

**AP - 41**

**REPORT**

**DATE:**

**2006**



**PLAINS  
ALL AMERICAN**

\* AP-41  
Report  
2006

March 27, 2007

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

Re: Plains All American – Annual Monitoring Report  
1 Site in Lea County, New Mexico

Dear Mr. Stone:

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 report for the following site:

Hugh Gathering

Section 11, Township 21 South, Range 37 East, Lea County

Premier prepared this document and has vouched for its accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the document and interviewed Premier in order to verify the accuracy and completeness of this document. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Report for the above facility.

If you have any questions or require further information, please contact me at (505) 441-0965.

Sincerely,

Camille Reynolds  
Remediation Coordinator  
Plains All American

CC: Larry Johnson, NMOCD, Hobbs, NM

Enclosures

**2006 ANNUAL REPORT  
HUGH GATHERING 090402**

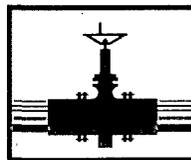
PLAINS SRS NO.: 2002-00235

**UL-P, SECTION 11, T21S, R37E**

**Lea County, New Mexico**

NMOCD No. AP-0041

PREPARED FOR



**PLAINS**  
MARKETING, L.P.

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HOUSTON, TEXAS 77002

PREPARED BY

  
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ENVIRONMENTAL SERVICES, INC

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**March 2007**

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Chan Patel  
Senior Project Manager

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DISCLAIMER

*Premier has examined and relied upon the file information provided by Plains. Premier has not conducted an independent examination of the information contained in the Plains files; furthermore, we assume the genuineness of the documents reviewed and that the information provided in these documents to be true and accurate. Premier has prepared this report using the level of care and professionalism in the industry for similar projects under similar conditions. Premier will not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this report was prepared. Premier believes the conclusions stated herein are factual, but no guarantee is made or implied.*



## 1.0 INTRODUCTION

### 1.1 Objectives and Site Background

This report includes a summary of activities completed during 2006 at the Hugh Gathering Site, located in Unit Letter P (the SE $\frac{1}{4}$  of the SE $\frac{1}{4}$ ) of Section 11, T21S, R37E, of Lea County, New Mexico, approximately 3 miles northeast of Eunice, New Mexico (Figure 1, Appendix A, latitude 32°29'11.007"N and longitude 103°07'33.864"W). Premier was retained by Plains Pipeline L.P. (Plains) to complete remediation and reporting activities for delineation and remediation undertaken at the Hugh Gathering Site, SRS No. 2002-00235. The release was initially reported internally to be less than 1 barrel (bbl) of crude oil because of the small diameter surface impact; however, during replacement of the line EOTT Energy Pipeline (EOTT) upgraded the release to 50 bbls. The initial response notification form (Form No. C-141, Appendix F), prepared by Plains, provides documentation of reporting the release to Larry Johnson with the New Mexico Oil Conservation Division (NMOCD). The leak was apparently caused by corrosion from a 6" steel pipeline which was replaced, tested and put back into service. The crude oil release volume was estimated to be approximately 50 barrel (bbls) with no crude oil recovered.

### 1.2 Previous Environmental Investigations

At the time of the initial release, the pipeline was owned by EOTT Energy Pipeline (the EOTT name changed to Link Energy in October 2003) and as of April 1, 2004, Plains Pipeline, L.P. (Plains) purchased the assets from Link Energy. According to Environmental Plus, Inc. (EPI) documents, this May 2002 release resulted in crude oil impacting two areas on either side of State Highway 18, the East and West release areas. Approximately 100 square feet (10' x 10') of surface area were initially impacted, associated with a raised vent connected to the under highway conduit on the west side of New Mexico State Road 18 (NMSR 18). Impacted soils to a depth of approximately 4' feet below ground surface (bgs) were excavated and disposed of in an NMOCD approved landfarm. Soil and groundwater delineation activities were initiated in September 2002 when phase separated hydrocarbons (PSH) were found in groundwater from monitor well (MW-1) at approximately 60 feet bgs. The East side of the release was delineated with the installation of borings BH1 to BH8. The horizontal extent of soil impact appears to extend radially from the point of release to approximately 25-feet. The vertical extent of soil impact was delineated to approximately 25-feet below ground surface (bgs).

In June and July 2003, with NMOCD approval, groundwater monitoring wells MW-2, MW-3, MW-4 and MW-5 were installed. Recovery of PSH from groundwater monitoring wells MW-1, MW-2 and MW-4 was initiated on a weekly basis and in August 2003, daily recovery began using a gasoline powered eductor type PSH recovery system.

In 2004, with NMOCD approval, groundwater monitoring wells MW-6, MW-7, MW-8, MW-9, MW-10, MW-11 and MW-12 were installed to further delineate the horizontal extent of PSH and dissolved phase hydrocarbons. PSH was observed in groundwater monitoring

wells MW-8, MW-9 and MW-10. Dissolved phase hydrocarbons benzene, toluene, ethylbenzene, and total xylenes (BTEX) and polynuclear aromatic hydrocarbons (PAH) were detected in the 2004 analytical results from groundwater monitoring well MW-5. BTEX and PAH were not detected at or above the respective method detection limits in 2004 samples from groundwater monitoring wells MW-6, MW-7, MW-11 and MW-12 located on the site periphery. PSH was present in groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, MW-8, MW-9 and MW-10 with thicknesses ranging from 11.13 feet to 0.25 feet.

In May 2005, Plains submitted a Stage 1 and Stage 2 Abatement Plan (Abatement Plan) to the NMOCD for approval (prepared by EPI). After a public comment period, the NMOCD subsequently approved implementation of the Abatement Plan in a November 5, 2005 letter to Plains (Appendix C).

Site surveillance continued in 2005 with bi-weekly inspections, monthly monitoring of groundwater and PSH levels and quarterly sampling of groundwater monitoring wells not impacted with PSH. In August 2005, because of declining PSH thicknesses and production rates, PSH recovery was changed from daily deployment of the PSH recovery system to weekly hand bailing of PSH impacted wells and installation of absorbent socks. In 2005, approximately 550 gallons of crude oil were recovered and reintroduced into the Plains pipeline system. The total recovery volume as of December 31, 2005, including the 600 gallons recovered from 2002 through 2004, was approximately 1,150 gallons.

## 2.0 REGULATORY FRAMEWORK

In New Mexico, the NMOCD oversees and regulates oil, gas and geothermal activities, including enforcement and compliance with environmental regulations. Guidance for cleanup of crude oil releases is provided in the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993) document. Primary contaminants, or chemicals of concern (COCs), associated with crude oil releases include TPH and BTEX. Guidelines for these COCs in soil are evaluated based on a Site ranking system. The ranking system estimates the likelihood of exposures to the COCs and is based on the following three parameters to protect groundwater and surface water resources:

- Depth to groundwater.
- Wellhead protection area.
- Distance to surface water body.

### 2.1 NMOCD Site Ranking

Based on the proximity of the Site to area water wells, surface water bodies, and depth to groundwater, the Site has a NMOCD ranking score of **20 points**, with the soil remedial goals specified below in the Site Ranking Matrix.

## Site Ranking Matrix

1. Groundwater		2. Wellhead Protection Area		3. Distance to Surface Water Body	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points		<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points				200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points		If >1000' from water source, or, >200' from private domestic water source: 0 points		>1000 horizontal feet: 0 points	
Groundwater Score: 20		Wellhead Protection Area Score: 0		Surface Water Score: 0	
<b>Site Rank (1+2+3) = 20+0+0=20</b>					
<b>Total Site Ranking Score and Initial Guidance Cleanup Concentrations</b>					
Parameter	20 or >	10		0	
Benzene	10 ppm	10 ppm		10 ppm	
BTEX	50 ppm	50 ppm		50 ppm	
TPH	100 ppm	1000 ppm		5000 ppm	

### 2.2 Site Remediation Goals

Based on data gathered from previous investigations, guidelines outlined in EPI's **Abatement Plan**, and the November 5, 2005 NMOCD Remediation Plan approval letter, the following site-specific remediation standards were established:

- TPH target concentration of 1,000 mg/kg, benzene target concentration of 10 mg/kg and total BTEX target concentration of 50 mg/kg in excavation wall confirmation soil samples from surface to 8 feet bgs.
- TPH target concentration of 100 mg/kg, benzene target concentration of 10 mg/kg and total BTEX target concentration of 50 mg/kg in excavation wall confirmation soil samples from 8 feet bgs to groundwater at 58 feet bgs.
- For the base of the excavation, NMOCD approved a risk-based closure as an alternative to total removal of soils impacted above the site specific NMOCD remedial goals. The installation of an engineered barrier to prevent surface water infiltration and migration to groundwater, eliminating the groundwater exposure pathway (vertical transport mechanism) with a compacted clay or 20-mil high density polyethylene liner was required for a risk-based closure.
- Removal of free phase hydrocarbons in groundwater was accomplished via extraction wells. Quarterly monitoring of dissolved phase hydrocarbons is completed in accordance with the New Mexico Water Quality Control Commission (WQCC) groundwater standards for benzene (10.0 microgram per liter (µg/L)), toluene (750 µg/L), ethylbenzene (750 µg/L) and total xylene (620 µg/L).

### 3.0 2006 SITE INVESTIGATIONS AND RESULTS

#### 3.1 EPI Investigations – East side of NMSR 18

EPI's June/July 2006 subsurface investigation at the site included the installation of six borings (BH9 through BH14) on the east side of Highway 18. This investigation was intended to further define the extent of hydrocarbon impacts at the site, and borings were placed around the surface flow path of the crude oil release. Borings were completed to an average of 22 feet bgs with the exception of Boring BH12 that met refusal at 9 feet, and boring BH13 that was drilled to a depth of 46 feet. Samples collected from borings BH9, BH10 and BH14 completed down a depth to 20 to 23 feet bgs were all below site remediation goals. Boring BH12 was sampled at 5 feet bgs and results were below remedial goals. Sample BH11-20' indicated the highest total BTEX and TPH concentrations (122 mg/kg and 4,396 mg/kg, respectively). Boring BH11 met refusal at 22 feet bgs. Boring BH13 was located in the center of the site along the northern perimeter of the release flow path and approximately 150 feet east of the leak origin. TPH and BTEX concentrations were above the NMOCD remedial concentrations to a depth of 35 feet bgs in soil samples collected from BH-13. Boring locations are shown on Figure 2, Appendix A, and analytical results are summarized on Table 1, Appendix B.

### 4.0 2006 SOIL REMEDIATION ACTIVITIES

Impacted surface soils containing the highest COC concentrations were primarily excavated during 2002 emergency response activities. EPI excavated the release area to facilitate removal and replacement of the pipe and to place the pipeline back into service. Approximately 168 cubic yards of impacted soil excavated during replacement of the pipeline, were disposed of at the Environmental Plus, Inc. (EPI) Land Farm.

The objectives presented in the approved *Abatement Plan*, (November 5, 2005) were to excavate, where possible, contaminated soil in the sidewalls of the excavation and to isolate and control residual COCs in the soils in the base of the excavation to prevent further impact to groundwater.

In 2006, EPI completed excavation, confirmation soil sampling, treatment of residual soils using MicroBlaze Spill Control<sup>®</sup> (MicroBlaze), installation of a passive vapor recovery system, clay liner placement, and backfilling of the site on the West side of NMSR 18 (the Bryant Property). Remediation on the East side remains to be completed since property access to conduct the NMOCD-approved remediation activities has been denied by the landowner (McNeill Property).

#### 4.1 Excavation and Confirmation Sampling; West Side NMSR 18

Excavation of the top 15 feet of soil began on the west side of NMSR 18 in November with excavation and disposal of impacted soils to a depth of 15-feet bgs. Excavated soils were

transported to Plains' Lea Station land farm. A passive vapor recovery system was installed and a 2-foot thick clay barrier was placed at the base of the excavation to permanently isolate the residual COCs, in soils remaining in place below 15 ft bgs that may be above the NMOCD guidelines. A clay barrier, oversized by 5 feet and 2 feet in thickness, was created by placement of clean clay fill material at the base of the excavation in 1-foot thick lifts. To accelerate attenuation of COCs in impacted soil below the clay barrier, the floor of the excavation was saturated with MicroBlaze Spill Control® (MicroBlaze) prior to installation of the clay barrier. The side wall adjacent to NMSR 18 was also treated with MicroBlaze. Photographs taken during the 2006 excavation thru backfilling activities are included in Appendix D.

#### **4.1.1 Confirmation Sampling – Excavation Base and Sidewalls**

On November 30, 2006, six soil samples were collected from the bottom and sides of the excavation. Of the six samples collected from the excavation, two indicated TPH concentrations above the NMOCD target concentration of 100 mg/kg. Samples North SW 2-13' and North BH 4-15' indicated TPH concentrations ranging from 242 mg/kg to 506 mg/kg respectively. Samples North SW 2-13' and North BH 4-15' were located along the northern wall and northern base of the excavation. When over-excavation was completed in these areas, confirmation samples North SW 2a-12' and North BH 4a-15 were collected to verify that TPH values were less than 100 mg/kg. Both confirmation samples indicated TPH concentrations less than the NMOCD regulatory standard. Based on these data, additional excavation was not required. The four remaining sidewall and bottom hole samples collected from the southern and western parts of the excavation showed concentrations below the 100 mg/kg TPH regulatory standard, demonstrating that further excavation was not necessary.

Analytical results for bottom, sidewall and stockpile confirmation samples collected in 2006 are found on Table 2, Appendix B. The laboratory reports for samples collected during the 2006 excavation and backfilling activities are included in Appendix E.

#### **4.1.2 Confirmation Stockpile Sampling**

On December 14, 2006 EPI collected two stockpile soil samples (S Stockpile North side comp1 and S Stockpile Southside comp1) from the excavated soils. Analytical results from the stockpile samples demonstrated that these two samples did not contain constituents above the method detection limit; all concentrations were below all NMOCD standards (Table 2 Appendix B).

The total volume of soil removed from the more recent 2006 excavation was estimated at 2,636 cubic yards. According to EPI documents and correspondence, approximately 2,236 cubic yards of soil was transported for off-site treatment. The remaining (approximately) 400 cubic yards of clean overburden that was removed and stockpiled on-site during excavation was used to backfill the excavation. Backfill activities included placement of 25 cubic yards of gravel into the two trenches and 310 cubic yards of clay to

create the clay barrier. To bring the site to original grade, an additional volume of approximately 916 cubic yards of clean caliche and 772 cubic yards of clean top soil was transported to the site.

#### **4.1.3 Passive Soil Vapor Ventilation System**

To promote attenuation and remediate impacted soil isolated below the compacted clay barrier, a passive organic vapor ventilation system was installed in the floor of the excavation. The passive soil vapor extraction system functions as a point for an active soil vapor extraction system at the west side of Highway 18. The system was constructed of solid and slotted 4" PVC pipe with cemented slip joints. Two equally spaced trenches, 2' wide x 2' deep x 25' long, were excavated east to west in the impacted portion of the floor of the excavation and partially filled with coarse sand. The slotted 4" PVC pipe was wrapped with an inert permeable fabric to prevent sand from filling the laterals, was laid on top of the sand pack and the trenches were brought to grade with additional coarse sand. A plastic liner was placed over the trench to prevent the compacted clay from entering the gravel in the trench. A riser was installed at the east end of each slotted lateral to approximately 3-feet above the site grade. A 14-inch diameter wind turbine was permanently affixed to the 4" PVC riser. The turbines, when rotated by the wind, create a negative pressure inside the slotted laterals, pulling vadose zone vapors into the system and exhausting the vapor to the atmosphere.

#### **4.1.4 MicroBlaze Treatment**

Prior to installation of the compacted clay barrier, the floor of the excavation was saturated with 6% MicroBlaze solution at a minimum rate of 1-gallon per cubic yard (i.e., approximately 936 gallons). MicroBlaze is a phosphate based detergent solution inoculated with petrophilic facultative bacteria that can utilize petroleum hydrocarbon as a substrate. Because of the four-lane highway adjacent to the sites, (i.e., New Mexico State Road 18 (NMSR18)), the maximum encroachment of the excavation onto the right-of-way did not exceed 5-feet. After excavating the sidewalls adjacent to NMSR 18, hydrocarbon levels still exceed the NMOCD remedial goals, and MicroBlaze was injected into the impacted sidewalls to a horizontal depth of at least 4-feet on 10-foot horizontal and 3-foot vertical centers.

#### **4.1.5 Clay Barrier Placement**

A clay barrier was installed at the base of the excavation upon verification that NMOCD standards were attained. Verification was accomplished using analytical data from the sidewall and excavation bottom, including soil with residual COCs that remained in place at the eastern base of the excavation above the standard 100 mg/kg TPH. This soil was allowed to remain in place in areas where soils with concentrations greater than 100 mg/kg TPH could not be excavated. After the base of the easternmost portion of the excavation was cleared of debris and gently sloped with a central high point to allow for drainage and to prevent accumulation and pooling of infiltrated water, the clay barrier was placed at the

base of the excavation in the area beneath the leak source (Figure 2, Appendix A). The 2-foot thick clay barrier was installed in 1-foot lifts, compacted to 95% of the proctor density and the compaction was tested by a qualified engineering firm. The clay barrier extended at least 5-feet beyond the impacted soil in the floor of the excavation and was contoured to shed water. The clay barrier at the base of the excavation was approximately 60 foot long by 50 foot wide.

#### **4.1.6 Backfill and Grade Excavation**

After the clay barrier was placed and secured with 6 inches of non-impacted soil, the excavation was backfilled with the clean soil that was transported to the site and with clean overburden soil that was stockpiled on-site, west of the excavation. During backfill activities, 1,580 cubic yards of clean fill was imported to bring the site to proper grade. The surface vegetation will be restored by reseeding or as negotiated with the landowner.

#### **4.2 Excavation and Confirmation Sampling; East Side – NMSR 18**

The visually impacted surface soils were initially removed during the replacement of the pipeline on the east side of Highway 18. Excavation and treatment of impacted subsurface soil remains to be completed on the east side of Highway 18. Once the landowner has granted access to the property, the excavation will be completed, soil treated and the site backfilled with clean soil in the similar manner as the excavation was completed on the west side of Highway 18.

### **5.0 2006 GROUNDWATER ACTIVITIES**

#### **5.1 2006 activities**

In August 2005, because of declining PSH thicknesses and production rates, the PSH recovery method was changed from weekly deployment of the trailer mounted eductor type PSH recovery system to weekly hand bailing of PSH impacted wells and installation of absorbent socks. Site surveillance continued in 2006 with weekly inspections and PSH removal, monthly monitoring of groundwater and quarterly sampling of groundwater monitoring wells not impacted with PSH.

#### **5.2 Groundwater Gradient**

Groundwater levels during 2006 fluctuated slightly in most of the wells. The groundwater gradient continues to trend to the southeast, determined using measurements from the groundwater monitoring wells not impacted with PSH, (i.e., MW-5, MW-6, MW-7, MW-11 and MW-12) (Figures 3a, 3b, 3c and 3d, Appendix A, Table 3, Appendix B). Groundwater gradient is consistent with the gradient in previous years based on historical gauging data (Table 4, Appendix B).

### 5.3 Groundwater Sampling and Analytical Data

Groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, MW-8, MW-9 and MW-10 were not sampled during 2006 due to the presence of PSH. Groundwater monitoring wells MW-5, MW-6, MW-7, MW-11 and MW-12 were sampled on March 2, May 24, August 23 and December 7, 2006. Prior to sampling, each well was purged a minimum of 3 well volumes or dry. Groundwater samples were collected and submitted under standard chain of custody protocols to a qualified, independent laboratory for quantification of benzene, toluene, ethylbenzene, and total xylenes (BTEX) (Table 5, Appendix B). Samples collected during the May 24, 2006 sampling event were also submitted for polynuclear aromatic hydrocarbons (PAHs) analysis (Table 7, Appendix B). The New Mexico Water Quality Control Commission (WQCC) groundwater standards are as follows: benzene-10.0 microgram per liter ( $\mu\text{g/L}$ ), toluene-750  $\mu\text{g/L}$ , ethylbenzene-750  $\mu\text{g/L}$  and total xylene-620  $\mu\text{g/L}$ . The laboratory reports for samples collected during the 2006 groundwater sampling activities are included in Appendix E.

#### 5.3.1 1<sup>st</sup> Quarter Groundwater Results

During 1<sup>st</sup> quarter 2006, groundwater samples collected from the five wells without PSH or hydrocarbon sheen and analyzed for BTEX showed benzene concentrations above target cleanup levels. Benzene concentrations appeared anomalously elevated, ranging from 463 $\mu\text{g/L}$  to 28.8 $\mu\text{g/L}$  for all five wells (Figure 4A, Appendix A). All other parameters for all wells sampled were reported below target cleanup levels. To confirm the BTEX data and based on the exceedances observed in monitor well MW-12 (located 280 feet from the point of release), monitor well MW-12 was re-sampled on March 21, 2006. BTEX concentrations on March 21, 2006 were below the method detection limit (Figures 4A, Appendix A). BTEX analytical results for the first quarter were also compared to historical analytical data (Table 6, Appendix B) and appeared to be inconsistent with previous years for all wells except monitor well MW-5. Subsequent quarterly analytical results suggest that benzene detections in all but monitor well MW-5 were likely false positive readings, and indicate cross-contamination either during 1<sup>st</sup> quarter sampling or during laboratory analysis.

Groundwater samples from the five wells were also analyzed for PAHs during this quarter. Naphthalene concentrations are well below regulatory standards, but slightly above the method detection limit (Table 7, Appendix B). The 1<sup>st</sup> quarter PAH data are also inconsistent with historical PAH data presented in Table 8, as naphthalene was reported at less than the method detection limit for monitor wells MW-6, MW-7, MW-11 and MW-12 in previous years (Table 8, Appendix B).

#### 5.3.2 2<sup>nd</sup> Quarter Groundwater Results

Groundwater samples collected from the five wells without PSH or hydrocarbon sheen showed benzene above target cleanup levels for only monitor well MW-5 at a concentrations of 823 $\mu\text{g/L}$ . All other parameters for all wells sampled were reported below

target cleanup levels. Benzene was not detected in groundwater from MW6, MW-7 MW-11 and MW-12 (Figures 4b, Appendix A).

### 5.3.3 3<sup>rd</sup> Quarter Groundwater Results

Groundwater samples collected from the five wells without PSH or hydrocarbon sheen showed benzene concentrations above target cleanup levels for only monitor well MW-5 at 315 µg/L. Other parameters for wells sampled were reported below target cleanup levels (Figures 4c, Appendix A).

### 5.3.4 4<sup>th</sup> Quarter Groundwater Results

Groundwater samples were collected from the five wells that did not contain PSH or hydrocarbon sheen. Benzene concentrations above target cleanup levels were found only in groundwater from monitor well MW-5 at 320 µg/L. Parameters from all other wells sampled were below remediation goals (Figures 4d, Appendix A).

## 5.4 PSH Recovery

In 2006, approximately 72 gallons of PSH were recovered from a total fluid volume of about 400 gallons. According to the EPI 2005 Annual Report, the total PSH recovery volume as of December 31, 2006, including the 1,150 gallons recovered from 2002 through 2005, is approximately 1,222 gallons.

## 6.0 CONCLUSIONS and RECOMMENDATIONS

Soil excavation activities at the Site were conducted in accordance with the Abatement Plan approved by NMOCD in November 2005. In 2006, EPI completed excavation, confirmation sampling, clay barrier installment, and backfilling activities on the west side of Highway 18. EPI also completed treatment of residual soils using MicroBlaze Spill Control<sup>®</sup> (MicroBlaze), confirmation sampling and backfilling. Excavation on the east side of Highway 18 remains to be completed as property access has been denied by the landowner. The activities completed during November and December 2006 are as follows:

- The excavation of the top 15 feet of hydrocarbon impacted soil was completed on the west side of the site. Soil samples were collected from the base and sidewalls of the excavation to demonstrate additional excavation was not required.
- A passive organic vapor ventilation system was installed in the floor of the excavation. The system was constructed of solid and slotted 4" PVC pipe placed into two trenches, 2' wide x 2' deep x 25' long, traversing east to west in the impacted portion of the floor of the excavation and partially filled with coarse sand. A riser was installed at the east end of each slotted lateral to approximately 10-feet above the site grade. A 14-inch diameter wind turbine was permanently affixed to the 4" PVC riser. The wind turbines, when rotated by the wind, create a negative

pressure inside the slotted laterals, pulling vadose zone vapors into the system and exhausting them to the atmosphere.

- Prior to installation of the compacted clay barrier, the floor of the excavation was saturated with 6% MicroBlaze to aid in degradation of residual hydrocarbons. After excavating the sidewalls adjacent to NMSR18, MicroBlaze was injected into the impacted sidewalls to a horizontal depth of at least 4-feet on 10-foot horizontal and 3-foot vertical centers.
- A clay barrier was placed along the base of the eastern section of the excavation in the vicinity of monitor well MW-1. The clay barrier was covered with clean soil. The area around monitor well MW-1 was sealed by placing bentonite chips both below and above the liner and hydrating the bentonite. Excavated soil was taken off-site for treatment at a land farm. The Site was graded to original grade to allow for drainage from east to west.

The surface vegetation will be restored by reseeded in late spring or early summer of 2007.

The remedial activities completed to date including the excavation, placement of clay barrier and backfill activities described in this report fulfill the requirements of the Abatement Plan for the part of the site located on the west side of Highway 18.

Based on the field monitoring and analytical results of groundwater samples collected and analyzed during the past year, PSH was present in monitor wells MW-1, MW-2, MW-3, Mw-4, MW-8, MW-9, and MW-10 with thickness ranging from 0.01 to 0.65 feet; benzene was the only constituent detected above NMOCD target levels. It was detected only in monitor well MW-5. Based on site activities completed as of December 2006 the following recommendations are made:

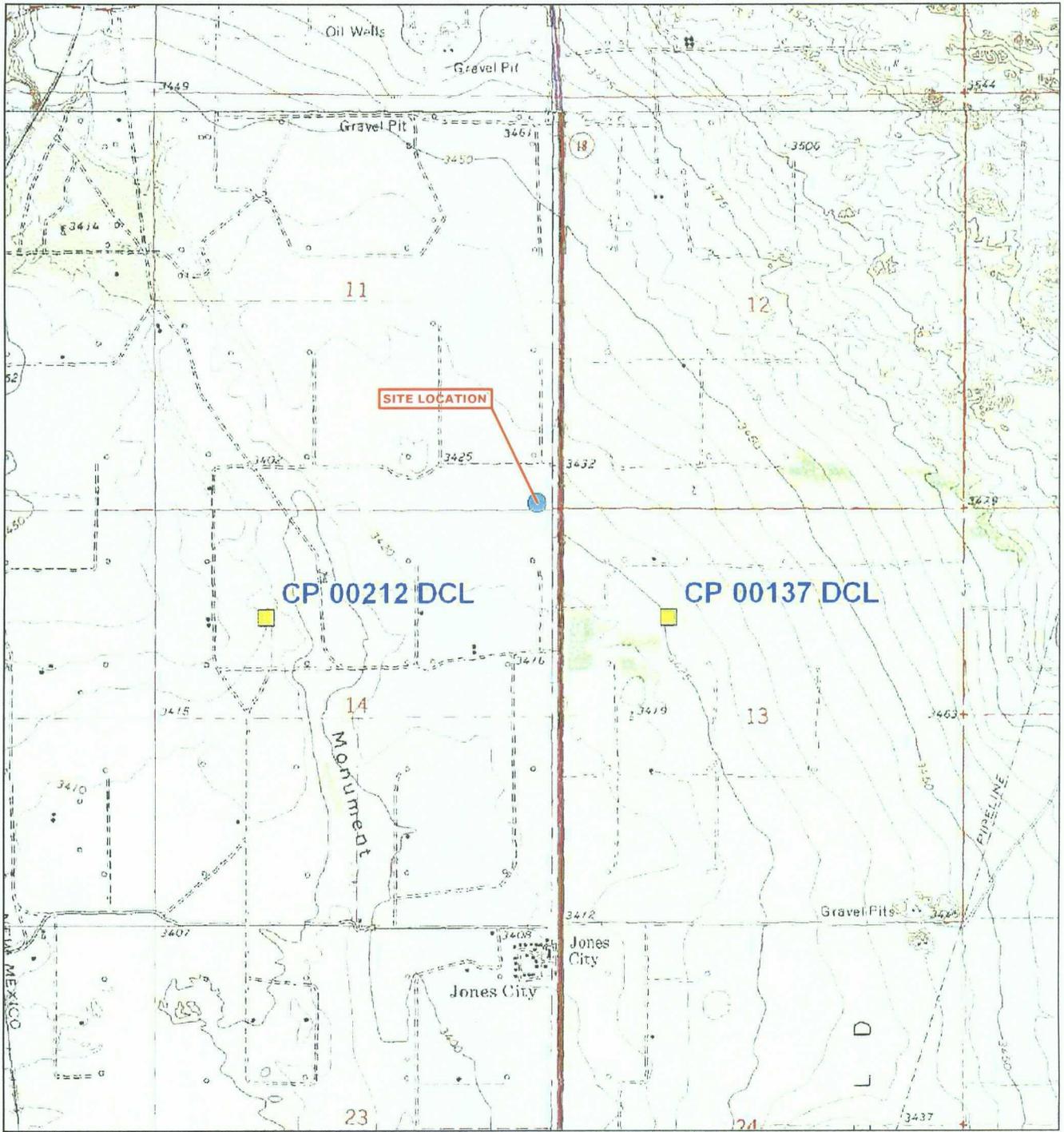
- Continue quarterly groundwater sampling.
- Analyze PAHs in 2007 to confirm 1<sup>st</sup> quarter 2006 results, and reevaluate the need for PAH analysis in groundwater from all monitor wells except MW-5.
- Measure groundwater levels monthly.
- Continue manual PSH recovery weekly, and
- Implement the remainder of the Abatement Plan as approved by the NMOCD, for the area of the site located on the east side of Highway 18, upon the property land owner granting access.

## ***Appendix A***

### ***Appendix A Figures***

- Figure 1 Site Location Map**
- Figure 2 Site Layout Map**
- Figure 3A Groundwater Gradient Map (1<sup>st</sup> Qtr 2006)**
- Figure 3B Groundwater Gradient Map (2<sup>nd</sup> Qtr 2006)**
- Figure 3C Groundwater Gradient Map (3rd Qtr 2006)**
- Figure 3D Groundwater Gradient Map (4<sup>th</sup> Qtr 2006)**
- Figure 4A Groundwater BTEX and PAH Map (1<sup>st</sup> Qtr 2006)**
- Figure 4B Groundwater BTEX Map (2<sup>nd</sup> Qtr 2006)**
- Figure 4C Groundwater BTEX Map (3rd Qtr 2006)**
- Figure 4D Groundwater BTEX Map (4<sup>th</sup> Qtr 2006)**

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**Eunice NE Quadrangle**  
 32°29'11"N Latitude & 103°07'31"W Longitude

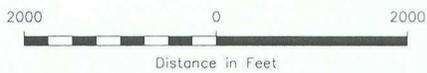
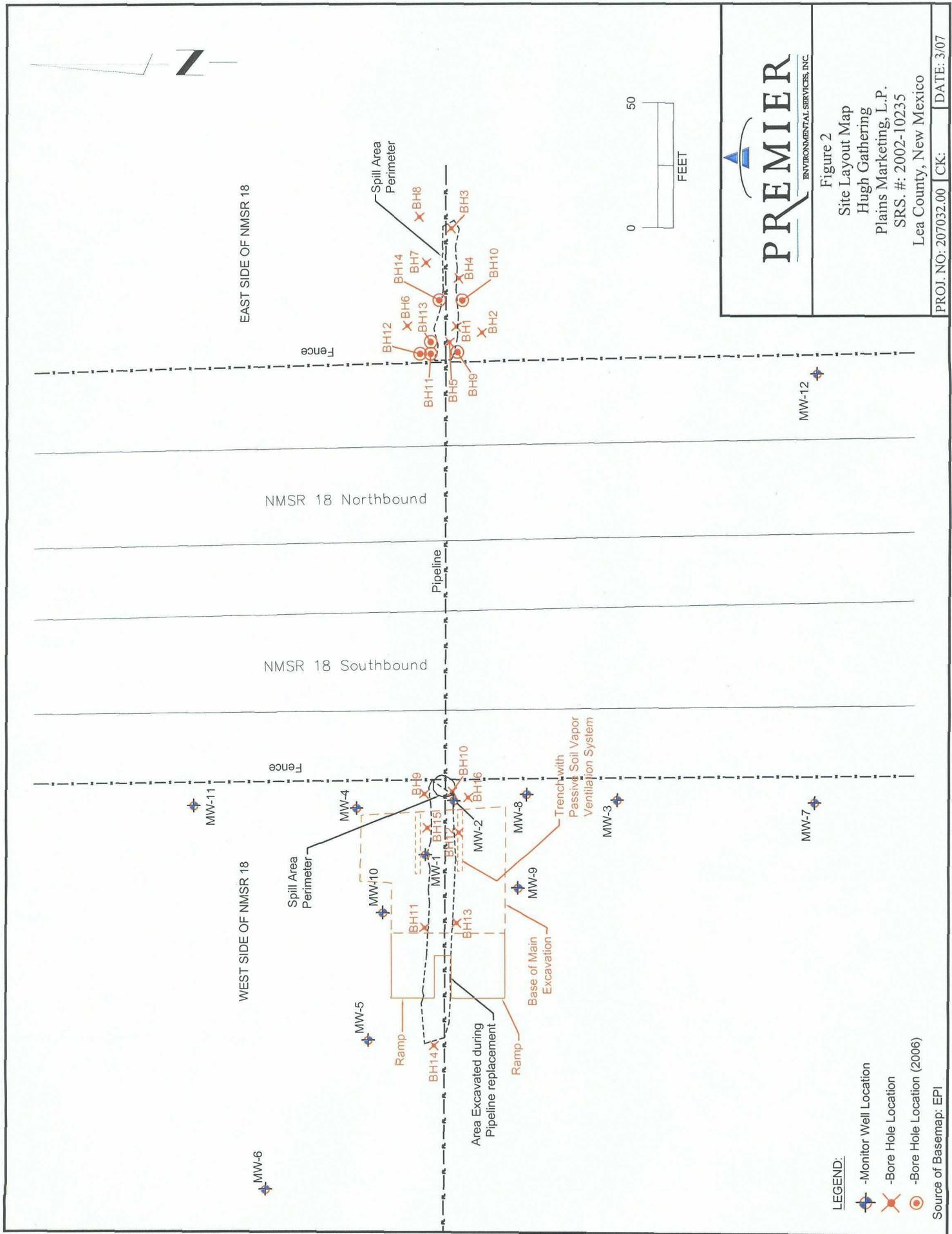


Figure 1  
 Site Location Map  
 Hugh Gathering  
 Plains Marketing, L.P.  
 SRS. #: 2002-10235  
 Lea County, New Mexico

PROJ. NO: 207032.00 | CK: | DATE: 3/07



**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 2  
Site Layout Map  
Hugh Gathering  
Plains Marketing, L.P.  
SRS #: 2002-10235  
Lea County, New Mexico

PROJ. NO: 207032.00 CK: DATE: 3/07

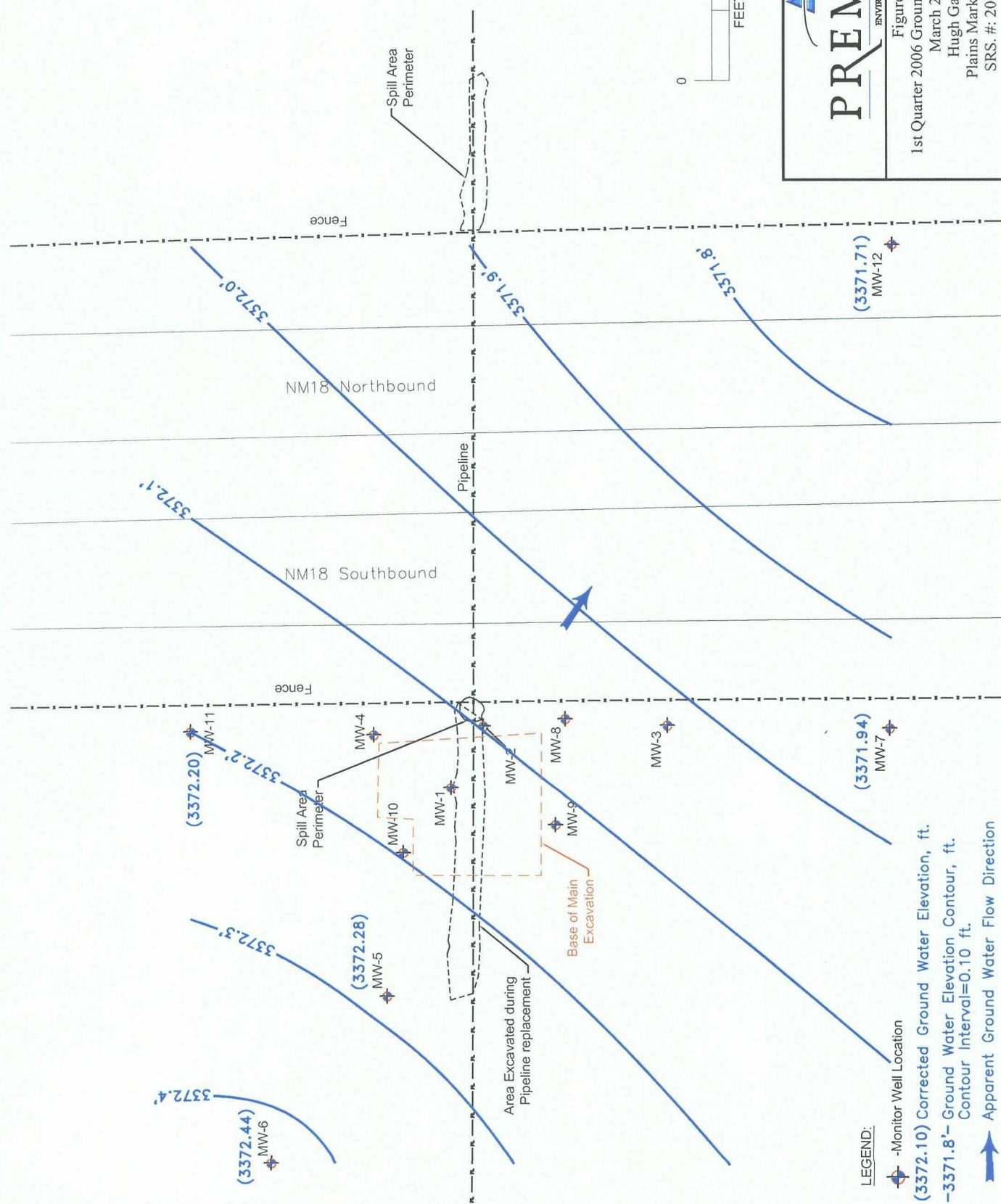
- LEGEND:**
- ◆ - Monitor Well Location
  - ✕ - Bore Hole Location
  - - Bore Hole Location (2006)
- Source of Basemap: EPI



**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 3A  
1st Quarter 2006 Groundwater Gradient Map  
March 2, 2006  
Hugh Gathering  
Plains Marketing, L.P.  
SRS: #: 2002-10235  
Lea County, New Mexico

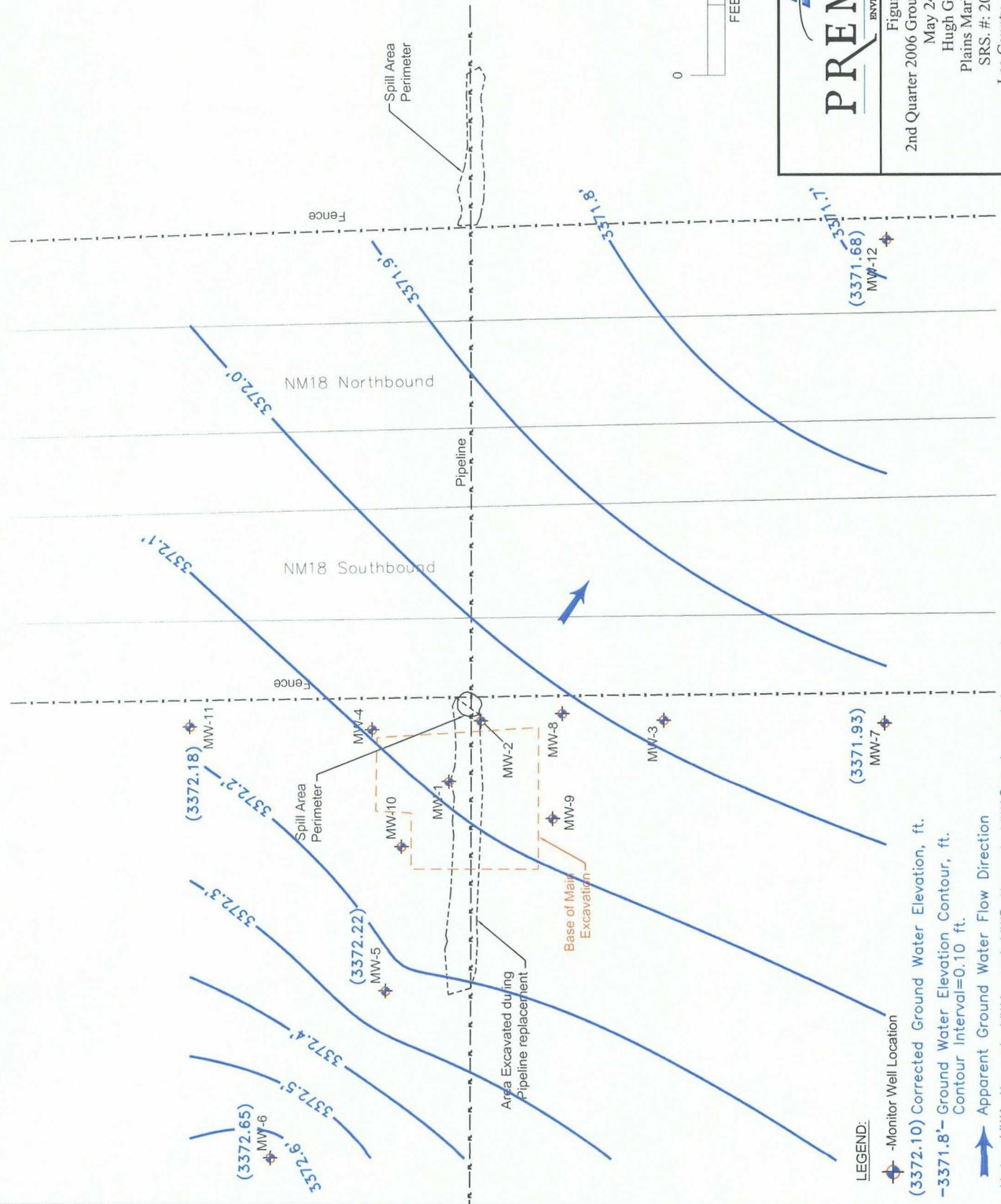
PROJ. NO: 207032.00 CK: DATE: 3/07



- LEGEND:**
- Monitor Well Location
  - (3372.10)** Corrected Ground Water Elevation, ft.
  - 3371.8'**- Ground Water Elevation Contour, ft. Contour Interval=0.10 ft.
  - Apparent Ground Water Flow Direction
- Note: MW1 through MW4, and MW8 through MW10 not used to contour.  
Source of Basemap: EPI



Figure 3B  
 2nd Quarter 2006 Groundwater Gradient Map  
 May 24, 2006  
 Hugh Gathering  
 Plains Marketing, L.P.  
 SRS. #: 2002-10235  
 Lea County, New Mexico  
 PROJ. NO.: 207032.00 CK: DATE: 3/07



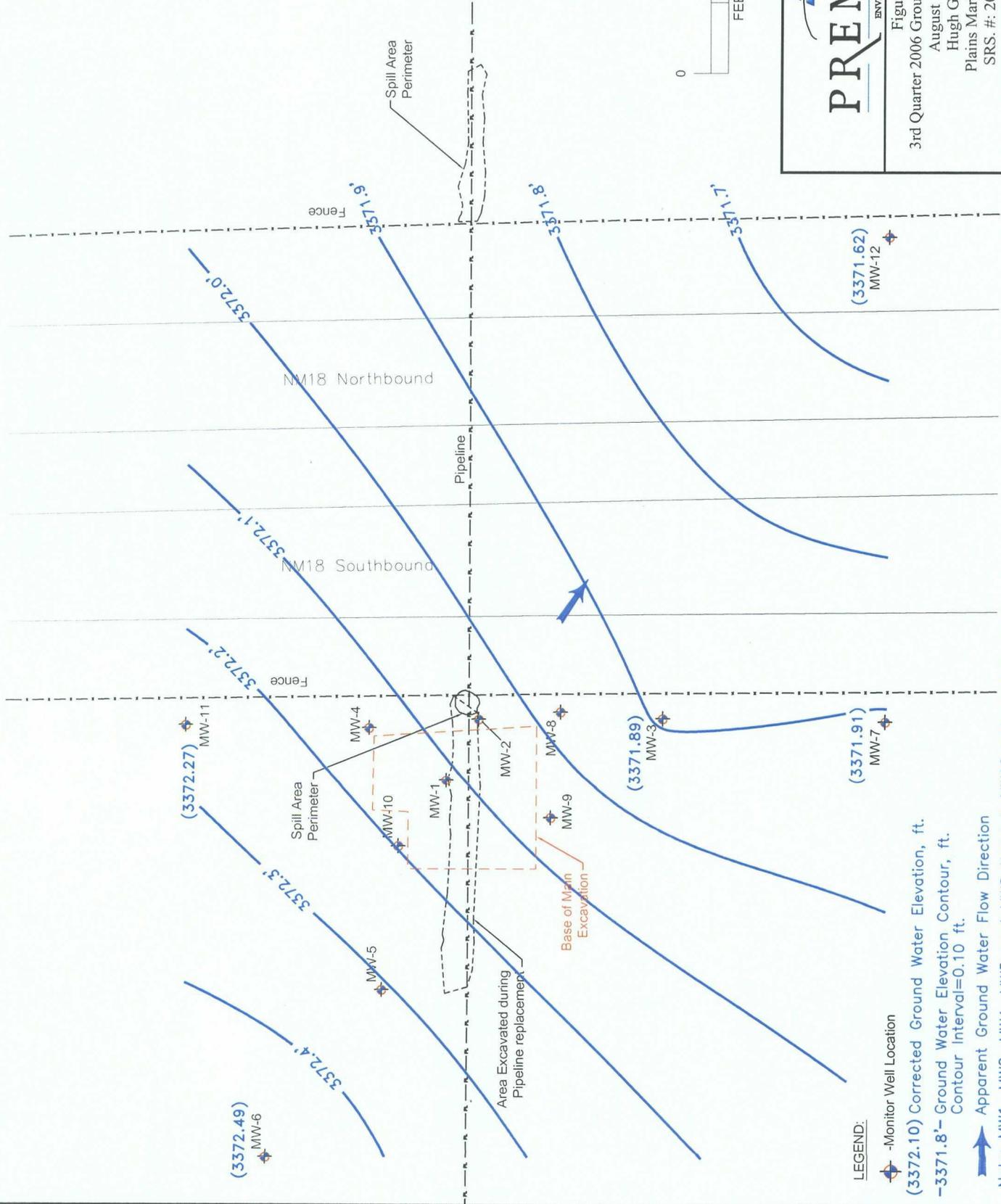
- LEGEND:**
- Monitor Well Location
  - (3372.10) Corrected Ground Water Elevation, ft.
  - 3371.8'- Ground Water Elevation Contour, ft.  
Contour Interval=0.10 ft.
  - Apparent Ground Water Flow Direction

Note: MW1 through MW4, and MW8 through MW10 not used to contour.  
 Source of Basemap: EPI

**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 3C  
3rd Quarter 2006 Groundwater Gradient Map  
August 10, 2006  
Hugh Gathering  
Plains Marketing, L.P.  
SRS: #: 2002-10235  
Lea County, New Mexico

PROJ. NO: 207032.00 CK: DATE: 3/07

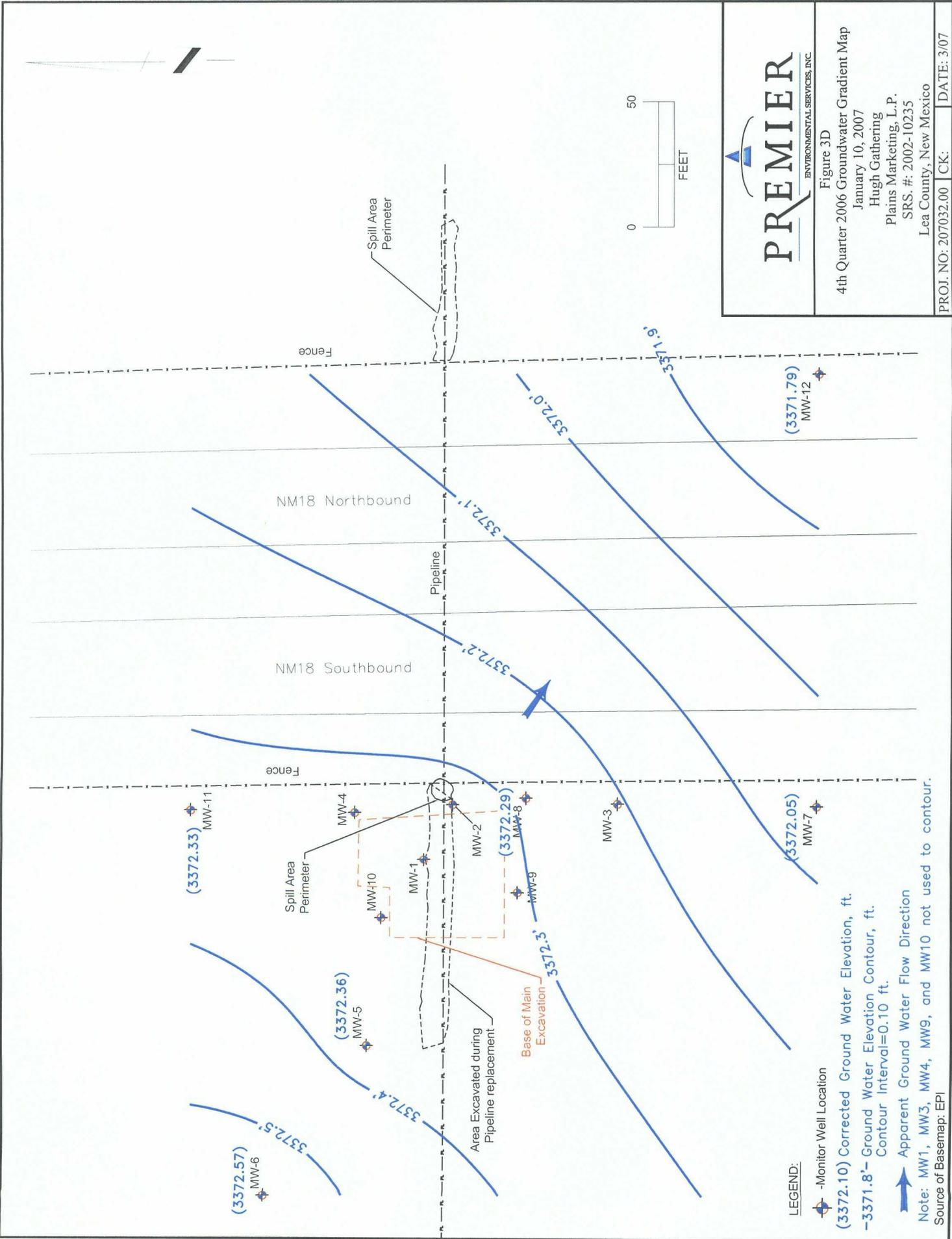


- LEGEND:**
- ◆ - Monitor Well Location
  - (3372.10) Corrected Ground Water Elevation, ft.
  - 3371.8- Ground Water Elevation Contour, ft.  
Contour Interval=0.10 ft.
  - ➔ Apparent Ground Water Flow Direction
- Note: MW1, MW2, MW4, MW5, and MW8 through MW10 not used to contour.  
Source of Basemap: EPI

**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

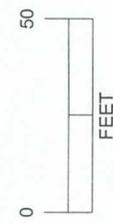
Figure 3D  
4th Quarter 2006 Groundwater Gradient Map  
January 10, 2007  
Hugh Gathering  
Plains Marketing, L.P.  
SRS: #: 2002-10235  
Lea County, New Mexico

PROJ. NO: 207032.00 CK: DATE: 3/07



**LEGEND:**

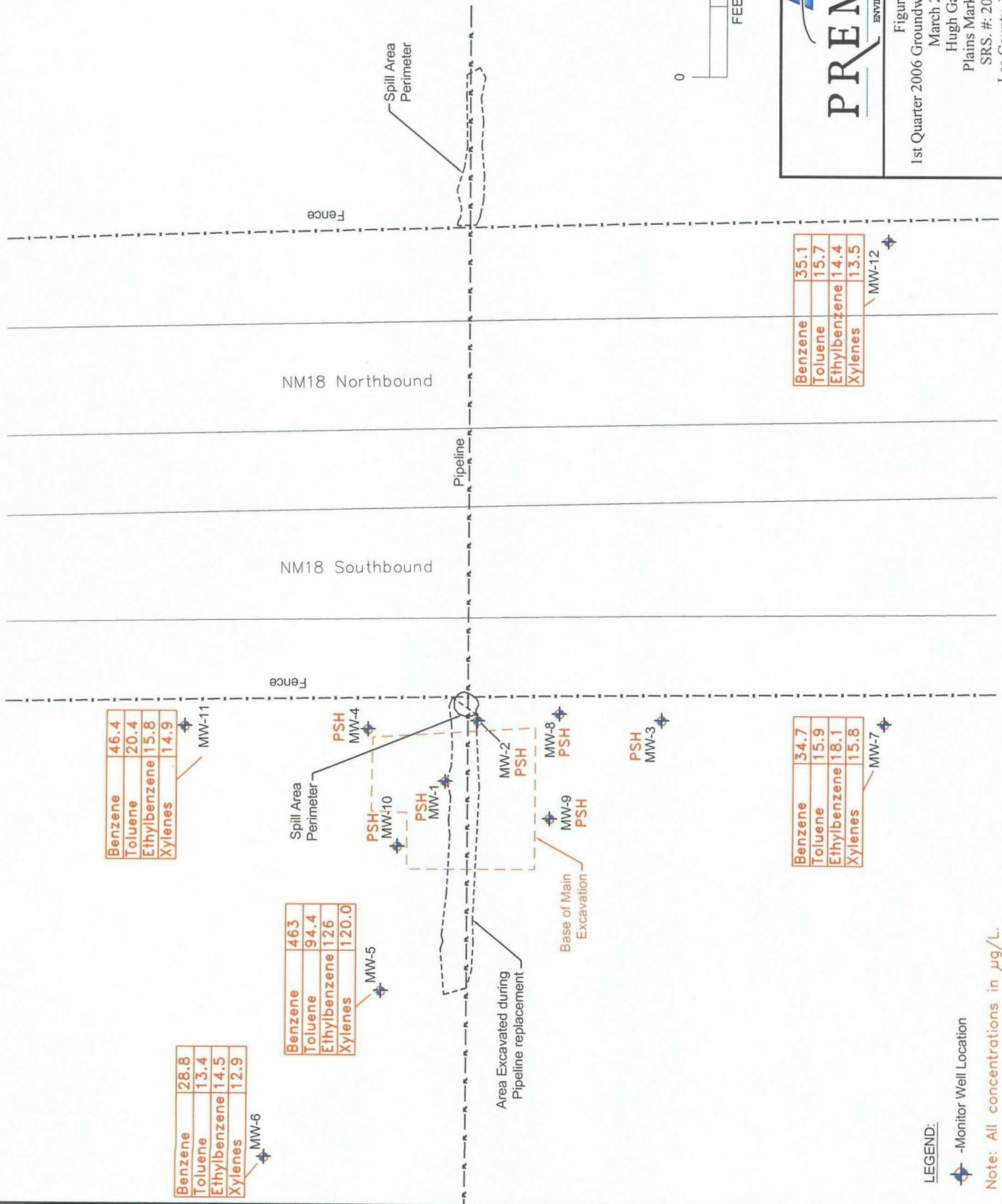
- ◆ - Monitor Well Location
  - (3372.10) Corrected Ground Water Elevation, ft.
  - 3371.8'- Ground Water Elevation Contour, ft.  
Contour Interval=0.10 ft.
  - ➡ Apparent Ground Water Flow Direction
- Note: MW1, MW3, MW4, MW9, and MW10 not used to contour.  
Source of Basemap: EPI



**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 4A  
1st Quarter 2006 Groundwater Analytical Data Map  
March 2, 2006  
Hugh Gathering  
Plains Marketing, L.P.  
SRS. #: 2002-10235  
Lea County, New Mexico

PROJ. NO: 207032.00 | CK: | DATE: 3/07



LEGEND:

◆ - Monitor Well Location

Note: All concentrations in  $\mu\text{g/L}$ .

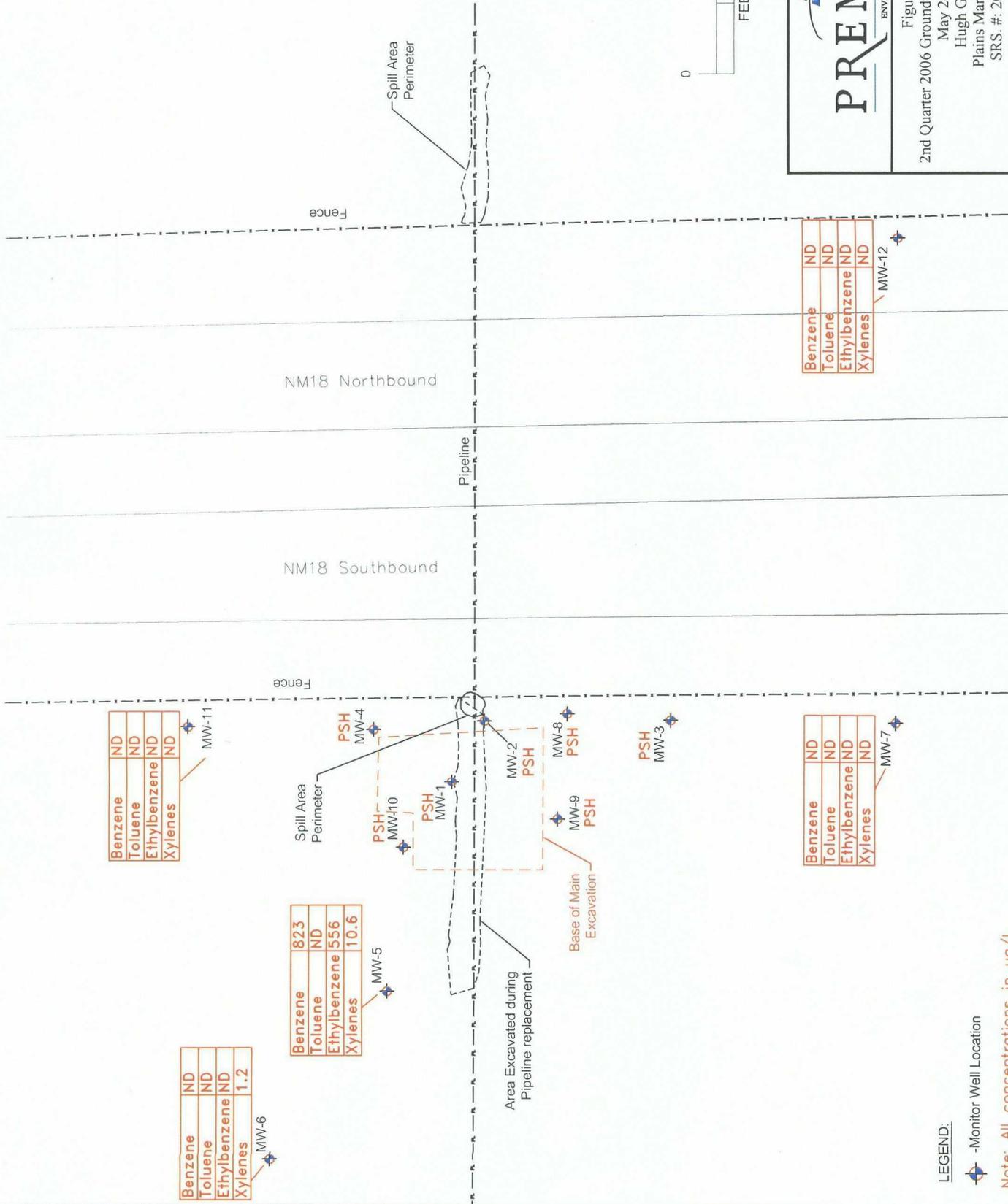
Source of Basemap: EPI



**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 4B  
2nd Quarter 2006 Groundwater Analytical Data Map  
May 24, 2006  
Hugh Gathering  
Plains Marketing, L.P.  
SRS. #: 2002-10235  
Lea County, New Mexico

PROJ. NO: 207032.00 CK: DATE: 3/07

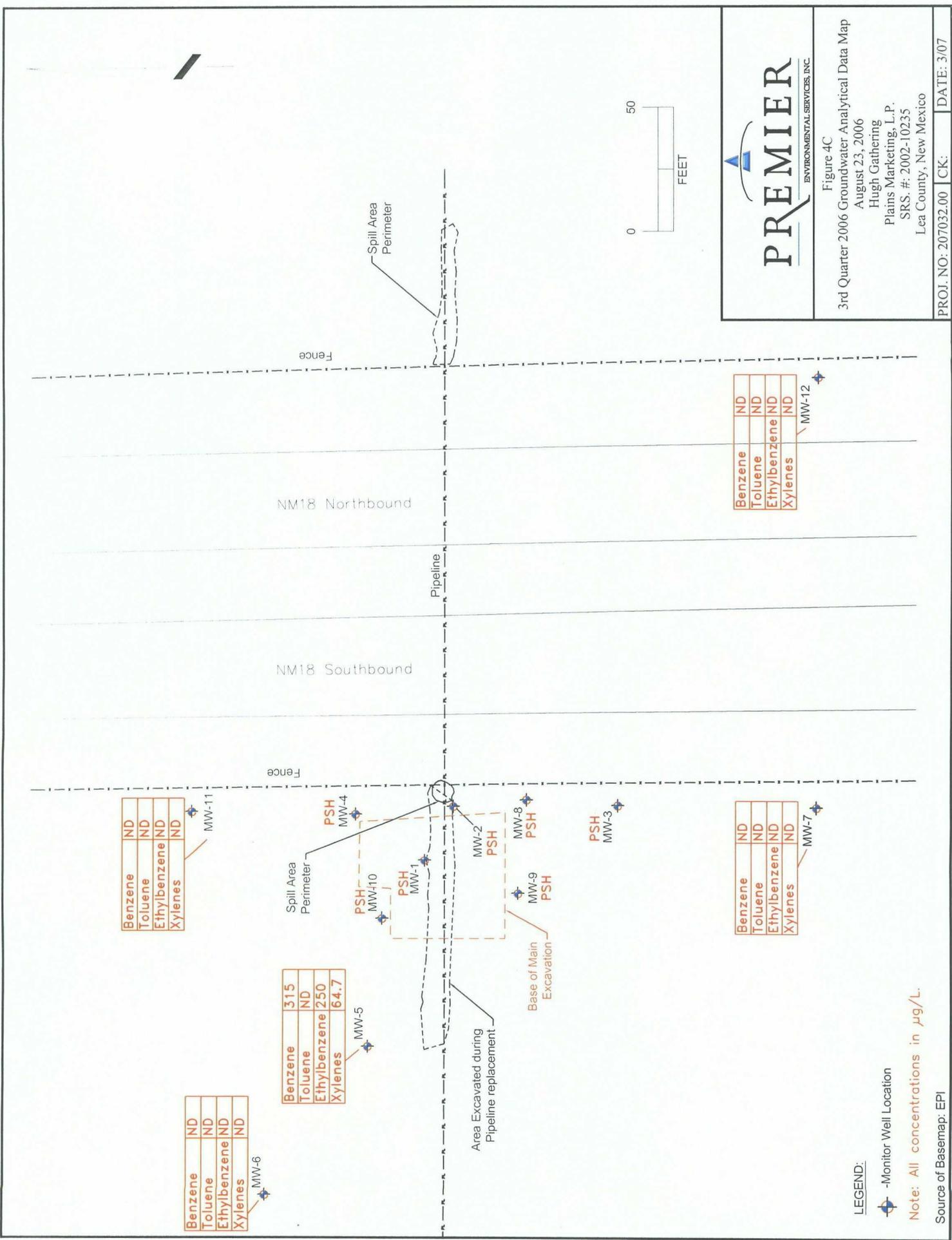


LEGEND:

Monitor Well Location

Note: All concentrations in µg/L.

Source of Basemap: EPI



Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-6

Benzene	315
Toluene	ND
Ethylbenzene	250
Xylenes	64.7

MW-5

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-11

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-7

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-12

**LEGEND:**

◆ - Monitor Well Location

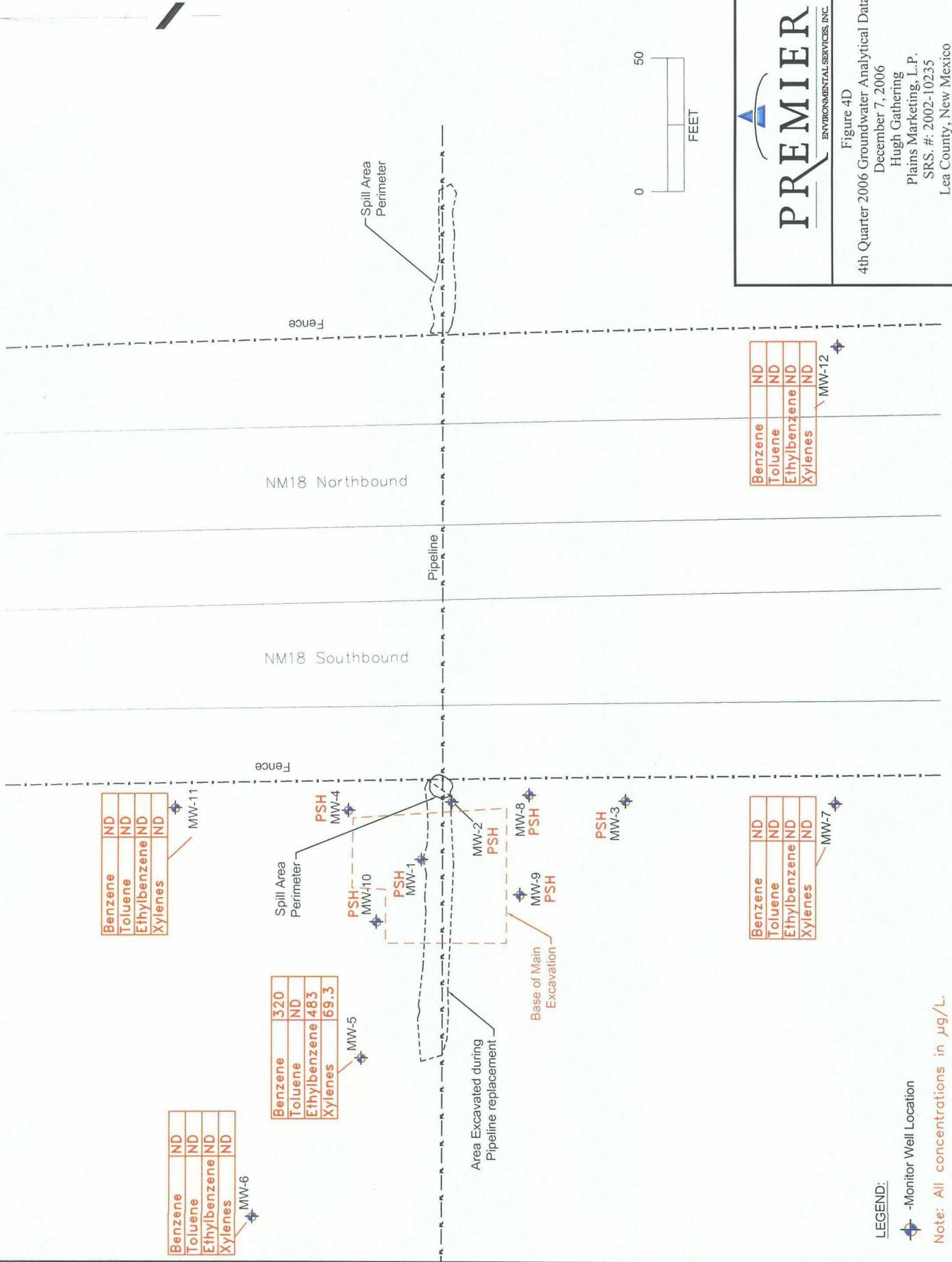
Note: All concentrations in µg/L.

Source of Basemap: EPI



Figure 4C  
 3rd Quarter 2006 Groundwater Analytical Data Map  
 August 23, 2006  
 Hugh Gathering  
 Plains Marketing, L.P.  
 SRS #: 2002-10235  
 Lea County, New Mexico

PROJ. NO: 207032.00 | CK: | DATE: 3/07



Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-12

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-11

Benzene	320
Toluene	ND
Ethylbenzene	483
Xylenes	69.3

MW-5

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

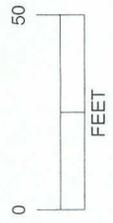
MW-6

Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylenes	ND

MW-7



Figure 4D  
 4th Quarter 2006 Groundwater Analytical Data Map  
 December 7, 2006  
 Hugh Gathering  
 Plains Marketing, L.P.  
 SRS. #: 2002-10235  
 Lea County, New Mexico



**LEGEND:**

◆ - Monitor Well Location

Note: All concentrations in µg/L.

Source of Basemap: EPI

**Appendix B      Tables**

<b>Table 1</b>	<b>Soil Boring Analytical Results - East</b>
<b>Table 2</b>	<b>Soil Confirmation Analytical Results - West</b>
<b>Table 3</b>	<b>2006 Groundwater Gauging Data</b>
<b>Table 4</b>	<b>Historical Groundwater Gauging Data</b>
<b>Table 5</b>	<b>2006 BTEX Groundwater Analytical Results</b>
<b>Table 6</b>	<b>Historical BTEX Groundwater Analytical Results</b>
<b>Table 7</b>	<b>2006 PAH Groundwater Analytical Results</b>
<b>Table 8</b>	<b>Historical PAH Groundwater Analytical Results</b>

TABLE 1  
Soil Boring Delineation Data (Eastside of NMSR 18)  
Hugh Gathering  
SRS #2002-10235  
Plains Marketing, L.P.

Sample Location	Sample Description	Sampling Interval (FT. BGS) <sup>1</sup>	SAMPLE ID#	Date	Lithology	VOC Headspace ppm	GRO <sup>3</sup> mg/Kg	DRO <sup>4</sup> mg/Kg	TPH <sup>5</sup> mg/Kg	BTEX <sup>6</sup> mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	p/m Xylene mg/Kg	o-Xylene mg/Kg
BH9	Cutting	5	BH9-5	7/12/06	Tan Caliche Rock	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	10	BH9-10	7/12/06	Tan Caliche Rock	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	15	BH9-15	7/12/06	Tan Caliche Rock	2.5	ND	ND	ND	ND	ND	ND	ND	J[0.0226]	ND
	Probe	20	BH9-20	7/12/06	White Sandstone	0.0	ND	ND	ND	0.075	ND	0.033	ND	0.042	ND
BH10	Cutting	5	BH10-5	7/13/06	Tan Caliche Rock	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	10	BH10-10	7/13/06	Tan Caliche Rock	0.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	15	BH10-15	7/13/06	Tan Caliche Rock	0.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Probe	20	BH10-20	7/13/06	Tan Caliche Rock	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	5	BH11-5	7/13/06	Tan Caliche Rock	929	444	658	1,102	16.1	0.092	0.848	2.41	9.19	3.61
	Cutting	10	BH11-10	7/13/06	Tan Caliche Rock	685	1,230	2,794	4,024	24.2	0.474	2.26	2.93	14.4	4.16
BH11	Cutting	15	BH11-15	7/13/06	Red Brown Sandstone	907	1,420	2,672	4,092	89.1	3.87	5.84	18.9	45.4	15.1
	Cutting	20	BH11-20	7/13/06	Red Brown Sandstone	752	1,560	2,836	4,396	122	3.71	14.2	21.8	60.4	22.3
	--	22	Refusal	7/13/06	Red Brown Sandstone	--	--	--	--	--	--	--	--	--	--
	Probe	5	BH11-9	7/13/06	Tan Caliche Rock	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH12	--	9	Refusal	7/13/06	Tan Caliche Rock	--	--	--	--	--	--	--	--	--	--
	Cutting	5	BH13-5	7/14/06	Oil Stained Caliche Rock	352	163	589	752	2.25	ND	0.148	0.347	1.16	0.594
	Cutting	10	BH13-10	7/14/06	Oil Stained Caliche Rock	960	588	1,741	2,329	5.79	0.069	0.477	0.733	3.66	0.853
	Cutting	15	BH13-15	7/14/06	Red Brown Sandstone	1,633	1,220	2,156	3,376	53.6	2.35	4.15	11.5	28.6	7.00
	Cutting	20	BH13-20	7/14/06	Tan Sandstone	1,364	1,110	2,794	3,904	49.4	1.05	4.43	8.76	25.4	9.75
	Probe	25	BH13-25	7/14/06	Tan Sandstone	379	340	1,723	2,063	4.38	J[0.0104]	0.210	0.847	2.34	0.979
	Cutting	30	BH13-30	7/14/06	Brown Sandstone	133	54.6	255	310	0.443	J[0.0104]	0.097	0.088	0.198	0.060
	Cutting	35	BH13-35	7/14/06	Red Clay/sand/gravel	75.3	51.4	305	357	0.180	ND	0.057	0.043	0.080	J[0.0245]
	Cutting	40	BH13-40	7/14/06	Red Clay/sand/gravel	39.7	10.2	46.9	57.1	0.076	ND	J[0.0225]	J[0.0220]	0.076	J[0.0204]
	Probe	46	BH13-46	7/14/06	Red Clay/sand/gravel	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH14 (SB1)	Cutting	4	SB1-4	6/14/06	White Caliche Rock	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cutting	9	SB1-9	6/14/06	White Caliche Rock	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Probe	12	SB1-12	6/14/06	Tan Sandstone	0.9	27.1	ND	27.1	ND	ND	ND	ND	ND	ND
	Probe	19	SB1-19	6/14/06	Light Gray Sandstone	0.8	J[6.87]	ND	J[6.87]	ND	ND	ND	ND	ND	ND
--	23	Refusal	6/14/06	Light Gray Sandstone	--	--	--	--	--	--	--	--	--	--	
Remedial Goals for soil from the surface to ~8' bgs															
Remedial Goals for soil from ~8' bgs to the groundwater at ~58' bgs															

<sup>5</sup>TPH-Total Petroleum Hydrocarbon = GRO+DRO.

na - not analyzed

<sup>6</sup>BTEX - Mass sum of benzene, toluene, ethylbenzene, and xylenes

ND - not detected above the method detection limit.

All data prior to 2007 collected by EPI

<sup>1</sup>bgs - below ground surface

<sup>2</sup>VOC-Volatile Organic Contaminants/Constituents

<sup>3</sup>GRO-Gasoline Range Organics C<sub>6</sub>-C<sub>12</sub>

<sup>4</sup>DRO-Diesel Range Organics C<sub>12</sub>-C<sub>35</sub>

Table 2  
 Soil Confirmation Analytical Results - Western Excavation  
 Plains Marketing, L.P.  
 Plains SRS No. 2002-10235  
 Hugh Gathering

Location	Date Sampled	Laboratory Sample ID	TPH				Total TPH EPA 8015 m	Benzene mg/Kg	Toluene mg/Kg	Ethylbenzene mg/Kg	Xylenes		Total Xylenes mg/Kg	BTEX EPA 8021b mg/Kg
			C <sub>6</sub> -C <sub>12</sub> mg/Kg	C <sub>12</sub> -C <sub>28</sub> mg/Kg	C <sub>28</sub> -C <sub>35</sub> mg/Kg	Xylene (p/m) mg/Kg					Xylene (o) mg/Kg			
NMOCD Remediation Goals														
South SW 1-13'	11/30/2006	6K28013-01	<10.0	<10.0	<10.0	<10.0	<0.0250	<0.0250	<0.0250	<0.0250	0.0325	0.0216 J	0.0325	0.0325
South BH 2-15'	11/30/2006	6K28013-02	<10.0	11.6	<10.0	11.6	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0	0
North SW 3-13'	11/30/2006	6K28013-03	20.5	221	5.5	242	<0.0250	<0.0250	<0.0250	0.0252	<0.0250	0.0252	0.0252	0.0252
North BH 4-15'	11/30/2006	6K28013-04	87.9	408	10.1	506	<0.0250	0.0142	0.0479	0.108	0.0489	0.1569	0.219	0.219
West SW 5-13'	11/30/2006	6K28013-05	<10.0	<10.0	<10.0	<10.0	0.0231 J	0.162	0.15	0.358	0.127	0.485	0.8201	0.8201
West BH 6-15'	11/30/2006	6K28013-06	<10.0	<10.0	<10.0	<10.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0	0
North SW3a-12'	12/13/2006	6L05005-01	<10.0	<10.0	<10.0	<10.0	<0.0250	<0.0250	0.0389	0.0468	<0.0250	0.0468	0.0857	0.0857
North BH4a-15'	12/13/2006	6L05005-02	<10.0	5.47 J	<10.0	<10.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0	0
S Stockpile Northside Comp.	12/14/2006	6L13012-01	<10.0	<10.0	<10.0	<10.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0	0
S Stockpile Southside Comp.	12/14/2006	6L13012-02	<10.0	<10.0	<10.0	<10.0	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	0	0

BH = Bottom Hole  
 SW = Sidewall

Concentrations in bold exceed NMOCD Remediation Goals  
 J = estimated value

GRO - Gasoline Range Organics  
 DRO - Diesel Range Organics

All data prior to 2007 collected by EPI

**TABLE 3**  
**Relative Groundwater Elevations and**  
**Phase Separated Hydrocarbons Thicknesses**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well #	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-1	02-Mar-06	3,429.95	57.79	58.44	3,372.10	0.65
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06			Not Sampled		
	18-Oct-06		57.61	58.03	3,372.30	0.42
	28-Nov-06					
10-Jan-07		56.95	60.90	3,372.61	3.95	
MW-2	02-Mar-06	3,429.97	57.85	57.86	3,372.12	0.01
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		--	58.12	3,371.85	--
	18-Oct-06		--	57.69	3,372.28	--
	28-Nov-06		--			--
10-Jan-07		--	57.64	3,372.33		
MW-3	02-Mar-06	3,429.89	58.00	58.01	3,371.89	0.01
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		--	58.00	3,371.89	--
	18-Oct-06		--	56.88	3,373.01	--
	28-Nov-06		Film	58.21	3,371.68	Film
10-Jan-07		--	58.00	3,371.89		
MW-4	02-Mar-06	3,430.36	58.27	58.32	3,372.09	0.05
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		58.15	58.17	3,372.21	0.02
	18-Oct-06		58.12	58.20	3,372.23	0.08
	28-Nov-06		58.08	58.11	3,372.28	0.03
10-Jan-07		Sheen	58.06	3,372.30	Sheen	
MW-5	02-Mar-06	3,428.93	--	56.65	3,372.28	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	56.71	3,372.22	--
	10-Aug-06		--	57.16	3,371.77	--
	18-Oct-06		--	57.06	3,371.87	--
	28-Nov-06		--	56.57	3,372.36	--
10-Jan-07		--	56.57	3,372.36	--	
MW-6	02-Mar-06	3,429.24	--	56.80	3,372.44	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	56.59	3,372.65	--
	10-Aug-06		--	56.75	3,372.49	--
	18-Oct-06		--	56.72	3,372.52	--
	28-Nov-06		--	56.67	3,372.57	--
10-Jan-07		--	56.67	3,372.57	--	

\* = Wells are referenced to groundwater monitoring well MW-2 TOC, set to an elevation of 3429.97 feet amsl.  
 -- = Not Detected

**TABLE 3**  
**Relative Groundwater Elevations and**  
**Phase Separated Hydrocarbons Thicknesses**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well #	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-7	02-Mar-06	3,429.80	--	57.86	3,371.94	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	57.87	3,371.93	--
	10-Aug-06		--	57.89	3,371.91	--
	18-Oct-06		--	57.80	3,372.00	--
	28-Nov-06		--	57.76	3,372.04	--
	10-Jan-07		--	57.75	3,372.05	--
MW-8	02-Mar-06	3,430.21	58.11	58.17	3,372.09	0.06
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		58.09	58.11	3,372.12	0.02
	18-Oct-06		57.97	57.99	3,372.24	0.02
	28-Nov-06		57.91	57.93	3,372.30	0.02
	10-Jan-07		--	57.92	3,372.29	--
MW-9	02-Mar-06	3,429.88	58.73	58.86	3,371.14	0.13
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		57.80	57.82	3,372.08	0.02
	18-Oct-06		58.02	58.30	3,371.83	0.28
	28-Nov-06		57.50	58.03	3,372.33	0.53
	10-Jan-07		57.52	57.73	3,372.34	0.21
MW-10	02-Mar-06	3,430.65	58.45	58.52	3,372.19	0.07
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		58.64	58.68	3,372.01	0.04
	18-Oct-06		58.31	58.33	3,372.34	0.02
	28-Nov-06		Film	58.27	3,372.38	Film
	10-Jan-07		58.24	58.31	3,372.34	0.07
MW-11	02-Mar-06	3,430.94	--	58.74	3,372.20	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	58.76	3,372.18	--
	10-Aug-06		--	58.67	3,372.27	--
	18-Oct-06		--	58.68	3,372.26	--
	28-Nov-06		--	58.63	3,372.31	--
	10-Jan-07		--	58.61	3,372.33	--
MW-12	02-Mar-06	3,426.47	--	54.76	3,371.71	--
	20-Mar-06		--	54.85	3,371.62	--
	21-Mar-06		--	54.76	3,371.71	--
	24-May-06		--	54.79	3,371.68	--
	10-Aug-06		--	54.85	3,371.62	--
	18-Oct-06		--	54.73	3,371.74	--
	28-Nov-06		--	54.69	3,371.78	--
		10-Jan-07		--	54.68	3,371.79

\* = Wells are referenced to groundwater monitoring well MW-2 TOC, set to an elevation of 3429.97 feet amsl.  
-- = Not Detected

**TABLE 4**  
**Historical Groundwater Elevations and**  
**Phase Separated Hydrocarbon Thicknesses**  
**Plains Marketing, L.P.**  
**SRS No. 2002-10235**  
**Hugh Gathering**

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)	
MW-1	13-Dec-02	3,429.95	59.33	67.10	3,369.84	7.77	
	27-Feb-03		59.42	66.63	3,369.81	7.21	
	24-Mar-03		59.51	66.15	3,369.78	6.64	
	04-Jun-03		59.70	65.48	3,369.67	5.78	
	10-Jun-03		60.16	60.62	3,369.74	0.46	
	23-Jul-03						
	14-Aug-03			60.53	61.86	3,369.29	1.33
	04-Nov-03			60.17	64.64	3,369.33	4.47
	12-Apr-04			60.25	64.88	3,369.26	4.43
	12-May-04			60.07	64.46	3,369.44	4.39
	20-May-04			60.03	64.63	3,369.46	4.60
	21-Jun-04						
	15-Jul-04			59.67	63.83	3,369.86	4.16
	26-Jul-04			59.91	64.08	3,369.62	4.17
	25-Aug-04						
	11-Oct-04			58.59	62.30	3,370.99	3.71
	03-Dec-04			58.29	61.22	3,371.37	2.93
	28-Dec-04			58.19	61.35	3,371.44	3.16
	31-Mar-05			58.01	60.41	3,371.70	2.40
	20-Apr-05			57.90	60.40	3,371.80	2.50
	11-May-05			57.81	60.55	3,371.87	2.74
	27-May-05			58.18	58.57	3,371.73	0.39
	28-Jun-05			58.17	58.51	3,371.75	0.34
	17-Aug-05						
	25-Aug-05			58.13	59.40	3,371.69	1.27
	15-Nov-05			58.13	58.64	3,371.77	0.51
	02-Mar-06			57.79	58.44	3,372.10	0.65
	20-Mar-06				Not Sampled		
	21-Mar-06				Not Sampled		
	24-May-06				Not Sampled		
	10-Aug-06				Not Sampled		
	18-Oct-06			57.61	58.03	3,372.30	0.42
	28-Nov-06						
	10-Jan-07			56.95	60.90	3,372.61	3.95
	MW-2	13-Dec-02	3,429.97				
		27-Feb-03					
		24-Mar-03					
		04-Jun-03					
		10-Jun-03	3,429.97	60.57	61.27	3,369.33	0.70
		23-Jul-03					
14-Aug-03							
04-Nov-03				60.71	64.28	3,368.90	3.57
12-Apr-04				60.22	63.22	3,369.45	3.00
12-May-04				60.15	62.98	3,369.54	2.83
20-May-04				60.11	63.32	3,369.54	3.21
21-Jun-04				60.06	63.31	3,369.59	3.25
15-Jul-04				59.68	62.89	3,369.97	3.21
26-Jul-04				59.96	63.04	3,369.70	3.08
25-Aug-04				59.83	62.21	3,369.90	2.38
11-Oct-04							
03-Dec-04							
28-Dec-04							
31-Mar-05				58.39	58.72	3,371.55	0.33
20-Apr-05				58.22	58.54	3,371.72	0.32
11-May-05				58.24	58.61	3,371.69	0.37
27-May-05				58.20	58.47	3,371.74	0.27
28-Jun-05				58.29	58.36	3,371.67	0.07
17-Aug-05							
25-Aug-05				58.23	58.24	3,371.74	0.01
15-Nov-05				--	58.18	3,371.79	--
02-Mar-06				57.85	57.86	3,372.12	0.01
20-Mar-06					Not Sampled		
21-Mar-06					Not Sampled		
24-May-06					Not Sampled		
10-Aug-06				--	58.12	3,371.85	--
18-Oct-06				--	57.69	3,372.28	--
28-Nov-06				--			--
10-Jan-07				--	57.64	3,372.33	--

TABLE 4  
Historical Groundwater Elevations and  
Phase Separated Hydrocarbon Thicknesses  
Plains Marketing, L.P.  
SRS No. 2002-10235  
Hugh Gathering

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)	
MW-3	13-Dec-02	3,429.89					
	27-Feb-03						
	24-Mar-03						
	04-Jun-03						
	10-Jun-03	3,429.89		60.85	3,369.04		
	23-Jul-03	3,429.89	--	60.85	3,369.04	Oil Sheen	
	14-Aug-03		--	60.86	3,369.03	--	
	04-Nov-03						
	12-Apr-04			59.96	61.64	3,369.76	1.68
	12-May-04			60.75	61.66	3,369.05	0.91
	20-May-04			60.72	61.72	3,369.07	1.00
	21-Jun-04						
	15-Jul-04			59.31	61.62	3,370.35	2.31
	26-Jul-04			60.58	61.82	3,369.19	1.24
	25-Aug-04						
	11-Oct-04			55.41	56.86	3,374.34	1.45
	03-Dec-04			53.24	54.65	3,376.51	1.41
	28-Dec-04			58.52	59.92	3,371.23	1.40
	31-Mar-05			58.45	58.85	3,371.40	0.40
	20-Apr-05			58.34	58.77	3,371.51	0.43
	11-May-05			58.32	58.73	3,371.53	0.41
	27-May-05			58.31	58.68	3,371.54	0.37
	28-Jun-05			58.48	58.50	3,371.41	0.02
	17-Aug-05						
	25-Aug-05			58.93	58.94	3,370.96	0.01
	15-Nov-05			--	58.39	3,371.50	--
	02-Mar-06			58.00	58.01	3,371.89	0.01
	20-Mar-06				Not Sampled		
	21-Mar-06				Not Sampled		
	24-May-06				Not Sampled		
	10-Aug-06			--	58.00	3,371.89	--
	18-Oct-06			--	56.86	3,373.01	--
	28-Nov-06			Film	58.21	3,371.68	Film
	10-Jan-07			--	58.00	3,371.89	--
MW-4	13-Dec-02	3,430.36					
	27-Feb-03						
	24-Mar-03						
	04-Jun-03						
	10-Jun-03	3,430.36	61.03	61.26	3,369.31	0.23	
	23-Jul-03		60.65	63.80	3,369.40	3.15	
	14-Aug-03		59.82	60.24	3,370.50	0.42	
	04-Nov-03						
	12-Apr-04			60.76	64.11	3,369.27	3.35
	12-May-04			55.18	66.31	3,374.07	11.13
	20-May-04			60.51	67.95	3,369.11	7.44
	21-Jun-04			60.24	66.05	3,369.54	5.81
	15-Jul-04			59.91	65.72	3,369.87	5.81
	26-Jul-04			60.16	65.78	3,369.64	5.62
	25-Aug-04			59.89	65.61	3,369.90	5.72
	11-Oct-04			58.85	64.82	3,370.91	5.97
	03-Dec-04						
	28-Dec-04						
	31-Mar-05			59.00	59.15	3,371.35	0.15
	20-Apr-05			58.82	58.91	3,371.53	0.09
	11-May-05			58.80	58.86	3,371.55	0.06
	27-May-05			58.67	58.72	3,371.69	0.05
	28-Jun-05			58.68	58.82	3,371.67	0.14
	17-Aug-05						
	25-Aug-05			58.61	58.71	3,371.74	0.10
	15-Nov-05			58.59	58.67	3,371.76	0.08
	02-Mar-06			58.27	58.32	3,372.09	0.05
	20-Mar-06				Not Sampled		
	21-Mar-06				Not Sampled		
	24-May-06				Not Sampled		
	10-Aug-06			58.15	58.17	3,372.21	0.02
	18-Oct-06			58.12	58.20	3,372.23	0.08
	28-Nov-06			58.08	58.11	3,372.28	0.03
	10-Jan-07			Sheen	58.06	3,372.30	Sheen

**TABLE 4**  
**Historical Groundwater Elevations and**  
**Phase Separated Hydrocarbon Thicknesses**  
**Plains Marketing, L.P.**  
**SRS No. 2002-10235**  
**Hugh Gathering**

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-5	13-Dec-02	3,428.93				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03	3,428.93	--	61.17	3,367.76	--
	14-Aug-03		--	59.75	3,369.18	--
	04-Nov-03					
	12-Apr-04		--	60.93	3,368.00	--
	12-May-04		--	59.72	3,369.21	--
	20-May-04		--	60.12	3,368.81	--
	21-Jun-04					
	15-Jul-04		--	59.34	3,369.59	--
	26-Jul-04		--	59.76	3,369.17	--
	25-Aug-04					
	11-Oct-04		--	58.40	3,370.53	--
	03-Dec-04		--	57.71	3,371.22	--
	28-Dec-04		--	57.62	3,371.31	--
	31-Mar-05		--	57.40	3,371.53	--
	20-Apr-05		--	57.25	3,371.68	--
	11-May-05		--	57.19	3,371.74	--
	27-May-05		--	57.18	3,371.75	--
	28-Jun-05		--	57.14	3,371.79	--
	17-Aug-05		--	57.19	3,371.74	--
	25-Aug-05		--	57.07	3,371.86	--
	15-Nov-05		--	57.14	3,371.79	--
	02-Mar-06		--	56.65	3,372.28	--
	20-Mar-06				Not Sampled	
	21-Mar-06				Not Sampled	
	24-May-06		--	56.71	3,372.22	--
10-Aug-06		--	57.16	3,371.77	--	
18-Oct-06		--	57.06	3,371.87	--	
28-Nov-06		--	56.57	3,372.36	--	
10-Jan-07		--	56.57	3,372.36	--	
MW-6	13-Dec-02	3,429.24				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04	3,429.24	--	59.83	3,369.41	--
	20-May-04		--	59.79	3,369.45	--
	21-Jun-04					
	15-Jul-04		--	59.49	3,369.75	--
	26-Jul-04		--	59.44	3,369.80	--
	25-Aug-04					
	11-Oct-04		--	58.60	3,370.64	--
	03-Dec-04		--	57.85	3,371.39	--
	28-Dec-04		--	57.72	3,371.52	--
	31-Mar-05		--	57.47	3,371.77	--
	20-Apr-05		--	57.36	3,371.88	--
	11-May-05		--	57.31	3,371.93	--
	27-May-05		--	57.26	3,371.98	--
	28-Jun-05		--	57.23	3,372.01	--
	17-Aug-05		--	57.17	3,372.07	--
	25-Aug-05		--	57.19	3,372.05	--
	15-Nov-05		--	57.30	3,371.94	--
	02-Mar-06		--	56.80	3,372.44	--
	20-Mar-06				Not Sampled	
	21-Mar-06				Not Sampled	
	24-May-06		--	56.59	3,372.65	--
10-Aug-06		--	56.75	3,372.49	--	
18-Oct-06		--	56.72	3,372.52	--	
28-Nov-06		--	56.67	3,372.57	--	
10-Jan-07		--	56.67	3,372.57	--	

TABLE 4  
 Historical Groundwater Elevations and  
 Phase Separated Hydrocarbon Thicknesses  
 Plains Marketing, L.P.  
 SRS No. 2002-10235  
 Hugh Gathering

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-7	13-Dec-02	3,429.80				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04	3,429.80	--	60.56	3,369.24	--
	26-Jul-04		--	60.58	3,369.22	--
	25-Aug-04					
	11-Oct-04		--	59.75	3,370.05	--
	03-Dec-04		--	59.08	3,370.72	--
	28-Dec-04		--	58.86	3,370.94	--
	31-Mar-05		--	58.48	3,371.32	--
	20-Apr-05		--	58.41	3,371.39	--
	11-May-05		--	58.36	3,371.44	--
	27-May-05		--	58.37	3,371.43	--
	28-Jun-05		--	58.29	3,371.51	--
	17-Aug-05		--	58.27	3,371.53	--
	25-Aug-05		--	58.25	3,371.55	--
	15-Nov-05		--	58.31	3,371.49	--
	02-Mar-06		--	57.86	3,371.94	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	57.87	3,371.93	--
10-Aug-06		--	57.89	3,371.91	--	
18-Oct-06		--	57.80	3,372.00	--	
28-Nov-06		--	57.76	3,372.04	--	
10-Jan-07		--	57.75	3,372.05	--	
MW-8	13-Dec-02	3,430.21				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04	3,430.21	60.41	61.74	3,369.67	1.33
	26-Jul-04		60.54	60.60	3,369.66	0.06
	25-Aug-04					
	11-Oct-04		59.16	61.91	3,370.78	2.75
	03-Dec-04		58.90	60.60	3,371.14	1.70
	28-Dec-04		58.83	60.26	3,371.24	1.43
	31-Mar-05		58.53	59.81	3,371.55	1.28
	20-Apr-05		58.41	59.76	3,371.67	1.35
	11-May-05		58.36	59.76	3,371.71	1.40
	27-May-05		58.31	59.72	3,371.76	1.41
	28-Jun-05		58.38	59.13	3,371.76	0.75
	17-Aug-05					
	25-Aug-05		58.32	59.13	3,371.81	0.81
	15-Nov-05		58.46	58.50	3,371.75	0.04
	02-Mar-06		58.11	58.17	3,372.09	0.06
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
10-Aug-06		58.09	58.11	3,372.12	0.02	
18-Oct-06		57.97	57.99	3,372.24	0.02	
28-Nov-06		57.91	57.93	3,372.30	0.02	
10-Jan-07			57.92	3,372.29		

**TABLE 4**  
**Historical Groundwater Elevations and**  
**Phase Separated Hydrocarbon Thicknesses**  
**Plains Marketing, L.P.**  
**SRS No. 2002-10235**  
**Hugh Gathering**

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-9	13-Dec-02	3,429.88				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04	3,429.88	60.05	61.56	3,369.68	1.51
	26-Jul-04		60.50	60.75	3,369.36	0.25
	25-Aug-04					
	11-Oct-04		58.65	62.45	3,370.85	3.80
	03-Dec-04		58.72	61.49	3,370.88	2.77
	28-Dec-04		58.12	61.34	3,371.44	3.22
	31-Mar-05		58.15	59.37	3,371.61	1.22
	20-Apr-05		58.01	59.38	3,371.73	1.37
	11-May-05		57.95	59.36	3,371.79	1.41
	27-May-05		57.93	59.47	3,371.80	1.54
	28-Jun-05		58.16	58.24	3,371.71	0.08
	17-Aug-05					
	25-Aug-05		58.05	58.17	3,371.82	0.12
	15-Nov-05		58.04	58.42	3,371.80	0.38
	02-Mar-06		58.73	58.86	3,371.14	0.13
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		57.80	57.82	3,372.08	0.02
	18-Oct-06		58.02	58.30	3,371.83	0.28
28-Nov-06		57.50	58.03	3,372.33	0.53	
10-Jan-07		57.52	57.73	3,372.34	0.21	
MW-10	13-Dec-02	3,430.65				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04	3,430.65	60.92	61.32	3,369.69	0.40
	26-Jul-04		61.16	61.20	3,369.49	0.04
	25-Aug-04					
	11-Oct-04		59.55	62.31	3,370.82	2.76
	03-Dec-04		59.25	60.59	3,371.27	1.34
	28-Dec-04		59.12	60.46	3,371.40	1.34
	31-Mar-05		58.91	59.73	3,371.66	0.82
	20-Apr-05		58.81	59.67	3,371.75	0.86
	11-May-05		58.79	59.69	3,371.77	0.90
	27-May-05		58.73	59.67	3,371.83	0.94
	28-Jun-05		58.84	58.95	3,371.80	0.11
	17-Aug-05					
	25-Aug-05		58.76	58.81	3,371.89	0.05
	15-Nov-05		58.77	58.90	3,371.87	0.13
	02-Mar-06		58.45	58.52	3,372.19	0.07
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06			Not Sampled		
	10-Aug-06		58.64	58.68	3,372.01	0.04
	18-Oct-06		58.31	58.33	3,372.34	0.02
28-Nov-06		Film	58.27	3,372.38	Film	
10-Jan-07		58.24	58.31	3,372.40	0.07	

**TABLE 4**  
**Historical Groundwater Elevations and**  
**Phase Separated Hydrocarbon Thicknesses**  
**Plains Marketing, L.P.**  
**SRS No. 2002-10235**  
**Hugh Gathering**

Monitoring Well No.	Date Gauged	Relative Top of Casing Elevation (feet)*	Depth to PSH Below Top of Casing (feet)	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)*	Phase Separated Hydrocarbon Thickness (feet)
MW-11	13-Dec-02	3,430.94				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04	3,430.94	--	61.31	3,369.63	--
	26-Jul-04		--	61.31	3,369.63	--
	25-Aug-04					
	11-Oct-04		--	60.55	3,370.39	--
	03-Dec-04		--	60.00	3,370.94	--
	28-Dec-04		--	59.80	3,371.14	--
	31-Mar-05		--	59.48	3,371.46	--
	20-Apr-05		--	59.37	3,371.57	--
	11-May-05		--	59.31	3,371.63	--
	27-May-05		--	59.27	3,371.67	--
	28-Jun-05		--	59.20	3,371.74	--
	17-Aug-05		--	59.16	3,371.78	--
	25-Aug-05		--	59.16	3,371.78	--
	15-Nov-05		--	59.23	3,371.71	--
	02-Mar-06		--	58.74	3,372.20	--
	20-Mar-06			Not Sampled		
	21-Mar-06			Not Sampled		
	24-May-06		--	58.76	3,372.18	--
10-Aug-06		--	58.67	3,372.27	--	
18-Oct-06		--	58.68	3,372.26	--	
28-Nov-06		--	58.63	3,372.31	--	
10-Jan-07		--	58.61	3,372.33	--	
MW-12	13-Dec-02	3,426.30				
	27-Feb-03					
	24-Mar-03					
	04-Jun-03					
	10-Jun-03					
	23-Jul-03					
	14-Aug-03					
	04-Nov-03					
	12-Apr-04					
	12-May-04					
	20-May-04					
	21-Jun-04					
	15-Jul-04					
	26-Jul-04					
	25-Aug-04					
	11-Oct-04					
	03-Dec-04	3,426.47	--	56.11	3,370.19	--
	28-Dec-04		--	55.86	3,370.44	--
	31-Mar-05		--	55.47	3,370.83	--
	20-Apr-05		--	55.36	3,370.94	--
	11-May-05		--	55.33	3,370.97	--
	27-May-05		--	55.27	3,371.03	--
	28-Jun-05		--	55.21	3,371.09	--
	17-Aug-05		--	55.18	3,371.12	--
	25-Aug-05		--	55.15	3,371.15	--
	15-Nov-05		--	55.25	3,371.05	--
	02-Mar-06		--	54.76	3,371.54	--
	20-Mar-06		--	54.85	3,371.45	--
	21-Mar-06		--	54.76	3,371.54	--
	24-May-06		--	54.79	3,371.51	--
10-Aug-06		--	54.85	3,371.45	--	
18-Oct-06		--	54.73	3,371.57	--	
28-Nov-06		--	54.69	3,371.61	--	
10-Jan-07		--	54.68	3,371.62	--	

\* = Wells are referenced to the TOC of groundwater monitoring well MW-2, which was set to an elevation of 3,426.30 feet. Yellow highlight indicates a 2006 sampling event. All data prior to 2007 collected by EPI.  
 -- = Not Detected

**TABLE 5**  
**2006 Groundwater Analytical Results**  
**BTEX**  
**Hugh Gathering**  
**SRS #2002-10235**  
**Plains Marketing, L.P.**

Monitoring Well #	Date	Lab Report #	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Total Xylenes
			(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
<b>NMOCD Target Levels</b>			10	750	750			620
MW-1	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-2	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-3	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-4	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-5	2-Mar-06	177440	<b>463</b>	94.4	126	57.9	62.1	120.0
	24-May-06	180757	<b>823</b>	<5.0	556	<10.0	10.6	10.6
	23-Aug-06	184216	<b>315</b>	<10	250	39.0	25.7	64.7
	7-Dec-06	188899	<b>320</b>	<5.0	483	38.6	30.7	69.3
MW-6	2-Mar-06	177441	<b>28.8</b>	13.4	14.5	7.86	5.06	12.9
	24-May-06	180758	<1.0	<1.0	<1.0	<2.0	1.2	1.2
	23-Aug-06	184217	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	7-Dec-06	188900	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
MW-7	2-Mar-06	177442	<b>34.7</b>	15.9	18.1	9.39	6.40	15.8
	24-May-06	180759	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	23-Aug-06	184218	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	7-Dec-06	188901	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
MW-8	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-9	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-10	2-Mar-06		NOT SAMPLED DUE TO PSH					
	24-May-06		NOT SAMPLED DUE TO PSH					
MW-11	2-Mar-06	177443	<b>46.4</b>	20.4	15.8	9.47	5.45	14.9
	24-May-06	180760	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	23-Aug-06	184219	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	7-Dec-06	188902	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
MW-12	2-Mar-06	177461	<b>35.1</b>	15.7	14.4	8.62	4.88	13.5
	21-Mar-06	178427	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	24-May-06	180761	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	23-Aug-06	184220	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0
	7-Dec-06	188903	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0

*Bold values exceed NMWQCC groundwater standards per NMAC 20.6.2.3103.*

*All data prior to 2007 collected by EPI*

**TABLE 6**  
**BTEX - Historical Groundwater Analytical Results**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well #	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Total Xylenes	TPH as Diesel	TPH as Gasoline	Total TPH	
		NMOCD Cleanup Goals									
		10 (µg/L)	750 (µg/L)	750 (µg/L)	(µg/L)	(µg/L)	620 (µg/L)	(mg/L)	(mg/L)	(mg/L)	
MW-1	12-Sep-02	WELL INSTALLED 12 SEPTEMBER 2002									
	23-Jul-03	NOT SAMPLED DUE TO PSH									
	20-May-04	NOT SAMPLED DUE TO PSH									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										
MW-2	5-Jun-03	WELL INSTALLED 5 JUNE 2003									
	23-Jul-03	NOT SAMPLED DUE TO PSH									
	20-May-04	NOT SAMPLED DUE TO PSH									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										
MW-3	9-Jun-03	WELL INSTALLED 9 JUNE 2003									
	23-Jul-03	112	361	138	158	91.9	250	3.95	2.29	6.24	
	20-May-04	NOT SAMPLED DUE TO PSH									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										
MW-4	6-Jun-03	WELL INSTALLED 6 JUNE 2003									
	23-Jul-03	NOT SAMPLED DUE TO PSH									
	20-May-04	NOT SAMPLED DUE TO PSH									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										

**TABLE 6**  
**BTEX - Historical Groundwater Analytical Results**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well #	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Total Xylenes	TPH as Diesel	TPH as Gasoline	Total TPH
		NMOCD Cleanup Goals								
		10 (µg/L)	750 (µg/L)	750 (µg/L)	(µg/L)	(µg/L)	620 (µg/L)	(mg/L)	(mg/L)	(mg/L)
MW-5	12-Jun-03	WELL INSTALLED 12 JUNE 2003								
	23-Jul-03	35.9	87.9	20.9	24.1	20.3	44.4	1.97	3.02	4.99
	20-May-04	655	122	113	57.8	65	123	1.41	1.03	2.44
	26-Jul-04	2,940	7.15	206	20.1	226	246			
	11-Oct-04	312	<1.0	26.4	<2.0	42.7	42.7			
	28-Dec-04	1,210	4.84	121	10.3	119	129			
	31-Mar-05	1,450	4.70	266	5.04	13.5	18.5			
	11-May-05	713	25.1	200	11.4	44.6	56.0			
	17-Aug-05	331	37.7	107	24.2	23.9	48.1			
	15-Nov-05	334	60.3	117	42.1	56.7	98.8			
	2-Mar-06	463	94.4	126	57.9	62.1	120.0			
	24-May-06	823	<5.0	556	<10.0	10.6	10.6			
	23-Aug-06	315.0	<10	250.0	39.0	25.7	65			
7-Dec-06	320.00	<5.0	483.0	38.6	30.7	69				
MW-6	29-Apr-04	WELL INSTALLED 29 APRIL 2004								
	20-May-04	WAITING TO INSTALL MONITORING WELLS MW-7 THROUGH MW-11 TO SAMPLE								
	26-Jul-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	11-Oct-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	28-Dec-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	31-Mar-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	11-May-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	17-Aug-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	15-Nov-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	2-Mar-06	28.8	13.4	14.5	7.86	5.06	12.9			
	24-May-06	<1.0	<1.0	<1.0	<2.0	1.2	1.2			
	23-Aug-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	7-Dec-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
MW-7	20-May-04	WELL INSTALLED 23 JUNE 2004								
	26-Jul-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	11-Oct-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	28-Dec-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	31-Mar-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	11-May-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	17-Aug-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	15-Nov-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	2-Mar-06	34.7	15.9	18.1	9.39	6.40	15.8			
	24-May-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
	23-Aug-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0			
7-Dec-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
MW-8	25-Jun-04	WELL INSTALLED 25 JUNE 2004								
	26-Jul-04	NOT SAMPLED DUE TO PSH								
	11-Oct-04	NOT SAMPLED DUE TO PSH								
	28-Dec-04	NOT SAMPLED DUE TO PSH								
	31-Mar-05	NOT SAMPLED DUE TO PSH								
	11-May-05	NOT SAMPLED DUE TO PSH								
	17-Aug-05	NOT SAMPLED DUE TO PSH								
	15-Nov-05	NOT SAMPLED DUE TO PSH								
	2-Mar-06	NOT SAMPLED DUE TO PSH								
	24-May-06	NOT SAMPLED DUE TO PSH								

**TABLE 6**  
**BTEX - Historical Groundwater Analytical Results**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well #	Date	Benzene	Toluene	Ethylbenzene	m,p-Xylenes	o-Xylene	Total Xylenes	TPH as Diesel	TPH as Gasoline	Total TPH	
		NMOCD Cleanup Goals									
		10 (µg/L)	750 (µg/L)	750 (µg/L)	(µg/L)	(µg/L)	(µg/L)	620 (µg/L)	(mg/L)	(mg/L)	(mg/L)
MW-9	28-Jun-04	WELL INSTALLED 28 JUNE 2004									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										
MW-10	29-Jun-04	WELL INSTALLED 29 JUNE 2004									
	26-Jul-04	NOT SAMPLED DUE TO PSH									
	11-Oct-04	NOT SAMPLED DUE TO PSH									
	28-Dec-04	NOT SAMPLED DUE TO PSH									
	31-Mar-05	NOT SAMPLED DUE TO PSH									
	11-May-05	NOT SAMPLED DUE TO PSH									
	17-Aug-05	NOT SAMPLED DUE TO PSH									
	15-Nov-05	NOT SAMPLED DUE TO PSH									
	2-Mar-06	NOT SAMPLED DUE TO PSH									
24-May-06	NOT SAMPLED DUE TO PSH										
MW-11	24-Jun-04	WELL INSTALLED 24 JUNE 2004									
	26-Jul-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	11-Oct-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	28-Dec-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	31-Mar-05	<1.0	1.66	<1.0	<2.0	<1.0	<3.0				
	11-May-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	17-Aug-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	15-Nov-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	2-Mar-06	46.4	20.4	15.8	9.47	5.45	14.9				
	24-May-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
23-Aug-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0					
7-Dec-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0					
MW-12	1-Dec-04	WELL INSTALLED 01 DECEMBER 2004									
	3-Dec-04	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	31-Mar-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	11-May-05	<1.0	1.32	<1.0	<2.0	<1.0	<3.0				
	15-Aug-05	<1.0	<1.0	<1.0	<2.1	<1.1	<3.1				
	15-Nov-05	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	2-Mar-06	35.1	15.7	14.4	8.62	4.88	13.5				
	24-May-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
	23-Aug-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0				
7-Dec-06	<1.0	<1.0	<1.0	<2.0	<1.0	<3.0					
WQCC Standard	10.0	750	750			620					

*Bold values exceed NMWQCC groundwater standards per NMAC 20.6.2.3103.*

*PSH = Phase Separated Hydrocarbon*

*Blank cell indicates the analysis was not performed.*

*NMWQCC - New Mexico Water Quality Control Commission*

*All data prior to 2007 collected by EPI.*

*-- = Parameter was not analyzed*

**TABLE 7**  
**2006 Groundwater Analytical Results**  
**Polynuclear Aromatic Hydrocarbons (PAH)**  
**Hugh Gathering**  
**SRS #2002-10235**  
**Plains Marketing, L.P.**

Monitoring Well	Sample Date	Lab Report #	Naphthalene	Acenaphthylene	Acenaphthene	Flourene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno[1,2,3-cd]-pyrene	Dibenz[a,h]-anthracene	Benzo[g,h,i]-perylene	
<b>NMOC Target Level 30 µg/L</b>																			
MW-1	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-2	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-3	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-4	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-5	2-Mar-06	177440	7.08	<0.05	<0.05	0.060	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW-6	2-Mar-06	177441	0.574	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW-7	2-Mar-06	177442	0.649	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW-8	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-9	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-10	2-Mar-06											NOT SAMPLED DUE TO PSH							
MW-11	2-Mar-06	177443	0.577	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW-12	2-Mar-06	177461	0.548	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

*Bold values exceed NMWRCC groundwater standards per NMAC 20.6.2.3103  
All data prior to 2007 collected by EPI*

**TABLE 8**  
**Historical Groundwater Analytical Results - Polynuclear-Aromatic Hydrocarbons (PAH)**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well	Sample Date	Napthalene	Acenaphthylene	Acenaphthene	Flourene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno[1,2,3-cd]-pyrene	Dibenz[a,h]-anthracene	Benzo[g,h,i]-perylene	
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	12-Sep-02	WELL INSTALLED 12 SEPTEMBER 2002																
	23-Jul-03	NOT SAMPLED DUE TO PSH																
	20-May-04	NOT SAMPLED DUE TO PSH																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-2	5-Jun-03	WELL INSTALLED 5 JUNE 2003																
	23-Jul-03	NOT SAMPLED DUE TO PSH																
	20-May-04	NOT SAMPLED DUE TO PSH																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-3	9-Jun-03	WELL INSTALLED 9 JUNE 2003																
	23-Jul-03	NOT ANALYZED																
	20-May-04	NOT SAMPLED DUE TO PSH																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-4	6-Jun-03	WELL INSTALLED 6 JUNE 2003																
	23-Jul-03	NOT SAMPLED DUE TO PSH																
	20-May-04	NOT SAMPLED DUE TO PSH																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-5	12-Jun-03	WELL INSTALLED 12 JUNE 2003																
	23-Jul-03	NOT ANALYZED																
	20-May-04	NOT ANALYZED																
	26-Jul-04	31.0	0.056	0.096	0.45	0.353	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	11-Oct-04	NOT ANALYZED																
	28-Dec-04	NOT ANALYZED																
	31-Mar-05	NOT ANALYZED																
	11-May-05	0.66	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	17-Aug-05	NOT ANALYZED																
	15-Nov-05	NOT ANALYZED																
2-Mar-06	7.08	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
MW-6	29-Apr-04	WELL INSTALLED 29 APRIL 2004																
	20-May-04	WAITING TO INSTALL MONITORING WELLS MW-7 THROUGH MW-11 TO SAMPLE																
	26-Jul-04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	11-Oct-04	NOT ANALYZED																
	28-Dec-04	NOT ANALYZED																
	31-Mar-05	NOT ANALYZED																
	11-May-05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	17-Aug-05	NOT ANALYZED																
	15-Nov-05	NOT ANALYZED																
	2-Mar-06	0.574	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

**TABLE 8**  
**Historical Groundwater Analytical Results - Polynuclear-Aromatic Hydrocarbons (PAH)**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

Monitoring Well	Sample Date	Napthalene	Acenaphthylene	Acenaphthene	Flourene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[a]-anthracene	Chrysene	Benzo[b]-fluoranthene	Benzo[j,k]-fluoranthene	Benzo[a]-pyrene	Indeno[1,2,3-cd]-pyrene	Dibenz[a,h]-anthracene	Benzo[g,h,i]-perylene	
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-7	23-Jun-04	WELL INSTALLED 23 JUNE 2004																
	26-Jul-04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	11-Oct-04	NOT ANALYZED																
	28-Dec-04	NOT ANALYZED																
	31-Mar-05	NOT ANALYZED																
	11-May-05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	17-Aug-05	NOT ANALYZED																
	15-Nov-05	NOT ANALYZED																
2-Mar-06	0.649	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
MW-8	25-Jun-04	WELL INSTALLED 25 JUNE 2004																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-9	28-Jun-04	WELL INSTALLED 28 JUNE 2004																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-10	29-Jun-04	WELL INSTALLED 29 JUNE 2004																
	26-Jul-04	NOT SAMPLED DUE TO PSH																
	11-Oct-04	NOT SAMPLED DUE TO PSH																
	28-Dec-04	NOT SAMPLED DUE TO PSH																
	31-Mar-05	NOT SAMPLED DUE TO PSH																
	11-May-05	NOT SAMPLED DUE TO PSH																
	17-Aug-05	NOT SAMPLED DUE TO PSH																
	15-Nov-05	NOT SAMPLED DUE TO PSH																
2-Mar-06	NOT SAMPLED DUE TO PSH																	
MW-11	24-Jun-04	WELL INSTALLED 24 JUNE 2004																
	26-Jul-04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
	11-Oct-04	NOT ANALYZED																
	28-Dec-04	NOT ANALYZED																
	31-Mar-05	NOT ANALYZED																
	11-May-05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	17-Aug-05	NOT ANALYZED																
	15-Nov-05	NOT ANALYZED																
2-Mar-06	0.577	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
MW-12	1-Dec-04	WELL INSTALLED 1 December 2004																
	28-Dec-04	NOT ANALYZED																
	31-Mar-05	NOT ANALYZED																
	11-May-05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	17-Aug-05	NOT ANALYZED																
	15-Nov-05	NOT ANALYZED																
2-Mar-06	0.548	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
NMWQCC Standard	30													0.70				

*Bold values exceed NMWQCC groundwater standards per NMAC 20.6.2.3103.*

*PSH = Phase Separated Hydrocarbon*

*Blank cell indicates the analysis was not performed.*

*NMWQCC - New Mexico Water Quality Control Commission*

*Appendix C*

*NMOCD Approval Letter of Abatement Plan*



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

PM [Signature]

**BILL RICHARDSON**  
Governor  
**Joanna Prukop**  
Cabinet Secretary

**Mark E. Fesmire, P.E.**  
Director  
Oil Conservation Division

November 4, 2005

Ms. Camille Reynolds  
Plains All American Pipeline, L.P.  
3112 West Highway 82  
Lovington, NM 88260

RE: Stage 1 and Stage 2 Abatement Plan (Revised)  
Hugh Gathering 909402 (ref. # 2002-10235) Dated May 2005  
Unit Letters M of Section 12 and P of Section 11, Township 21 South, Range 37 East  
Lea County, New Mexico  
NMOCD Ref. AP-0041

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the proposal shown above submitted on behalf of Plains All American Pipeline, L.P. (Plains) by Environmental Plus, Inc. (EPI). This abatement plan (AP) is hereby approved, pursuant to 19.15.1.19 NMAC, with the following conditions and understandings:

1. AP ref. 4.2 "Remediation Strategy": installation of a 2-foot thick clay barrier to isolate remaining contaminants is approved. This clay barrier will be compacted to 95% percent of the material's Standard Proctor Density per ASTM D-698 and extend a minimum of 5 feet beyond the contaminated soil in the floor of the excavation. Also, Plains will install a passive soil vapor ventilation system below the clay barrier to evacuate volatile organic vapors.
2. AP ref. 4.5 "Abatement and Monitoring Schedule": the portion of this paragraph that proposes cessation of abatement of the groundwater after 4 consecutive quarters of monitoring well data below regulatory limits is not approved. Eight (8) consecutive quarters shall be required pursuant to 19.15.1.19.B (4) NMAC.
3. Installation of a covering cap is required in addition to AP proposals. This cap shall be constructed using PVC (Polyvinyl chloride), or other equivalent material that meets or exceeds the various ASTM standards for PVC, shall be at least 12 mils thick, shall extend at least 3 feet beyond the areas of contamination, and shall be covered with at least 3 feet of clean soil prior to "backfilling, contouring and reseeded" activities described in parts 4.2.1.5 and 4.2.2.5 of the abatement plan.

AP-0041 Plains Pipeline, L.P.

November 4, 2005

Page 2 of 2

NMOCD approval of this abatement plan does not relieve Plains of liability should its operations at this site 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 local, state or federal governmental agency.

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

NEW MEXICO OIL CONSERVATION DIVISION



Roger C. Anderson  
Environmental Bureau Chief

Copy: NMOCD, Hobbs  
Environmental Plus, Inc.

*Appendix D*

*Site Photographs*



**Photograph 1: Excavation of affected soil to 15 feet bgs.**



**Photograph 2: Placement of horizontal slotted PVC pipe in trenches as part of the Passive Soil Vapor Ventilation System.**



**Photograph 3: 2'x2'x25' long trench with slotted PVC Pipe covered with coarse sand.**



**Photograph 4: Liner over north side trench.**



Photograph 5: Liner over south side trench.



Photograph 6: Clay barrier installed at the base of the excavation.



Photograph 7: Partially backfilled excavation with PVC risers for Passive Soil Vapor Ventilation System



Photograph 8: Site returned to normal grade

**Appendix E**

**Analytical Laboratory Reports –Available Electronically on CD Only**

**6F20002 - June 2006 – Soil Boring BH14**

**6G18009 - July 2006 – Soil Boring BH9-BH13**

**6L05005 - November 2006 – Soil Sidewall and Bottom Hole Data**

**6K28013 - December 2006 – Soil Sidewall and Bottom Hole Data**

**6L13012 - December 2006 – Soil Stockpile Data**

**177440 - 1<sup>st</sup> QTR Groundwater samples**

**177461 - 1<sup>st</sup> QTR Groundwater samples – MW12**

**178427 - 1<sup>st</sup> QTR Groundwater samples – MW12**

**180757 – 2<sup>nd</sup> QTR Groundwater samples**

**184216 – 3<sup>rd</sup> QTR Groundwater samples**

**188899 – 4<sup>th</sup> QTR Groundwater samples**

*Appendix F*

**C-141 Release Notification Form**



September 12, 2002

Mr. Paul Sheeley, Environmental Engineer  
State of New Mexico  
Energy Minerals and Natural Resources Department  
Oil Conservation Division, Environmental Bureau  
1625 North French  
Hobbs, New Mexico 88240

Subject: EOTT Energy Pipeline Linman Line 6" - #2002-10235  
UL-P SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 11 T21S R37E  
UL-M SW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 12 T21S R37E  
Latitude: 32° 29' 11"N Longitude: 103° 07' 31"W

Dear Mr. Sheeley,

The attached New Mexico Oil Conservation Division Form C-141 and supporting documentation is being submitted by Environmental Plus, Inc. (EPI) on behalf of Mr. Frank Hernandez, District Environmental Supervisor for EOTT Energy Pipeline for the above referenced crude oil leak site. The land owners of record according to the Lea County Assessor's Office are; William McNeill, UL-M SW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 12 T21S R37E and James A. Bryant, UL-P SE $\frac{1}{4}$  of the SE $\frac{1}{4}$  of Section 11 T21S R37E. Volume released was initially considered to be less than 1 barrel (bbl), however during repair activities the volume was increased to a more realistic and reportable volume of 50 bbls with 0 bbls recovered. The New Mexico Office of the State Engineer does not record any wells in Sections 11 or 12, or adjacent sections in T21S R37E. The New Mexico Tech "geo-information" database shows water level measurements for two wells east and within 1 mile of the site at a higher elevation/altitude that average ~66.8 feet below ground surface ('bgs). Actual water level measurement of a deep soil boring at the site shows ground water to occur at 58.0'bgs. Refer to the attached ground water well location map. The attached site information and metrics form summarizes and ranks the site according to the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks and Spills, 1993. Based on the depth to ground water, the following acceptable remedial thresholds for Benzene, BTEX, i.e., the mass sum of Benzene, Toluene, Ethyl Benzene, and Xylenes, and Total Petroleum Hydrocarbon EPA method 8015m (TPH<sup>8015m</sup>) are as follows;

- Soil from the surface to 8.0'bgs  
Benzene 10 mg/Kg  
BTEX 50 mg/Kg  
TPH<sup>8015m</sup> 1000 mg/Kg.
- Soil from 8.0'bgs to 58.0'bgs  
Benzene 10 mg/Kg  
BTEX 50 mg/Kg  
TPH<sup>8015m</sup> 100 mg/Kg.



ENVIRONMENTAL PLUS, INC.  
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

Micro-Blaze

Micro-Blaze Oil™

EOTT is currently delineating the vertical and horizontal extents of crude oil contamination at the site. Based on the delineation information, a viable remediation plan will be developed consistent with the NMOCD approved "General Work Plan for Remediation of E.O.T.T. Pipeline Spills, Leaks and Releases in New Mexico, July 2000" and submitted to the NMOCD for approval. The near surface soil will be disposed of in an NMOCD approved facility.

All official communication should be addressed to;

Mr. Frank Hernandez  
E.O.T.T. Energy Pipeline  
P.O. Box 1660  
Midland, Texas 79703  
e-mail: frank.hernandez@eott.com

If there are any questions please call Mr. Ben Miller or myself at the office or at 505.390.0288 and 505.390.7864, respectively, or Mr. Frank Hernandez at 915.638.3799.

Sincerely,

Pat McCasland  
EPI Technical Services Manager

cc: Frank Hernandez, ENRON Transportation Services w/enclosure  
William Kendrick, ENRON Transportation Services w/enclosure  
Ben Miller, EPI Vice President and General Manager  
Sherry Miller, EPI President  
file

ENVIRONMENTAL PLUS, INC.

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 "INFORMATION ONLY NON-REPORTABLE"  Initial Report  Final Report

Name of Company EOTT Energy Pipeline	Contact Frank Hernandez
Address 5805 East Highway 80 / P.O. Box 1660, Midland, TX 79703	Telephone No. 915.638.3799
Facility Name Linman Line #2002-10235	Facility Type 6" Crude Oil Pipeline

Surface Owner Sec 12: W. McNeill Sec 11: J.A. Bryant	Mineral Owner	Lease No.
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**LOCATION OF RELEASE**

Unit Letter M P	Section 12 11	Township 21S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea Lat.: 32°29'11"N Lon: 103°07'31"W
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**NATURE OF RELEASE**

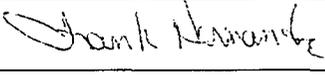
Type of Release Crude Oil	Volume of Release 50 bbls	Volume Recovered 0 bbls
Source of Release 6" Steel Pipeline	Date and Hour of Occurrence Sometime before 9-4-02	Date and Hour of Discovery 9-4-02 1:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Paul Sheeley, Hobbs NMOCD (9-12-02)	
By Whom? Pat McCasland (Environmental Plus, Inc.)	Date and Hour: Initially considered to be <1 bbl. Revised to 50 bbl on 9-12-02. NMOCD notified on 9-12-02 4:00 PM	
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.\*  
The cause of the release was internal/external corrosion. The line has been replaced. Contaminated soil is stockpiled on a plastic barrier on site awaiting remediation.

Describe Area Affected and Cleanup Action Taken.\*  
Oily spots less than 3' in diameter were initially observed around the vents of the pipeline conduit that passes under NMSR18. During replacement activities, the soil in the ditch line and around the conduit ends were observed to be impacted. The east side Sec 12 Spill Area = ~326 ft<sup>2</sup> 55' X 10'. The west side Sec 11 Spill Area = ~936 ft<sup>2</sup> 98' X 12'. Near surface soil will be characterized in accordance with 40 CFR 261 and with NMOCD approval, disposed of in a NMOCD approved facility. The site will be delineated and remediated. Soil within the NMSR18 may also be contaminated in the subsurface.

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Frank Hernandez	Approved by District Supervisor:	
Title: District Environmental Supervisor	Approval Date:	Expiration Date:
Date: September 12, 2002 Phone: 915.638.3799	Conditions of Approval:	Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

EOTT Energy Pipeline Site Information and Metrics		<b>Incident Date and NMOCD Notified?:</b> Discovered 9-4-02      NMOCD verbally notified on 9-12-02	
SITE: Linman Line 6"		Assigned Site Reference #: #2002-10235	
Company: EOTT Energy Pipeline			
Street Address: 5805 East Highway 80			
Mailing Address: P.O. Box 1660			
City, State, Zip: Midland, Texas 79703			
Representative: Frank Hernandez, District Environmental Supervisor			
Representative Telephone: 915.638.3799			
Telephone:			
Fluid volume released (bbls): revised to 50 bbls on 9-12-02		Recovered (bbls): 0	
>25 bbls : Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: Linman Line 6" #2002-10235			
Source of contamination: Crude Oil Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: Sec 11: James A Bryant / Sec 12: William McNeill			
LSP Dimensions West side Section 11: 98' x 12'		East side Section 12: 55'x10'	
LSP Area: West side Section 11: 936 ft <sup>2</sup>		East side Section 12: 326 ft <sup>2</sup>	
Location of Reference Point (RP)			
Location distance and direction from RP			
Latitude: 32°29'11"N			
Longitude: 103°07'31"W			
Elevation above mean sea level: ~3,428 'amsl			
Feet from South Section Line			
Feet from West Section Line			
Location- Unit or ¼¼: East side: SW ¼ of the SW ¼ UL-M West side: SE ¼ of the SE ¼ UL-P			
Location- Section: East side: Section 12		West side: Section 11	
Location- Township: 21S			
Location- Range: 37E			
Surface water body within 1000 ' radius of site: None			
Domestic water wells within 1000' radius of site: None			
Agricultural water wells within 1000' radius of site: None			
Public water supply wells within 1000' radius of site: None			
Depth from land surface to ground water (DG) 58.0'below ground surface			
Depth of contamination (DC) - ?			
Depth to ground water (DG - DC = DtGW) - to be determined			
<b>1. Ground Water</b>	<b>2. Wellhead Protection Area</b>		<b>3. Distance to Surface Water Body</b>
If Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points		<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: 10 points			200-100 horizontal feet: 10 points
If Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points		>1000 horizontal feet: 0 points
Ground water Score =	Wellhead Protection Area Score= 0		Surface Water Score= 0
Site Rank (1+2+3) =			
<b>Total Site Ranking Score and Acceptable Concentrations</b>			
Parameter	>19 (8.0 to 58.0'bgs)	10-19 (Surface to 8.0'bgs)	0-9
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1000 ppm	2000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			

## Identify Results

Page 1 of 1

Shape	Point	Point	Point	Point	Point
Area	0.000	0.000	0.000	0.000	0.000
Perimeter	0.000	0.000	0.000	0.000	0.000
Water_wells#	4876	4981	4990	4954	5150
Water_wells-id	4876	4981	4990	4954	5150
Index_no	4876	4981	4990	4954	5150
Siteid	322801103073101	322901103071101	322909103070601	322849103080601	323025103062501
Latitude	322801	322901	322909	322849	323025
Longitud	1030731	1030711	1030706	1030806	1030625
Locname	11516	11490	05053	11492	12779
Altitude	3411	3437	3441	3399	3559
Use	H	U	S	S	U
Depth	85.00	100.00	0.00	48.00	90.00
Geo-unit	No Data				
Waterlev	54.53	64.95	68.71	30.30	76.56
WI-date	19651130	19680312	19910123	19910424	19910117
Wlingwsi	1	3	2	7	6
Sitestat	No Data				
Discharg	0.00	0.00	0.00	0.00	0.00
Spc	0	0	0	0	0
Spc-date	No Data				
Qwyear	1965	1966	No Data	1965	1970
Temp	0.0	0.0	0.0	0.0	0.0
Tempdate	No Data				
Obs-well	No Data				

Area water well levels  
T21 R37E

<http://geoinfo.nmt.edu/.esrimap?nameX=nm-poolmaps232e465c&Cmd=Id&VName=NM...> 9/13/2002



EOTT Energy Pipeline  
Linman Line 6" Eastside of NMSR 18  
UL-M Section 12 T21S R37E

SEP 4 2002



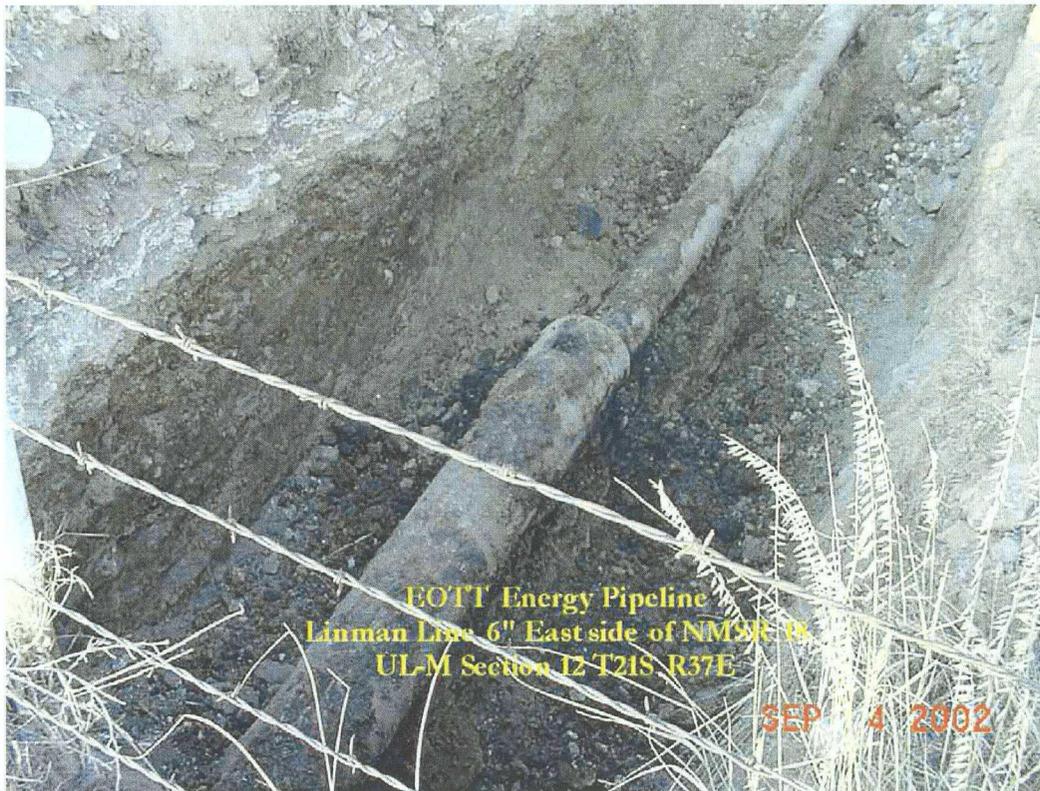
EOTT Energy Pipeline  
Linman Line 6" West side of NMSR 18  
UL-P Section 11 T21S R37E

SEP 4 2002



EOTT Energy Pipeline  
Linman Line 6" West side of NMSR 18  
UL-P Section 11 T21S R37E

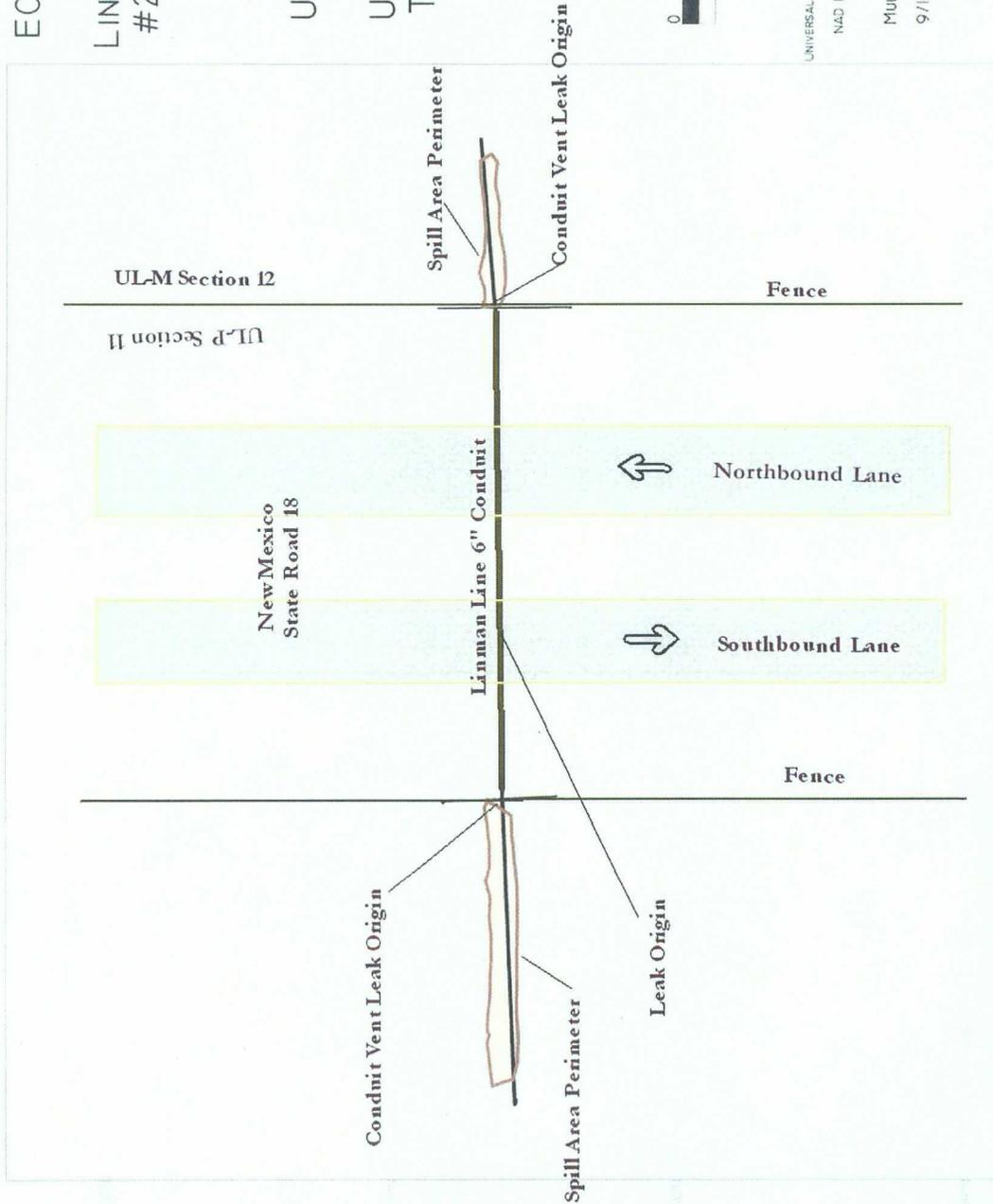
SEP 4 2002



EOTT Energy Pipeline  
Linman Line 6" East side of NMSR 18  
UL-M Section 12 T21S R37E

SEP 4 2002

EOTT ENERGY  
PIPELINE  
LINMAN LINE 6"  
#2002-10235  
NMSR 18  
CONDUIT  
EASTSIDE  
UL-M SEC12  
WESTSIDE  
UL-P SEC II  
T2IS R37E



UNIVERSAL TRANSVERSE MERCATOR  
13 NORTH  
NAD 1927 (WESTERN US)  
MULTIPLE FILES  
9/16/2002



EOTT ENERGY  
PIPELINE  
LINMAN LINE 6"  
UL-P SEC11  
AND  
UL-M SEC12  
T2IS R37E  
LEA CO. NM



N

SCALE 1:40,000



FEET

UNIVERSAL TRANSVERSE MERCATOR  
13 NORTH  
NAD 1983 HPGN (NEW MEXICO)

MULTIPLE FILES  
9/13/2002



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 - Informational**  
**OPERATOR**

Initial Report     Final Report

Name of Company: <b>Plains Pipeline, L.P.</b>	Contact: <b>Camille Reynolds</b>
Address <b>PO Box 1660 5805 East Highway 80 Midland, Texas 79702</b>	Telephone No. <b>505.393.5611</b>
Facility Name <b>Hugh Gathering 090402 # 2002-10235</b>	Facility Type <b>6" Steel Pipeline</b>
Surface Owner: <b>Bryant</b>	Mineral Owner
	Lease No.

**LOCATION OF RELEASE**

Unit Letter <b>P</b>	Section <b>11</b>	Township <b>T21S</b>	Range <b>R37E</b>	Feet from the	North/South Line	Feet from the	East/West Line	County: <b>Lea</b>
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Latitude: 3229°11.007"N      Longitude: 10307°33.864"W

**NATURE OF RELEASE**

Type of Release <b>Crude Oil</b>	Volume of Release <b>50 bbls barrels</b>	Volume Recovered <b>0 bbls barrels</b>
Source of Release <b>6" Steel Pipeline</b>	Date and Hour of Occurrence <b>9-4-02 @ 1:20 PM</b>	Date and Hour of Discovery <b>9-4-02 @ 1:30 PM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Larry Johnson</b>	
By Whom? <b>Camille Reynolds</b>	Date and Hour <b>9-4-02 @ 3:30 PM</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>NA</b>	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
**6" Steel Pipeline The leak was due to internal/external corrosion. Near surface impacted soil was disposed of in an NMOCD approved landfarm.**

Describe Area Affected and Cleanup Action Taken.\*  
**100 sqft 10' X 10'; Site delineated. Remedial Goals: TPH 8015m = 1000 & 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 groundwater, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Camille Reynolds</b>	Approved by District Supervisor:	
E-mail Address: <b>CJReynolds@PAALP.com</b>	Approval Date:	Expiration Date:
Title: <b>District Environmental Supervisor</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>9/6/2002</b> Phone: <b>505.393.5611</b>		

Attach Additional Sheets If Necessary

**Plains Pipeline, L.P. Site Information and Metrics**
**Incident Date:**  
 9-4-02 @ 1:20 PM

**NMOC D Notified:**  
 9-4-02 @ 3:30 PM

<b>SITE: Hugh Gathering 090402</b>		<b>Assigned Site Reference #: 2002-10235</b>			
Company: Plains Pipeline, L.P.		NATIONAL RESPONSE CENTER - 800.424.8802			
Street Address: PO Box 1660		Notified Date/Time:			
Mailing Address: 5805 East Highway 80		Notified by: Camille Reynolds			
City, State, Zip: Midland, Texas 79702		Person Notified:			
Representative: Camille Reynolds		NRC Report# :			
Representative Telephone: 505.393.5611					
Telephone:					
Fluid volume released (bbls): 50 bbls		Recovered (bbls): 0 bbls			
>25 bbls: Notify NMOC D verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)					
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)					
Leak, Spill, or Pit (LSP) Name: Hugh Gathering 090402					
Source of contamination: 6" Steel Pipeline					
Land Owner, i.e., BLM, ST, Fee, Other: Bryant					
LSP Dimensions 10' X 10'		East side - 10' x 10'			
LSP Area: 100 ft <sup>2</sup>		East side - 100 ft <sup>2</sup>			
Location of Reference Point (RP)					
Location distance and direction from RP					
Latitude: 3229'11.007"N		32°29'11.080"N			
Longitude: 10307'33.864"W		103°07'29.637"W			
Elevation above mean sea level: 3,425' amsl					
Feet from South Section Line					
Feet from West Section Line					
Location- Unit or ¼: SE¼ of the SE¼ UL-P		East side - SW¼ of the SW¼ UL-M			
Location- Section: 11		East side - Section 12			
Location- Township: T21S					
Location- Range: R37E					
Surface water body within 1000' radius of site: none					
Surface water body within 1000' radius of site:					
Domestic water wells within 1000' radius of site: none					
Domestic water wells within 1000' radius of site:					
Agricultural water wells within 1000' radius of site: none					
Agricultural water wells within 1000' radius of site:					
Public water supply wells within 1000' radius of site: none					
Public water supply wells within 1000' radius of site:					
Depth from land surface to groundwater (DG) 60' bgs					
Depth of contamination (DC) - 60' bgs					
Depth to groundwater (DG - DC = DtGW) - zero feet					
<b>1. Groundwater</b>		<b>2. Wellhead Protection Area</b>		<b>3. Distance to Surface Water Body</b>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points		<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points				200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points		If >1000' from water source, or; >200' from private domestic water source: 0 points		>1000 horizontal feet: 0 points	
Groundwater Score = 10		Wellhead Protection Area Score = 0		Surface Water Score = 0	
Site Rank (1+2+3) = 10					
Total Site Ranking Score and Acceptable Concentrations					
Parameter	>19	10-19	0-9		
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm		
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm		
TPH	100 ppm	1000 ppm	5000 ppm		
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis					