = 100 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.		

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><u>OIL CONSERVATION DIVISION</u></b>	
Printed Name: Frank Hernandez		Approved by District Supervisor:	
Title: District Environmental Supervisor		Approval Date:	Expiration Date:
Date: 9-10-02 Phone: 915.638.3799		Conditions of Approval:	Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary