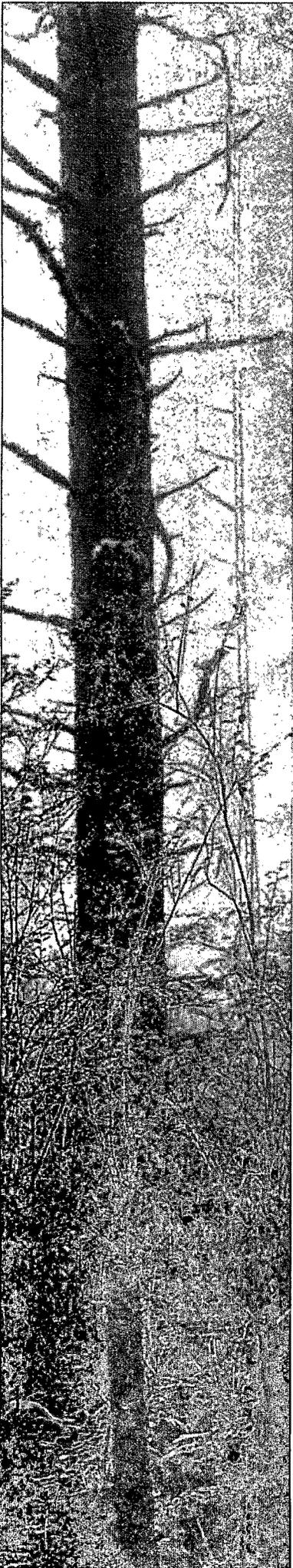


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**REPORT**

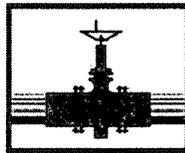
**DATE:**

**MAY 2007**



AP-41  
Report  
May 2007

**SOIL CLOSURE REPORT  
WEST SIDE NMSR18  
HUGH GATHERING  
PLAINS SRS NO.: 2002-10235  
UL-P, SECTION 11, T21S, R37E  
Lea County, New Mexico  
NMOCD No. AP-0041  
PREPARED FOR**



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Project No. 207032.00

May 2007

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#### *Appendix C NMOCD Approval Letter of Abatement Plan*

***Appendix D*** Site Photographs

***Appendix E*** Analytical Laboratory Reports – *Available Electronically on CD only*

***Appendix F*** C-141 Release Notification Form

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.*

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## 1.0 INTRODUCTION

### 1.1 Objectives and Site Background

This report includes a summary of soil activities completed on the west side of New Mexico State Road (NMSR18) at the Hugh Gathering Site, located in Unit Letter P (the SE¼ of the SE¼) 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 previously undertaken at the Hugh Gathering Site, SRS No. 2002-10235. 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) amended 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. None of the 50 bbl crude oil release was 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, the May 2002 release resulted in crude oil impacting two areas on either side of State Highway 18 (the East and West release areas). A surface area measuring approximately 98' x 12' was initially impacted by the release on the west side of New Mexico State Road 18 (NMSR 18). This impacted area was associated with a raised vent pipe connected to an underground conduit that passes under the highway. Near surface impacted soils 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 below ground surface (bgs).

The portion of the release that impacted the east side of NMSR 18 covered approximately 55' x 10' of surface area. The east side of the release was delineated with the installation of borings BH1 to BH8 while the west side was delineated by borings BH9 to BH16 (in September 2002). Soil samples collected from boring BH10 identified hydrocarbon impacted soils to 45 feet bgs. Due to the analytical findings for samples collected in BH10, the boring was converted to monitoring well MW-1. Additional details associated with the subsurface investigations undertaken at the site are discussed in Section 3.0 of this report.

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 for groundwater monitoring well MW-5. BTEX and PAH were not detected at or above the respective method detection limits in 2004 groundwater samples from monitoring wells MW-6, MW-7, MW-11 and MW-12, all located along the periphery of the site. PSH was present in monitoring wells MW-1, MW-2, MW-3, MW-4, MW-8, MW-9 and MW-10 with thicknesses ranging from 0.25 feet to 11.13 feet. By December 2004, 600 gallons of PSH had been recovered.

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.

This report details the activities associated with the investigations, excavations and remedial response actions completed on the west side of NMSR18 to address affected soil from the 2002 release. Remediation of the impacted soil on the east side of NMSR 18 will be conducted at such time when Plains can obtain access from the landowner on the east side of the highway.

## **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: <i>20 points</i>		If <1000' from water source, or, <200' from private domestic water source: <i>20 points</i>	<200 horizontal feet: 20 points
If Depth to GW 50 to 99 feet: <i>10 points</i>			200-100 horizontal feet: 10 points
If Depth to GW >100 feet: <i>0 points</i>			>1000 horizontal feet: 0 points
<i>Groundwater Score: 20</i>		<i>Wellhead Protection Area Score: 0</i>	<i>Surface Water Score: 0</i>
<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 Soil 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 by NMOCD for a risk-based closure.

### **3.0 2006 SITE INVESTIGATIONS AND RESULTS**

#### **3.1 EPI Investigations – West side of NMSR 18**

EPI initially investigated the affected soils on the west side of NMSR18 in September 2002 with a subsurface investigation at the site that included the installation of eight borings (BH9 through BH16) on the west side of Highway 18. This investigation was intended to define the extent of hydrocarbon impacts at the site, and borings were placed around the surface flow path of the crude oil release. The borings ranged in total depth from 15 to 55 feet bgs. Borings BH11, BH13 and BH14 were drilled to 15 feet bgs, BH12 and BH15 were drilled to 20 feet bgs, BH9 was drilled to 25 feet bgs, BH 16 was drilled to 35 feet bgs and BH10 was drilled to 55 feet bgs.

Soil samples were collected for BTEX and TPH analysis from depths based on 5 foot intervals from each of the borings. Samples collected from BH9, BH10, BH12, BH15 and BH16 indicated benzene, total BTEX and TPH concentrations above NMOCD remediation goals for the site, however; deeper samples from the lower portion of each of those borings indicated non-detect or low concentrations that were all below the NMOCD remediation goals for each COC. Based on this data, the vertical extent of hydrocarbon affected soil was defined at each boring location.

The 10 foot sample collected at boring BH10 indicated the most elevated benzene, total BTEX and TPH concentrations identified in the September 2002 investigation. The 10 foot sample from BH10 indicated 101 mg/kg benzene, 1,030 mg/kg total BTEX and 47,100 mg/kg total TPH. BTEX and TPH concentrations were above the NMOCD remedial goals down to 45 feet bgs in BH10. BH10 was located approximately 75 feet west-northwest of the leak origin. Boring locations are shown on Figures 2 and 3 in Appendix A, and analytical results are summarized on Table 1 in Appendix B.

During the September 2002 investigation, boring BH10 was completed as monitoring well MW-1. It is important to note that the location of BH10/MW-1 was incorrectly plotted in EPI's Abatement Plan and was inadvertently transferred to the base map in Premier's 2006 Annual Report. The correct location of BH10/MW-1 is presented on Figure 2 (Appendix A).

Between June 2003 and December 2004, as part of a comprehensive subsurface investigation at the site to delineate the extent of affected groundwater beneath the site,

eleven additional monitoring wells (MW-2 through MW-12) were installed. Monitoring wells MW-2, MW-3, MW-4 and MW-5 were installed in June 2003, monitoring wells MW-6 through MW-11 were installed in June 2004 and monitoring well MW-12 was installed in December 2004. Monitor well locations are shown on Figure 2, Appendix A.

Soil samples were collected from the all the borings installed for monitoring wells MW-2 through MW-12. Samples from all the borings, with the exception of the borings associated with MW-5, MW-6 and MW-7 were submitted to the laboratory for BTEX and TPH analysis. Of the twenty-four soil sample submitted from the monitor well borings, only one sample indicated a COC concentration above NMOCD standards. The 35 foot sample from MW-10 indicated a total TPH concentration of 139 mg/kg, which is above the 100 mg/kg NMOCD remediation standard. The 55 foot sample from MW-10 indicated that TPH concentrations had gone down to a level below the 100 mg/kg TPH standard (78.2 mg/kg). Table 2 in Appendix B presents a summary of analytical results for the soil sample collected from the monitoring well borings. A hard copy of the analytical results is included in Appendix E.

Following the installation of the soil borings/monitoring wells at the site, PSH was observed in wells MW-1, MW-2, MW-3, MW-4, MW-8, MW-9 and MW-10.

#### **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 soil from around 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 were to excavate, where possible, contaminated soil in the sidewalls of the excavation adjacent to NMSR 18 and to remove the bulk of the affected soil to the extent practicable and to isolate and minimize migration of residual COCs in the base of the excavation to prevent further impact to groundwater by installing a 2 foot thick compacted clay barrier.

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 feet 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 of 242 mg/kg and 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 of 100 mg/kg. 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 3, 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**

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.

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 3 Appendix B).

Backfill activities also 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 were 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 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 exceeding the NMOCD remedial goals remained in place, therefore; 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 in areas where soil bottom hole verification samples indicated that affected soils were above NMOCD standards. These verification soil samples (from the sidewall and base of the eastern portion of the western excavation) were identified with TPH concentrations above the NMOCD remediation standard of 100 mg/kg. In areas where these soils could not physically be excavated they were allowed to remain in place with the understanding that they would be covered by the

clay liner. 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 (Figures 2 and 3, 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 feet long by 50 feet 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 a combination of clean soil that was transported to the site and with clean overburden soil that was stockpiled on-site, west of the excavation. During backfilling activities, a mixture made up of a combination of clean caliche and clean top soil 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, the soil will be treated and the site will be backfilled with clean soil in a manner similar to the excavation that 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 elevations and quarterly sampling of groundwater monitoring wells not impacted with PSH.

#### **5.2 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. In 2007, PSH recovery continues via manual bailing of MW-1 and the use of absorbent socks in other monitoring wells exhibiting sheens or PSH measuring greater than 0.25 feet in thickness.

## **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 activities of residual soils in the base of the excavation using MicroBlaze Spill Control® (MicroBlaze). 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. Confirmation soil samples were initially collected from the base and sidewalls of the excavation on November 30, 2006. The initial data indicated that additional excavation was required. The additional excavation was subsequently completed and additional soil samples were collected on December 13, 2006 to demonstrate that further 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 3-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 measuring approximately 60 feet by 50 feet was placed along the base 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 reseeding 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 portion of the site located on the west side of Highway 18. Premier recommends that Plains submit this report to the NMOCD for final regulatory approval of closure of soil issues on the west side of Highway 18 at this Site, and request a "No Further Action required for soil remediation" letter from the NMOCD for the west side of Highway 18 at this Site.

Implementation of 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, can be completed in a similar manner after the property land owner grants access to the site.

Based on the field monitoring and analytical results of groundwater samples collected and analyzed during the past year (presented in the 2006 Annual Groundwater Report), 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 to address groundwater issues at this Site:

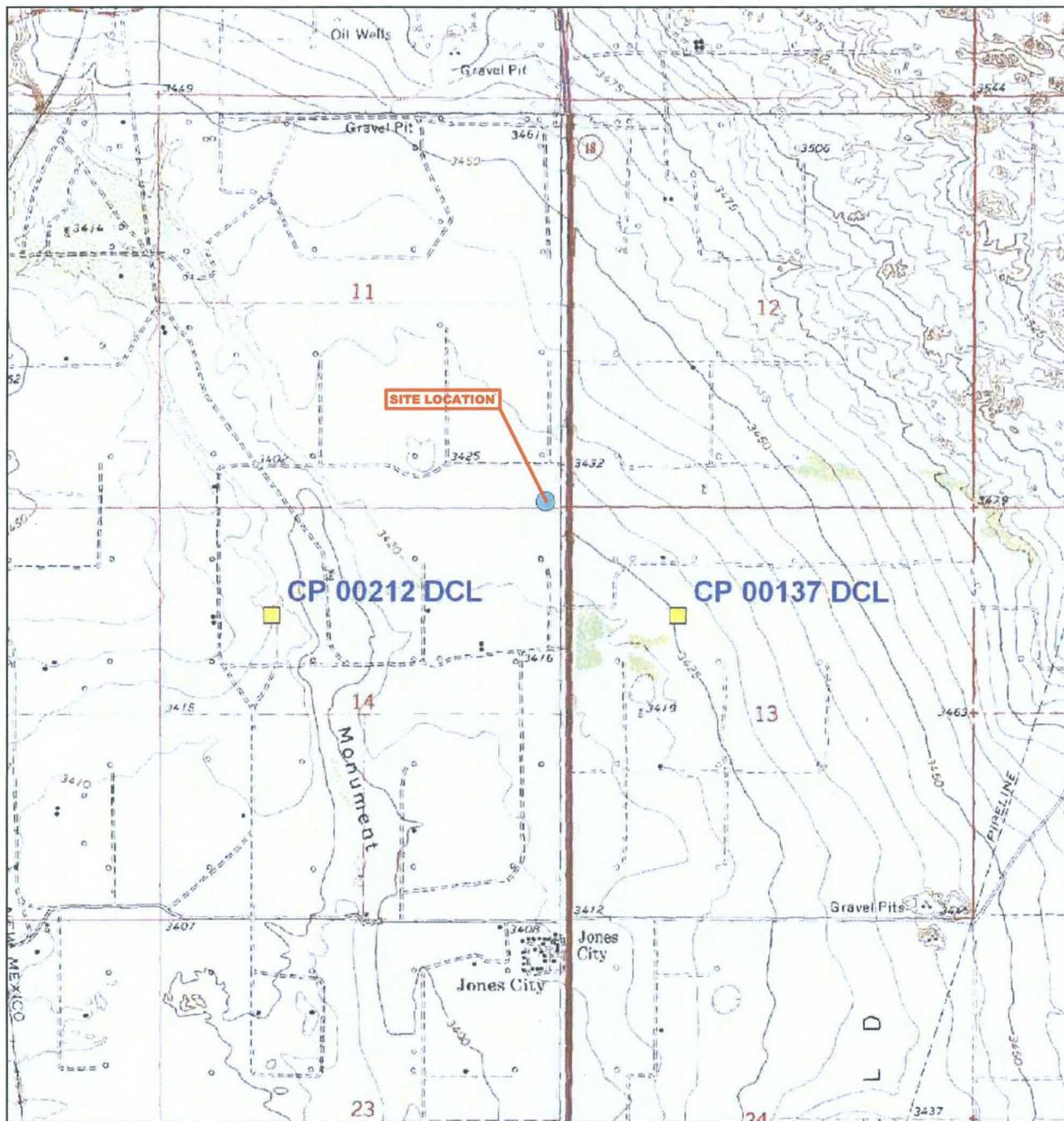
- Continue quarterly groundwater sampling.
- Analyze PAHs in one quarterly sampling event during 2007 to confirm 1<sup>st</sup> quarter 2006 results, and reevaluate the need for PAH analysis in groundwater from all monitor wells except MW-5.
- Measure groundwater levels monthly.
- Continue manual PSH recovery weekly.

## **Appendix A**

### **Appendix A Figures**

- |                 |  |
|-----------------|--|
| <b>Figure 1</b> | <b>Site Location Map</b>                     |
| <b>Figure 2</b> | <b>Site Layout Map</b>                       |
| <b>Figure 3</b> | <b>Soil Confirmation Sample Location Map</b> |

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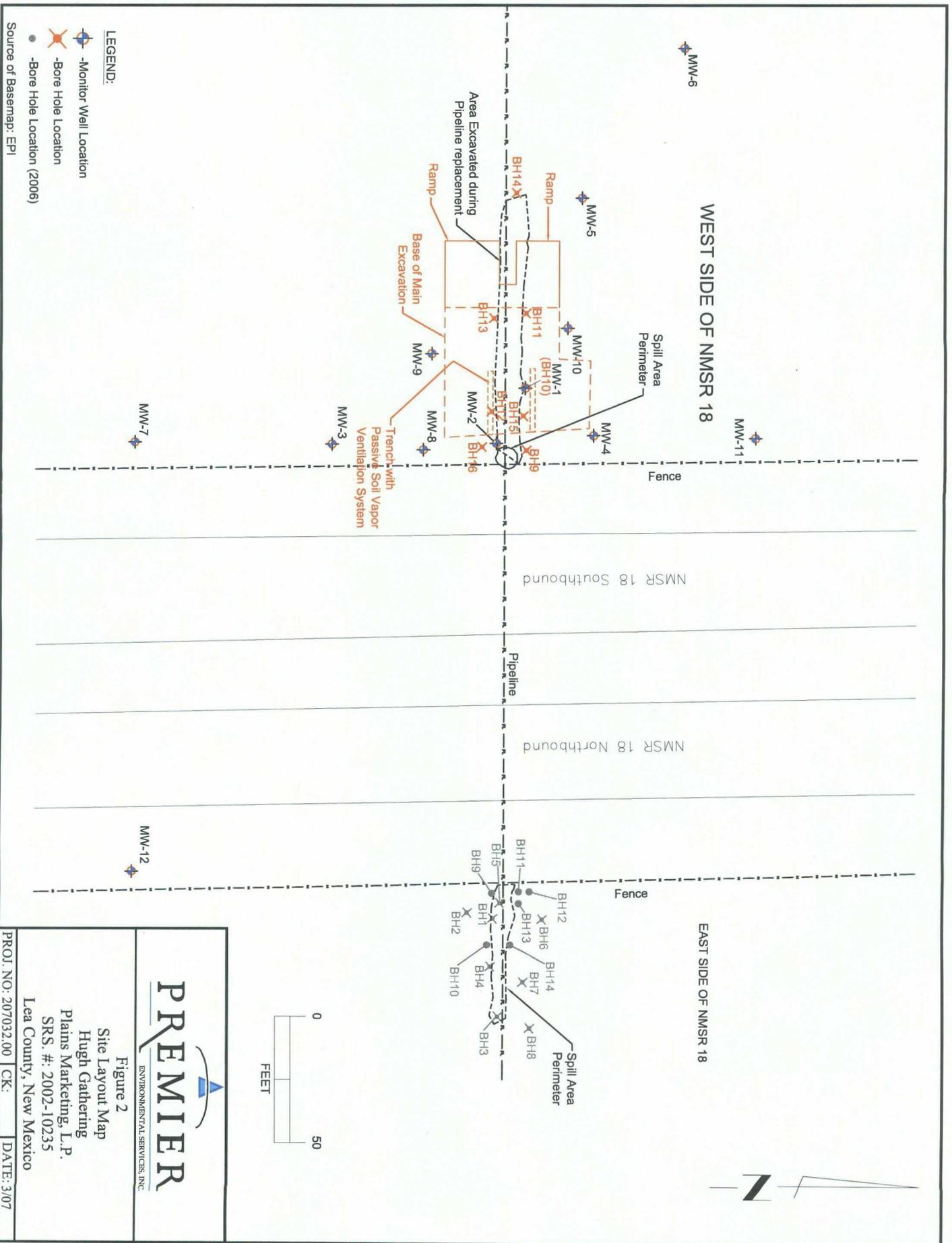


**Eunice NE Quadrangle**  
**32°29'11"N Latitude & 103°07'31"W Longitude**

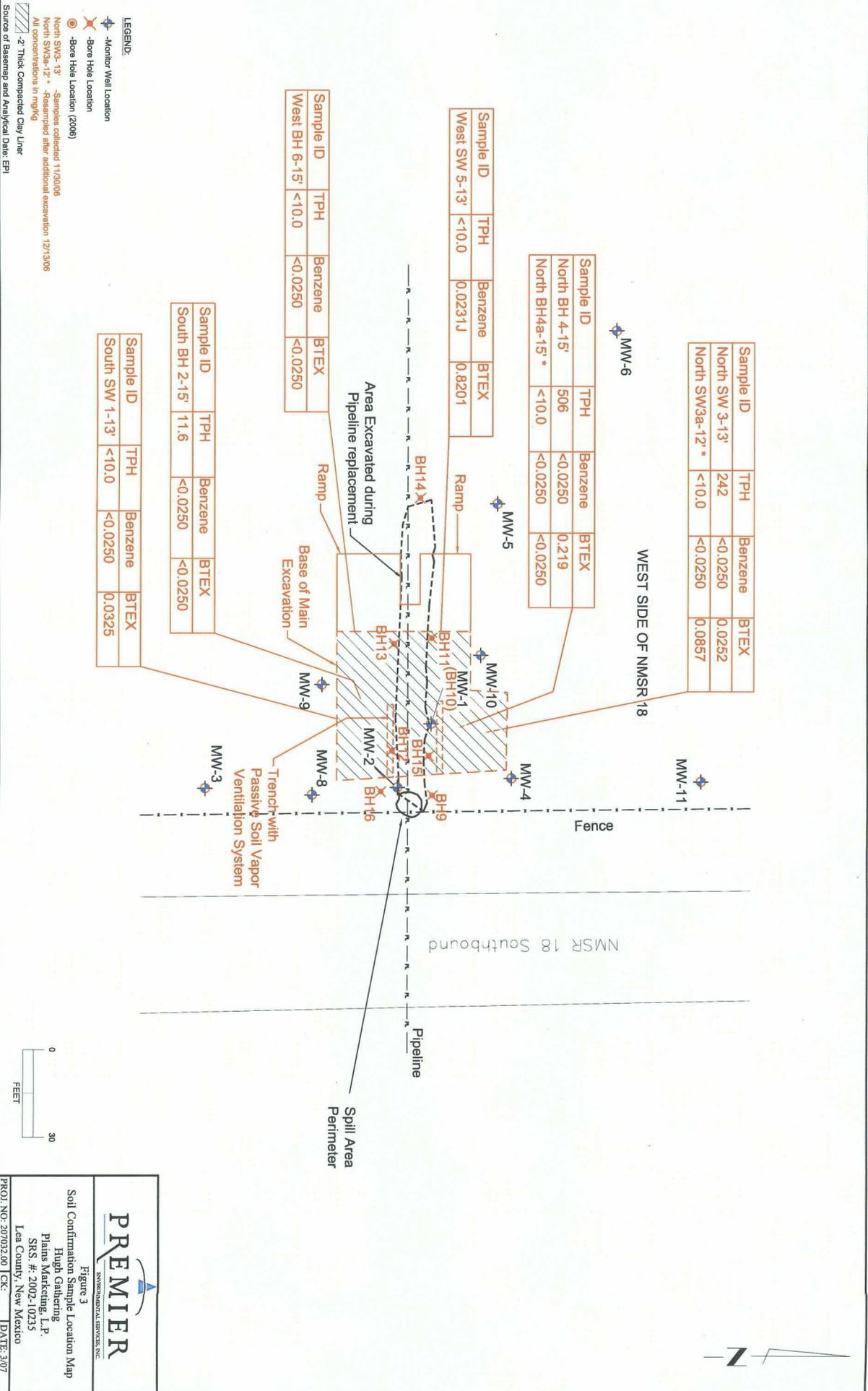


Figure 1  
 Site Location Map  
 Hugh Gathering  
 Plains Marketing, L.P.  
 SRS. #: 2002-10235  
 Lea County, New Mexico

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



	
<p>Figure 2 Site Layout Map Hugh Gathering Plains Marketing, L.P. SRS. #: 2002-10235 Lea County, New Mexico</p>	
PROJ. NO: 207032.00	CK: _____
DATE: 3/07	_____



**PREMIER**  
ENVIRONMENTAL SERVICES, INC.

Figure 3  
Soil Confirmation Sample Location Map  
Hugh Gathering  
Plains Marketing, L.P.  
SRS #: 2002-10235  
Lea County, New Mexico

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

**Appendix B      Tables**

<b>Table 1</b>	<b>Soil Boring Delineation Data Westside of NMSR 18</b>
<b>Table 2</b>	<b>Summary of 2003 and 2004 Monitoring Well Soil Data</b>
<b>Table 3</b>	<b>Soil Confirmation Analytical Results – Western Excavation</b>

**Table 1**  
**Soil Boring Delineation Data Westside of NMSR 18**  
**High Gathering Site #2002-10235**  
**Plains Marketing L.P.**  
**Premier Project #207032**

Sample Location	Sample Description	Sampling Interval (FT. BGS)	SAMPLE ID#	Date	Lithology	VOC Headspace	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	Probe	10'	SEL691102BH9	9/11/02	Brown Oily Sand	793	10600	12400	23000	425.6	23.9	111	73.8	146	70.9
	Probe	15'	SEL691102BH9	9/11/02	Lt. Brown Oily Sand	863	1220	1500	2720	80.76	2.36	17.7	17.7	30.2	12.8
	Probe	20'	SEL691102BH9	9/11/02	Lt. Brown Oily Sand	50.4	<10.0	<10.0	<10.0	127	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	25'	SEL691102BH9	9/11/02	Lt. Brown Oily Sand	6.9	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	5'	SEL691202BH10	9/12/02	Brown Oily Sand	828	7560	7030	14590	507.7	43.9	160	99	141	63.8
BH10	Probe	10'	SEL691202BH10	9/12/02	Brown Oily Sand	857	22000	25100	47100	1030	101	325	197	280	127
	Probe	15'	SEL691202BH10	9/12/02	Brown Oily Sand	597	16700	18100	34800	959	101	308	173	260	117
	Probe	20'	SEL691202BH10	9/12/02	Brown Oily Sand/Prod.	656	15300	15800	31100	801.1	76.1	252	146	225	102
	Probe	25'	SEL691202BH10	9/12/02	Brown Oily Sand	573	12000	11400	23400	716.5	66.2	234	132	197	87.3
	Probe	30'	SEL691202BH10	9/12/02	Brown Sandy Clay	647	13800	14400	28200	855.5	80.5	271	164	235	105
	Probe	35'	SEL691202BH10	9/12/02	Red Clay	400	10600	12300	22900	484.8	35.6	143	98.1	141	67.1
	Probe	40'	SEL691202BH10	9/12/02	Red Clay	386	16400	16400	32800	900.9	90.9	285	168	245	112
	Probe	45'	SEL691202BH10	9/13/02	Red Clay	800	3480	3970	7450	345.8	25.7	109	66.4	100	44.7
	Probe	50'	SEL691202BH10	9/13/02	Red Clay	72.4	15.3	21.9	37.2	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	55'	SEL691202BH10	9/13/02	Red Clay	7.8	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
BH11	Probe	5'	SEL691602BH11	9/16/02	Lt. Brown Sand	2.8	<10.0	<10.0	<10.0	<0.025	<0.02	<0.025	<0.025	<0.025	<0.025
	Probe	10'	SEL691602BH11	9/16/02	Lt. Brown Sand	2.5	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	15'	SEL691602BH11	9/16/02	Lt. Brown Sand	1.3	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
BH12	Probe	5'	SEL691602BH12	9/16/02	Brown Oily Sand & Rk	1157	2740	2840	5580	245.4	17.1	73.5	46.5	74.6	33.7
	Probe	10'	SEL691602BH12	9/16/02	Brown Oily Sand	982	4500	5930	10430	222.8	11.8	60.3	45.7	72.0	33.0
	Probe	15'	SEL691602BH12	9/16/02	Lt. Brown Sand	74.8	<10.0	<10.0	<10.0	0.121	<0.025	0.028	0.03	0.063	<0.025
	Probe	20'	SEL691602BH12	9/16/02	Lt. Brown Sand	2.1	<10.0	<10.0	<10.0	0.182	<0.025	0.045	0.038	0.099	<0.025
	Probe	5'	SEL691602BH13	9/16/02	Lt. Brown Sand	0.7	<10.0	<10.0	<10.0	1.020	0.026	0.164	0.188	0.500	0.142
BH13	Probe	10'	SEL691602BH13	9/16/02	Lt. Brown Sand	1.6	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	15'	SEL691602BH13	9/16/02	Lt. Brown Sand	1.4	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	5'	SEL691602BH14	9/16/02	Lt. Brown Sand & Rk	8.4	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
BH14	Probe	10'	SEL691602BH14	9/16/02	Lt. Brown Sand	6.1	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	15'	SEL691602BH14	9/16/02	Lt. Brown Sand	5.5	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	5'	SEL691702BH15	9/17/02	Brown Sand & Rk	905.0	8060	7970	16030	1363.8	39.8	296	248	517	263
BH15	Probe	10'	SEL691702BH15	9/17/02	Brown Sand & Rk	864.0	19600	18300	37900	2550.1	97.1	572	474	926	481
	Probe	15'	SEL691702BH15	9/17/02	Lt. Brown Sand	25.4	<10.0	21.0	21.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	Probe	20'	SEL691702BH15	9/17/02	Lt. Brown Sand	6.2	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
BH16	Probe	5'	SEL691702BH16	9/17/02	Brown Sand	786.0	3950	4000	7950	188.57	5.37	43.2	35.9	73.1	31.0
	Probe	10'	SEL691702BH16	9/17/02	Lt. Brown Sand	642.0	7630	7860	15490	488	28.2	140	98.0	154	67.8
	Probe	15'	SEL691702BH16	9/17/02	Lt. Brown Sand	814.0	11400	12100	23500	598.4	27.9	187	120	185	78.5
	Probe	20'	SEL691702BH16	9/17/02	Brown Sand	814.0	8880	9780	18660	565.1	36.1	161	107	178	83.0
	Probe	25'	SEL691702BH16	9/17/02	Brown Sand	774.0	7520	8950	16470	19.11	<0.200	2.72	5.37	7.71	3.31
	Probe	30'	SEL691702BH16	9/17/02	Red Clay	8.7	<10.0	<10.0	<10.0	0.413	<0.025	0.063	0.099	0.216	0.044
Remedial Goals	Remedial Goals for soil from the surface to ~8' bgs														
	Remedial Goals for soil from ~8' bgs to the groundwater at ~58' bgs														

100 ppm Isobutylene calibration gas = 101 ppm  
 bgs = below ground surface  
 VOC-Volatile Organic Contaminants/Constituents  
 GRO-Gasoline Range Organics C<sub>6</sub>-C<sub>12</sub>  
 DRO-Diesel Range Organics C<sub>12</sub>-C<sub>35</sub>  
 TPH-Total Petroleum Hydrocarbon = GRO+DRO.  
 7950 = Concentrations in bold above remediation goals  
 \*BTEX - Mass sum of benzene, toluene, ethylbenzene, and xylenes  
 ND - not detected above the method detection limit.  
 All data prior to 2007 was collected by EPI

**Table 2**  
**Summary 2003 and 2004 Monitoring Well Soil Data**  
**Hugh Gathering Site # 2002-10235**  
**Premier Project No: 207032**

Sample ID	Sample Date	Boring ID	Lab ID	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	m,p-Xylenes (mg/Kg)	o-Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (GRO) (mg/Kg)	TPH (DRO) (mg/Kg)	Total TPH (mg/Kg)
SEHG6503SMW-10'	05-Jun-03	MW-2		<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6503SMW-20'				<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6503SMW-30'				<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6503SMW-40'				<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6503SMW-50'				<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6503SMW-70'				<0.02	0.0242	0.0689	0.122	0.047	0.2621	<5	<5	<10
SEHG6902SMW2-10'	09-Jun-03	MW-3		<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6902SMW2-20'				<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10	
SEHG6902SMW2-30'				<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10	
SEHG6902SMW2-40'				<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6603NMW-10'	06-Jun-03	MW-4		<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10
SEHG6603NMW-20'				<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10	
SEHG6603NMW-30'				<0.02	<0.02	<0.02	<0.02	<0.1	<5	<5	<10	
LEHG62504MW8-35'	25-Jun-04	MW-8		<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	<2.5	<7.5
LEHG62504MW8-55'				<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	<2.5	<7.5
LEHG62804MW9-35'	28-Jun-04	MW-9		<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	2.53	2.53
LEHG62804MW9-55'				<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	<2.5	<7.5
LEHG62904MW10-35'	29-Jun-04	MW-10		0.0403	1.25	2.4	3.65	1.58	8.9203	41.5	97.6	<b>139</b>
LEHG62904MW10-55'				0.0452	1.27	2.39	3.59	1.58	8.8752	20.5	57.7	78.2
LEHG62404MW11-35'	24-Jun-04	MW-11		<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	6.2	6.2
LEHG62404MW11-55'				<0.02	<0.02	<0.02	<0.04	<0.02	<0.12	<5	<2.5	<7.5
PAAHG12101MW12-30'	01-Dec-04	MW-12		<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
PAAHG12101MW12-45'				<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
PAAHG12101MW12-55'				<0.025	<0.025	<0.025	<0.025	<0.025	<0.125	<10.0	<10.0	<10.0
<b>NMOC Remedial Thresholds</b>									<b>50</b>			<b>100</b>

Notes: 1. Bolded values are in excess of the NMOC Remediation Thresholds.  
2. No samples were retained for laboratory analysis from the soil borings installed for MW-5, MW-6 and MW-7.

**Table 3**  
**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 mg/Kg	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	0.0325	0.0216 J	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	
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	
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	
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	
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	
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	
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	
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	
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	

BH = Bottom Hole  
SW = Sidewall

All data collected by EPI.

Concentrations in bold exceed NMOCD Remediation Goals  
J = estimated value

GRO - Gasoline Range Organics  
DRO - Diesel Range Organics

***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

A handwritten signature in black ink, appearing to read "Roger C. Anderson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

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**

**BH6 to 9 – g0204502 Sept 2002**  
**BH10 – g0204544 Sept 2002**  
**BH10 – g0204545 Sept 2002**  
**BH11 to 14 – g0204546 September 2002**  
**BH15 to 16 – g0204548 September 2002**  
**2002 – 10235 (6503) MW10 June 2003**  
**2002 – 10235 (6603) MW10 June 2003**  
**2002 – 10235 (6903) MW2 June 2003**  
**2002 – 10235 (6\_24\_04) MW11 July 2004**  
**4L02002 Dec 2004 – MW12 Soil Data**

***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.

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STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

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

**NATURE OF RELEASE**

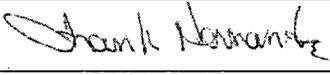
Type of Release Crude Oil	Volume of Release 50 bbls	Volume Recovered 0 bbls
Source of Release 6" Steel Pipeline	Date and Hour of Occurrence Sometime before 9-4-02	Date and Hour of Discovery 9-4-02 1:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <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.

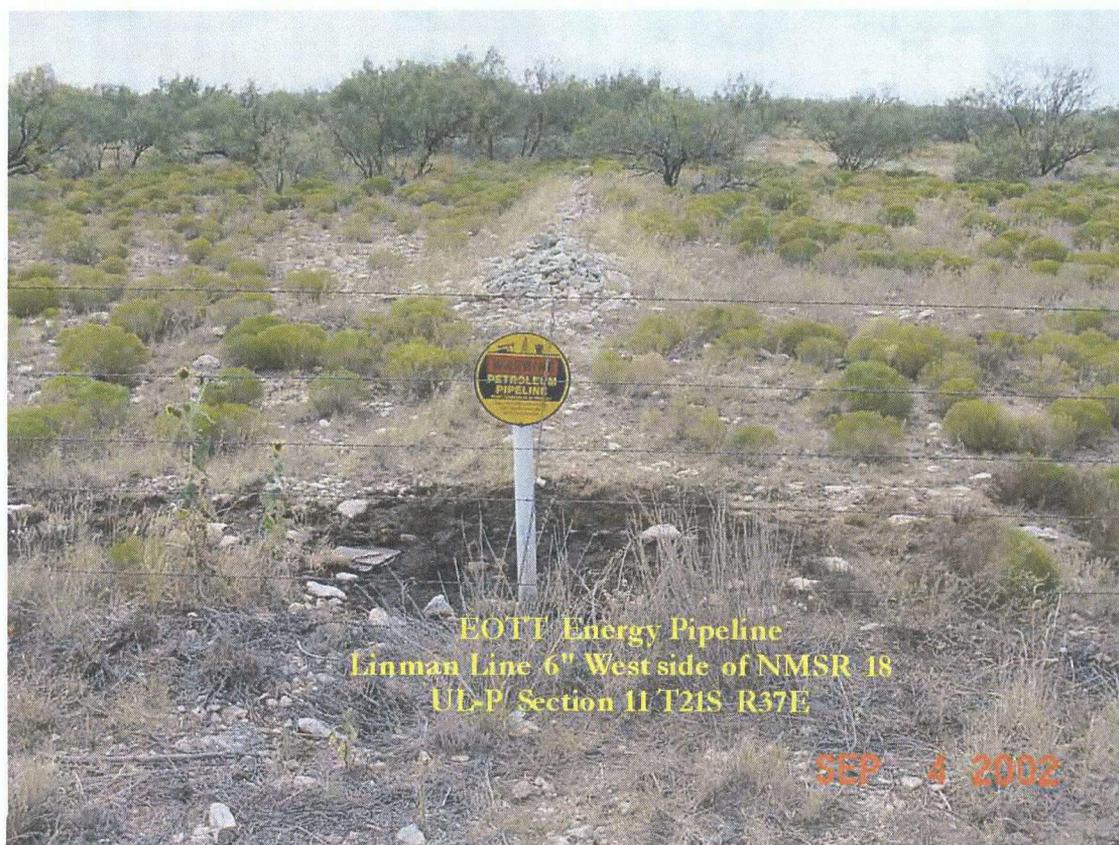
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Frank Hernandez	Approved by District Supervisor:	
Title: District Environmental Supervisor	Approval Date:	Expiration Date:
Date: September 12, 2002 Phone: 915.638.3799	Conditions of Approval:	Attached <input type="checkbox"/>

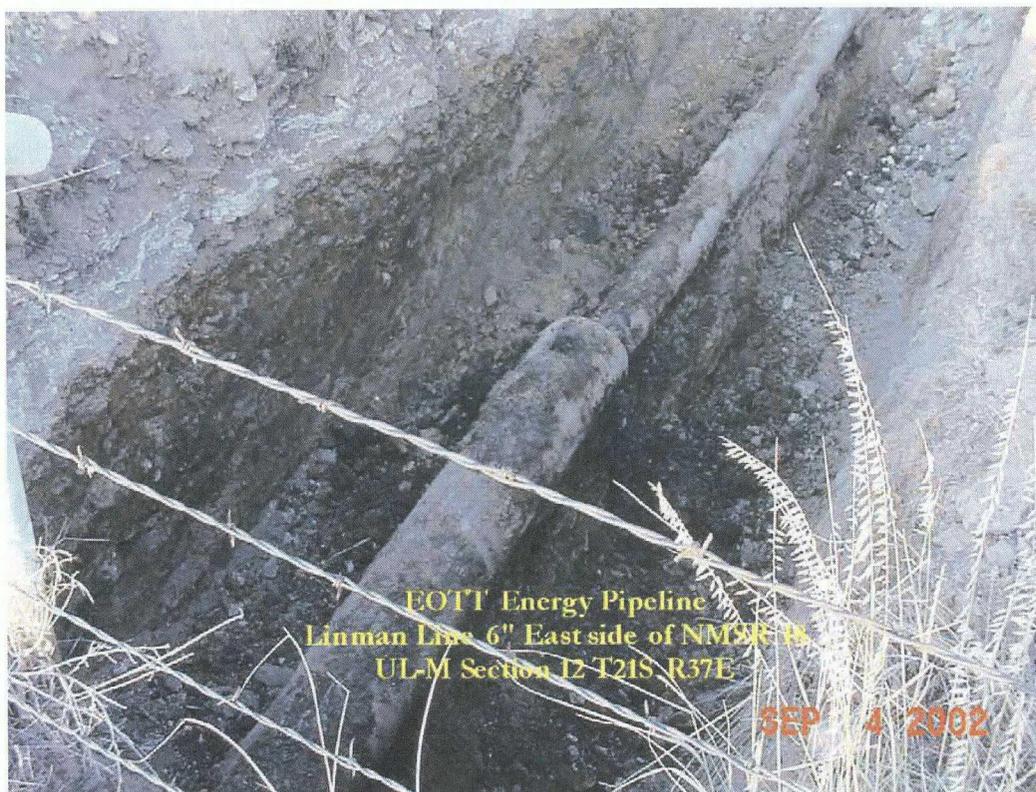
\* Attach Additional Sheets If Necessary

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>	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or; <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 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	
Ground water Score =		Wellhead Protection Area 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	5000 ppm
<sup>1</sup> 100 ppm field VOC headspace measurement may be substituted for lab analysis			

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





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

N

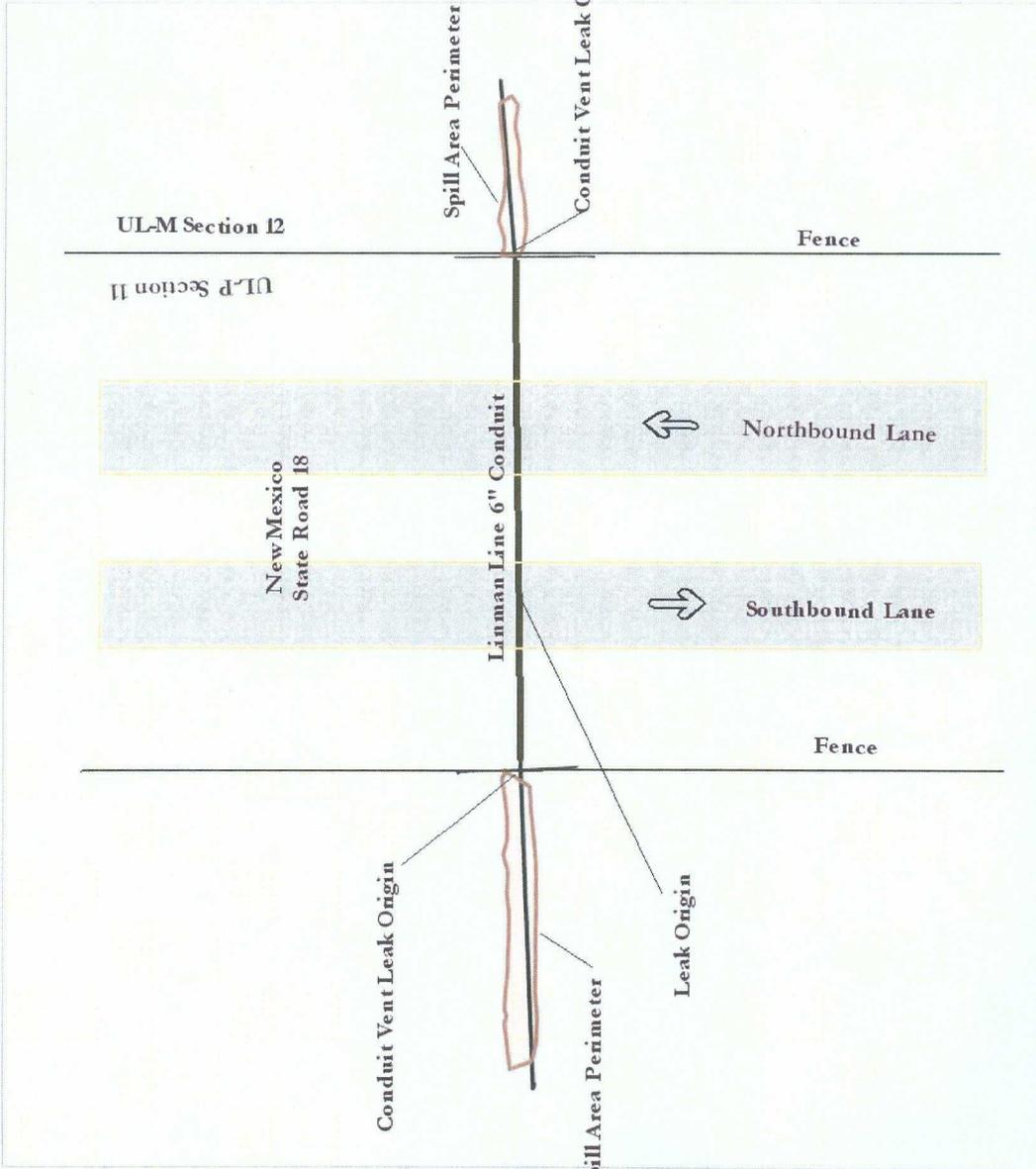
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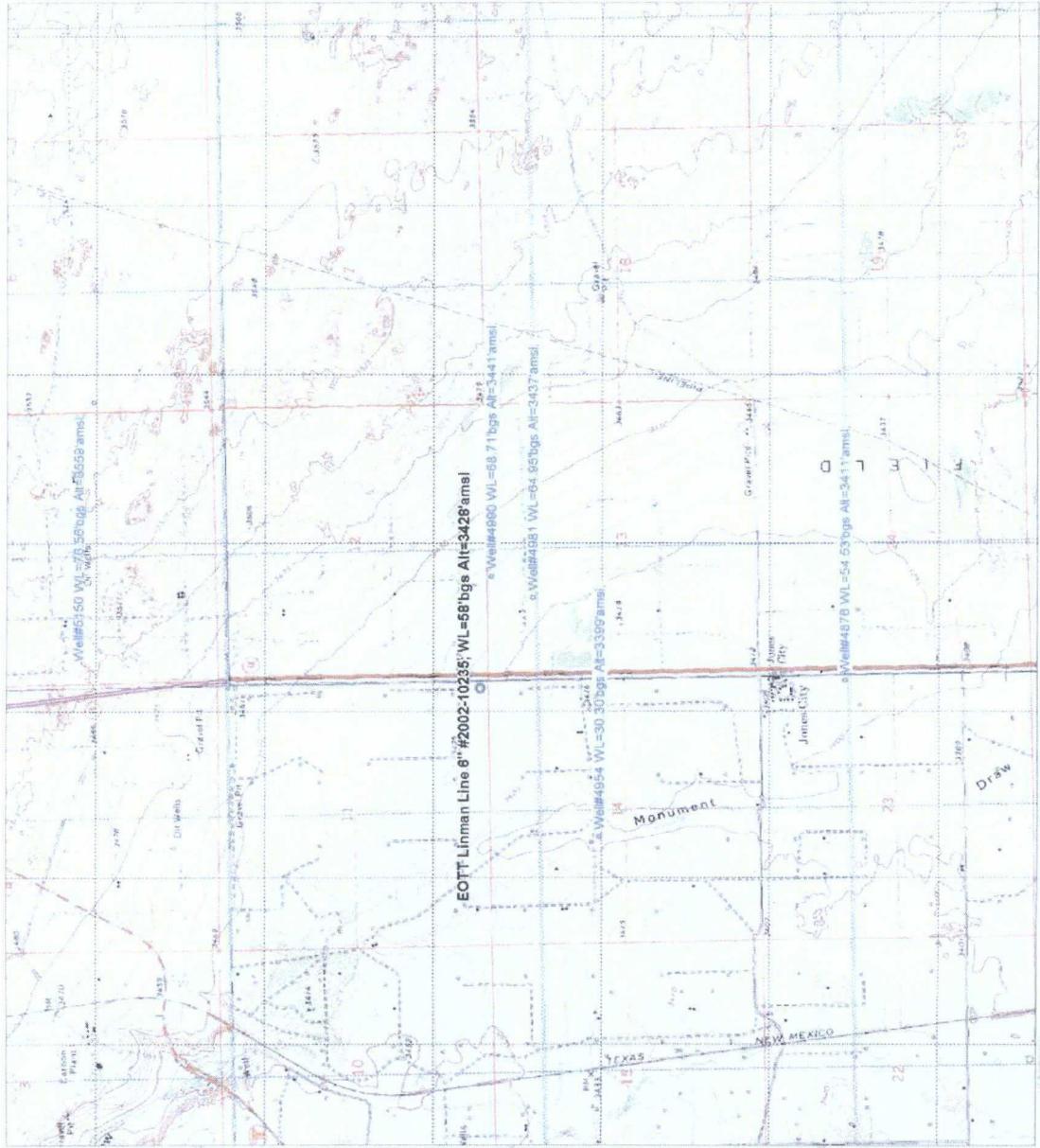
FEET

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



SCALE 1:40,000

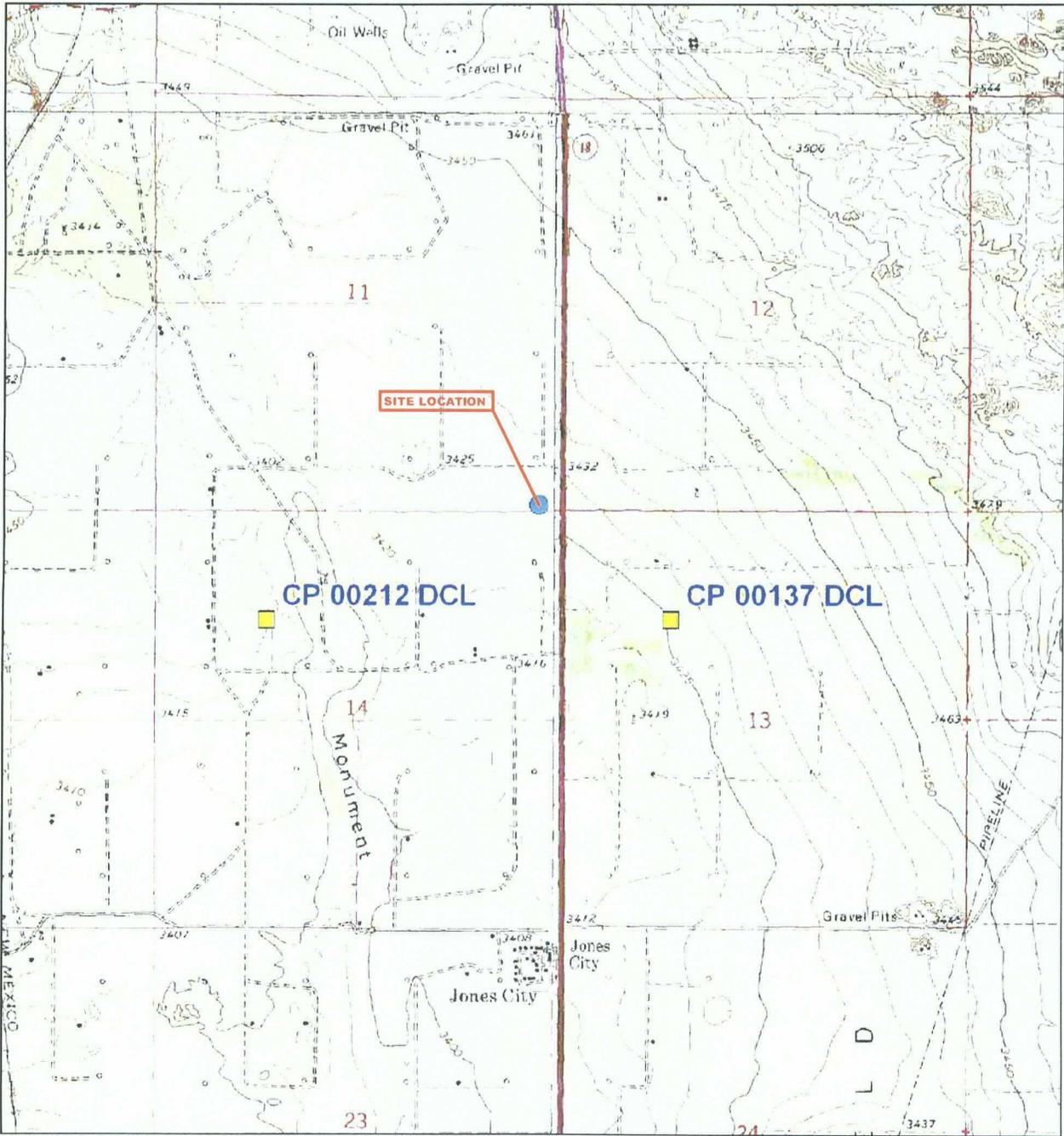


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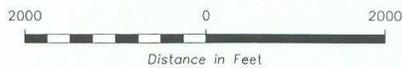
UNIVERSAL TRANSVERSE MERCATOR  
13 NORTH  
NAD 1983 HPGN (NEW MEXICO)

MULTIPLE FILES  
9/13/2002





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



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

PROJ. NO: 207032.00	CK:	DATE: 3/07
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**TABLE 1**  
**Groundwater Sample Analytical Results**  
**Plains Marketing, L.P.**  
**SRS #2002-10235**  
**Hugh Gathering**

SAMPLE LOCATION	SAMPLE ID	SAMPLE DATE	BTEX 8260b			
			BENZENE	TOLUENE	ETHYL-BENZENE	BTEX
			mg/L	mg/L	mg/L	mg/L
			NMOCD Remediation Criteria			
			0.010	0.750	0.750	0.620
MW 5	T16511-1	3/1/2007	<b>0.172<sup>a</sup></b>	0.0062	0.1380	0.0900
MW 5	T17665-2	6/1/2007	<b>0.1210</b>	0.0101	0.1030	0.0608
MW 5	T18805-1	9/6/2007	<b>0.0477</b>	0.0113	0.0523	0.0335
MW 5	T19776-1	11/13/2007	<b>0.0775</b>	0.0285	0.0906	0.0531
MW 6	T16511-2	3/1/2007	<0.00035	<0.00020	<0.00033	<0.00036
MW 6	T17665-1	6/1/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 6	T18805-2	9/6/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 6	T19776-2	11/13/2007	<0.0005	<0.0005	<0.0005	<0.001
MW 7	T16511-3	3/1/2007	<0.00035	<0.00020	<0.00033	<0.00036
MW 7	T17665-3	6/1/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 7	T18805-3	9/6/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 7	T19776-3	11/13/2007	<0.0005	<0.0005	<0.0005	<0.001
MW 11	T16511-4	3/1/2007	<0.00035	<0.00020	<0.00033	<0.00036
MW 11	T17665-4	6/1/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 11	T18805-4	9/6/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 11	T19776-4	11/13/2007	<0.0005	<0.0005	<0.0005	<0.001
MW 12	T16511-5	3/1/2007	<0.00035	<0.00020	<0.00033	<0.00036
MW 12	T17665-5	6/1/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 12	T18805-5	9/6/2007	<0.00021	<0.00023	<0.00035	<0.00055
MW 12	T19776-5	11/13/2007	<0.0005	<0.0005	<0.0005	<0.001

<sup>a</sup> Result is from Run #2.

Concentration in **Bold** = above NMOCD

