1R - 0464

REPORTS

DATE:

MAR 2007

IR-0464

Report March 2007

SOIL CLOSURE REPORT
VACUUM TO JAL 14" MAINLINE # 5

PLAINS SRS NO. 2003-00134

UL-A, SECTION 2, T22S, R37E

Lea County, New Mexico

NMOCD No. IR0465

PREPARED FOR

PLAINS MARKETING, L.P.

333 CLAY STREET, SUITE 1600
HOUSTON, TEXAS 77002

PREPARED BY

PREMIER ENVIRONMENTAL SERVICES, INC

4800 SUGAR GROVE BLVD., SUITE 420
STAFFORD, TEXAS 77477
281.240.5200

Project No. 205069.00

March 2007

Chan Patel
Senior Project Manager

Table of Contents

APPENDICES

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.

Distribution

Mr. Ben Stone
New Mexico Oil Conservation Division Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505
bstone@state.nm.us

Mr. Larry Johnson, Environmental Engineer
New Mexico Oil Conservation Division Environmental Bureau
1625 North French Drive
Hobbs, New Mexico 88240
505-393-6161 ext 111
lwjohnson@state.nm.us

Mr. Jeffrey Dann, PG
Senior Environmental Specialist
Plains Marketing, L.P.
333 Clay Street, Suite 1600
Houston, Texas 77002
713-646-4100
jpdann@paalp.com

Mr. Daniel Bryant
Plains Marketing, L.P.
3705 E. Highway 158
Midland, TX 79706
dmbryant@paalp.com

Mr. Shane Diller
Field Supervisor
Premier Environmental Services, Inc.
30 West Industrial Loop, Suite I
Midland Texas 79701
sdiller@premiercorp-usa.com

Chan Patel
Senior Project Manager
Premier Environmental Services, Inc.
4800 Sugar Grove Blvd, Suite 420
Stafford, Texas 77477
281-240-5200
cpatel@premiercorp-usa.com

EXECUTIVE SUMMARY

Premier Environmental Services, Inc. (Premier) has prepared this *Soil Closure Report (Report)* on behalf of Plains Marketing, L.P. (Plains) for the Vacuum to Jal 14" Mainline #5 (Site), located in T22S, R37E, Section 2 of Lea County, New Mexico, approximately 2 miles east of Eunice, New Mexico, more specifically at latitude 32° 25' 39.006" N and longitude 103 ° 07' 43.155" W (Figure 1, Appendix A). The hydrocarbon impact at the Site was the result of a 20 barrel crude oil release that occurred on May 23, 2003. The pipeline was owned by EOTT Energy, LLC (EOTT) at the time of the release, and is currently owned by Plains.

Results from previous investigations and excavations conducted by Environmental Plus, Inc. (EPI) in 2003 and 2004 were submitted in a July 2005 document entitled ***Data Evaluation and Closure Proposal***, and are summarized in this *Report* for convenience. Based on the findings of subsurface investigation activities conducted at the site by Premier, a ***Soil Remediation Plan***, dated May 2006, was prepared and submitted to the New Mexico Oil Conservation Division (NMOCD) for approval. In a letter dated June 12, 2006, NMOCD approved the Remediation Plan with the stipulation that certain conditions be met by Plains. A copy of the NMOCD letter is included in Appendix C.

In general, the remediation approach presented in the approved Remediation Plan was to isolate and control residual contaminants of concern (COCs) in the soil at the base of the excavation and to prevent further impact to groundwater. Residual contamination in the sidewalls and in some excavation bottom areas, were removed and treated on-site by blending the soils with previously excavated and land farmed soils. To minimize further impact to groundwater an impermeable plastic liner was placed at the base of the excavation where residual COCs were left in place. The remaining excavated and treated soil from the land farm located adjacent to the open excavation were used as backfill material and placed back in the excavation over the impermeable plastic liner.

Specifically, the following activities were completed to implement the approved Remediation Plan:

- The collection of confirmation sidewall and excavation bottom samples to verify areas that may need additional excavation.
- Excavation of sidewalls and some areas at the base of the excavation that exceeded the cleanup criteria of 100 mg/kg Total Petroleum Hydrocarbons (TPH).
- Placement of an impermeable plastic liner at the base of the excavation where residual COCs were left in place. The liner is designed to prevent precipitation from migrating down through residual hydrocarbon that may be present in the soil column at the base of the excavation.

- Soils from the treated land farm that exhibited TPH concentrations above 1,000 mg/kg were placed (as backfill) on the impermeable liner in the base of the southern section of the excavation and a second liner was placed above these soils to prevent precipitation that infiltrated the surface soil from mixing with the COC and transporting them to groundwater.

In summary, the results of the remedial activities completed to date, including the recent excavation of sidewalls and areas along the bottom of the excavation, placement of impermeable liners, and backfilling activities described in this report, demonstrate that these activities meet the requirements of the May 2006 Soil Remediation Plan, as well as the specific conditions identified in the June 12, 2006 NMOCD approval letter. This report illustrates that the activities completed at the Vac to Jal #5 site have met the site-specific risk-based NMOCD cleanup criteria for soil established for this Site. Upon review and approval of this Report by the NMOCD, soil remediation will be considered complete at this Site.

As part of the on-going groundwater remediation and monitoring program for this site, seven additional groundwater wells were installed in November 2006, after the excavation and backfilling activities were completed. In order to monitor the effectiveness of the soil remediation activities conducted at the Site, groundwater monitoring for the presence of benzene, toluene, ethylbenzene and xylenes (BTEX), will continue on a quarterly basis in the remaining monitor wells. In the event that phase separated hydrocarbons (PSHs) are observed in any of the wells, those wells will be manually bailed and/or adsorbent socks will be used to remove the PSH. Details associated with the installation of the seven groundwater wells, as well as the gauging, PSH recovery and sampling activities as the Site will be presented in an ***Annual Groundwater Monitoring Report*** to be submitted in March 2007.

1.0 INTRODUCTION AND SITE HISTORY

Premier was retained by Plains to complete delineation and remediation at the Vacuum to Jal 14" Mainline #5 (Vac to Jal #5) site, SRS No. 2003-00134. According to the initial response notification form (NMOCD Form No. C-141 – included in Appendix F), Mr. Pat McCasland of Environmental Plus, Inc. (EPI) reported the release on behalf of Mr. Frank Hernandez of EOTT to the NMOCD on May 23, 2003 at about 8:00 p.m. The leak was apparently caused by internal or external corrosion and was repaired. The line was being pressure tested when the leak occurred. The Site is located in T21S, R37E, Section 26 of Lea County, New Mexico, approximately 2 miles east of Eunice, New Mexico (Figure 1, Appendix A).

According to EPI documents, the May 2003 release resulted in two areas requiring excavation. The larger of the two areas was an irregularly shaped area measuring approximately 200 feet by 40 feet, and impacted approximately 8,885 square feet (Figure 2, Appendix A). The second area requiring excavation activities was a smaller L-shaped area located east of the southernmost portion of the larger excavation that measured approximately 2,500 square feet. The EPI data also indicated the presence of an apparent historical spill at the Site that impacted an area in the central portion of the larger excavation and was located under the existing pipelines. The apparent historical spill was identified by the presence of an asphaltine layer noted near the surface and extending to several feet in depth. According to Mr. McCasland with EPI, emergency response excavation activities associated with the May 23, 2003 release were undertaken in May and June 2003 and this soil was initially stockpiled onsite. File correspondence from EPI to Plains states that, between March 5 and March 11, 2004, approximately 1,466 yd^3 of the more heavily impacted surface soils were transported off-site for treatment at the Plains' Lea Station Land Farm.

In May and June, 2003, eight soil borings (BH-1 through BH-8) were installed by EPI to a maximum depth of 20 feet below ground surface (bgs) to further delineate the May 2003 spill. Analytical results from these eight delineation borings installed in May/June 2003 indicated that total benzene, toluene, ethylbenzene and xylene (BTEX) concentrations were either below the detection limit (0.020 mg/kg) or below the regulatory standard (50 mg/kg) in all samples except five of the surface soil samples (approximately 2 feet below ground surface - bgs). Total petroleum hydrocarbon (TPH) concentrations exceeded the regulatory standard of 100 mg/kg at seven boring locations (BH-1, BH-2, BH-7 and BH-8) to depths of 10 feet bgs (see Section 4.3 for additional details).

In March 2004, EPI conducted a Volatile Organic Concentration (VOC) headspace analysis screening exercise of soils from four exploratory trenches to further delineate the 2003 release. These trenches were located adjacent to EPI borings BH-1, BH-4, BH-6, and BH-7. VOC headspace analysis indicated VOC concentrations above 100 ppm (the NMOCD field screening remediation criteria), in trenches completed adjacent to BH-1

down to 13 feet bgs and adjacent to BH-4 to 10 feet bgs. These areas were further excavated and this soil was placed in the stockpile to be land farmed on-site. According to Mr. McCasland, the impacted soil was periodically tilled, while it was land farmed on-site.

Confirmation samples were collected by EPI from the sidewalls and bottom of the excavation on April 15, 2004. Laboratory results indicated TPH concentrations exceeding NMOCD cleanup guidelines in the sample from the west flow path bottom hole sample at 14 feet bgs, east flow path northeast side wall, and the east flow path west side wall (Table 2 in Appendix B). All other confirmation samples indicated that COCs were below NMOCD cleanup guidelines for the Site.

On January 12, 2006, Premier collected twelve soil samples (SP-1 through SP-12) from the land farm for BTEX, TPH gasoline range organics (GRO) and TPH diesel range organics (DRO) analysis. Laboratory results for the land farm soil samples indicated that BTEX constituents and TPH GRO were below NMOCD cleanup standards for the Site, while TPH DRO concentrations ranged from 231 mg/kg to 1,180 mg/kg (Table 3).

Between March 21 and March 24, 2006, Premier oversaw the installation of six soil borings to delineate hydrocarbon impacts in soil and groundwater. These six borings were converted to three groundwater monitor wells (MW-1 through MW-3) and three groundwater recovery wells (RW-1 through RW-3). The borings/monitor wells ranged in depth from 45 to 60 feet bgs. After well installation and during groundwater gauging and sampling exercises, measurable thickness of PSH were identified in the three recovery wells (RW-1, RW-2 and RW-3). Dissolved phase hydrocarbons (BTEX) were identified in samples collected from the three monitor wells. The results of this investigation indicated the need to conduct additional groundwater investigations at the site to define the extent of the hydrocarbon plume.

Based on the field work completed and the data collected at the Site to date, Premier prepared a ***Soil Remediation Plan*** for submittal to NMOCD in May 2006. This *Report* details the activities completed between October 3, 2006 and November 7, 2006, including additional soil sampling, excavation and backfilling activities at the site, as approved by NMOCD on June 12, 2006 (see a copy of the NMOCD Remediation Plan approval letter in Appendix C). As outlined in Premier's ***Soil Remediation Plan***, the excavation that EPI began in April 2004 was resumed and included additional sidewall and floor or bottom sampling, "hot-spot" excavation, soil blending and mixing in the land farm area, placement of a 20-mil high-density polyethylene impermeable liner, and backfilling the open excavation with clean fill and blended soils from the on-site land farm area.

Following completion of excavation and backfilling activities, and after the site had been brought back to grade (as proposed in the May 2006 Remediation Plan), Premier oversaw the installation of seven additional borings/groundwater wells at the site. Specifically, between November 28th and November 30th, 2006, Straub Corporation installed four

monitor wells (MW-4 through MW-7) and three potential recovery wells (RW-4 and RW-6) to delineate the hydrocarbon plume. The wells ranged in depths from 60 to 61 feet bgs.

2.0 ENVIRONMENTAL CHARACTERIZATION

2.1 Geological Description

In Lea County, bedrock frequently outcrops at the ground surface or is thinly interbedded with alluvium and eolian dune sands. The bedrock outcrops range from Triassic Age lithofied strata to Pleistocene Age sediments. The Recent Age Mescalero sands cover 80% of Lea County, and are described as fine to medium-grained and reddish brown in color. Lea County lies in the Pecos Valley Section of the Great Plains Province, very near the Southern High Plains to the east. The Tertiary Age Ogallala Formation underlies the High Plains and is exposed on several ridges in Lea County.

The uppermost sediments at the Site are largely unconsolidated sands. Wind generated sand dunes, somewhat stabilized with vegetation including mesquite and shinnery oak are found in the general area. One to four feet of aeolian sands overlie silty to sandy caliche with minor clay lenses present near the groundwater interface. The relatively flat topographic surface slopes very gently to the southeast.

2.2 Land Use

Land use in the area is primarily livestock rangeland and oil and gas production. Several gas compressor stations are located in the vicinity of the Site and several major oil and gas transmission lines bisect the region. The area in the immediate vicinity of the Site is sparsely populated, however; there is one residential property located within 500 feet of the Site. According to the City of Eunice Water/Wastewater Superintendent, water for this residence is supplied by the Eunice Municipal Water Supply.

2.3 Groundwater

The New Mexico Office of the State Engineer database lists one water well in Section 2, T22S, R37E (Appendix D). The total depth of the water well is reported to be 1,100 feet. The depth to water was not reported in the database. The City of Eunice Water/Wastewater Superintendent was not aware of a private well on the residential property located within approximately 500 feet of the Site. According to EPI, a water well used for agricultural purposes is located on this property. EPI indicated that the depth to groundwater in the agricultural well was 65 feet bgs.

2.4 Surface Water

There are no surface water bodies within 1,000 feet of the Site.

3.0 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 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.

3.1 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.

Table 1 - Site Ranking Matrix

<table>
<tr><th>1. Groundwater</th><th colspan="2">2. Wellhead Protection Area</th><th>3. Distance to Surface Water Body</th></tr>
<tr><td>If Depth to GW <50 feet: 20 points</td><td colspan="2" rowspan="2">If <1000' from water source, or, <200' from private domestic water source: 20 points</td><td><200 horizontal feet: 20 points</td></tr>
<tr><td>If Depth to GW 50 to 99 feet: 10 points</td><td rowspan="2">200-100 horizontal feet: 10 points</td></tr>
<tr><td>If Depth to GW >100 feet: 0 points</td><td colspan="2">If >1000' from water source, or, >200' from private domestic water source: 0 points</td></tr>
<tr><td>Groundwater Score:20</td><td colspan="2">Wellhead Protection Area Score: 0</td><td>Surface Water Score: 0</td></tr>
<tr><td colspan="4">Site Rank (1+2+3) =20+0+0=20</td></tr>
<tr><td colspan="4">Total Site Ranking Score and Initial Guidance Cleanup Concentrations</td></tr>
<tr><td>Parameter</td><td>20 or ></td><td>10</td><td>0</td></tr>
<tr><td>Benzene</td><td>10 ppm</td><td>10 ppm</td><td>10 ppm</td></tr>
<tr><td>BTEX</td><td>50 ppm</td><td>50 ppm</td><td>50 ppm</td></tr>
<tr><td>TPH</td><td>100 ppm</td><td>1000 ppm</td><td>5000 ppm</td></tr>
</table>

3.2 Site Cleanup Goals

Based on data gathered from the previous investigations, as well as guidelines outlined in Premier's ***Soil Remediation Plan*** (dated May 2005) and the NMOCD Remediation Plan approval letter dated June 12, 2006, the following site-specific performance or remediation

standards for excavation wall confirmation samples were established: TPH target concentration of 100 mg/kg, benzene target concentration of 10 mg/kg and total BTEX target concentration of 50 mg/kg. Excavation floor samples that exceeded Site cleanup goals required placement of a 20 mil liner over them. The performance or remediation standards established for treated/blended soil was 1,000 mg/kg TPH. The treated/blended soils that did not meet the 1,000 mg/kg TPH standard were returned to the excavation after installing a 20 mil impermeable liner in the bottom of the excavation and an additional 20 mil impermeable liner was placed above the soil. The treated/blended soils that met the 1,000 mg/kg cleanup standard for TPH were returned to the open excavation to areas with a 20 mil impermeable liner in place and to areas without a liner in the base of the excavation.

4.0 SITE INVESTIGATIONS AND RESULTS

4.1 Pipeline Leak Details

According to information provided by Plains, at the time of the release the ground surface area impacted by crude oil was approximately 200 feet long by 40 feet wide. Information provided on the NMOCD Form C-141 (Release Notification Form), indicated that the leak occurred on May 23, 2003 when the line was being pressure tested after being repaired. According to information on the Form, approximately 20 barrels of crude oil was released and approximately 5 barrels was recovered. A copy of the NMOCD Form C-141 is included in Appendix F.

According to EPI information, the footprint of the spill was divided into two areas. The larger and westernmost area covered approximately 9,000 square feet and extended predominately north-south along the pipeline easement. The second area was an L-shaped area located east of the southeast portion of the larger impacted area and covered approximately 2,500 square feet at ground surface. During the emergency response activities, EPI identified what appeared to be an historical spill at the Site as well. The historically impacted area was identified by an asphaltine layer observed on the ground surface, located in the central portion of the larger, newly impacted area.

4.2 Emergency Response and Initial Excavation Activities

EPI documents indicate that emergency response measures were undertaken when the leak occurred. In May and June of 2003, EPI installed eight soil borings (to a maximum depth of 20 feet bgs) for the purpose of delineating the extent of impact from the release. According to the EPI documents, the heavily impacted soils were excavated and stockpiled on-site during the May/June 2003 activities. Later, in March 2004, EPI went back to the site to resume excavation activities. During the March 2004 activities, excavated soil was staged on-site and land farming activities began. Approximately 1,466 yd^3 of the more heavily impacted soils were transported off-site to Plains' Lea Station Land Farm for treatment.

4.3 EPI Investigations

EPI's initial subsurface investigation at the site was the May/June 2003 investigation that included the installation of eight borings (BH-1 through BH-8). This investigation was part of the initial emergency response activities and was performed to assist in defining the extent of impacts from the release. These borings were placed throughout the impacted areas and as would be expected, the shallow (2 foot samples) indicated the most elevated COC concentrations. Boring BH-2 (2') indicated the highest total BTEX and total TPH concentrations at 363.99 mg/kg and 39,800 mg/kg, respectively. BH-2 was located in the center of the larger impacted area, approximately 40 feet north of the leak. For the remaining samples collected from below 2 feet bgs, no BTEX concentrations were identified at levels above the 50 mg/kg NMOCD targeted concentration in any of the boring samples. Additionally, for the samples collected below 2 feet, only samples from borings BH-1, BH-2, BH-7 and BH-8 indicated TPH concentrations above the 100 mg/kg NMOCD target level. The maximum depth identified with TPH (all DRO) concentrations above 100 mg/kg was 10 feet in four of the eight borings (BH-1, BH-2, BH-7 and BH-8). Refer to Table 2 for a summary of analytical results and to Figure 2 for locations of the borings relative to the impacted surface areas.

In March of 2004, EPI oversaw the installation of four exploratory trenches to assist in further delineate the subsurface impact of the 2003 release. Headspace VOC readings of greater than 100 mg/kg (the NMOCD field screening remediation criteria) were observed in trench samples adjacent to BH-1 (to 13 feet), adjacent to BH-4 (to 10 feet) and near BH-6 (to 2 feet). Based on the VOC screening results, EPI excavated these hot spots and placed the impacted soil in the land farm area (on-site).

EPI collected confirmation samples from the side walls and bottom of the excavation on April 15, 2004. Laboratory results indicated TPH (DRO) concentrations exceeding NMOCD cleanup guidelines in the soil samples from the larger western flow path bottom hole sample at 14 feet bgs, the smaller eastern flow path northeast side wall, and the eastern flow path west side wall (Table 2 in Appendix B). Analytical results for all other samples indicated that COCs were below NMOCD cleanup guidelines for the Site.

4.4 Premier Investigations

On January 12, 2006, Premier collected twelve soil samples (SP-1 through SP-12) from the on-site land farm soil. These land farm soil samples were shipped to Accutest Laboratories in Houston, Texas for analyses of TPH DRO, TPH GRO and BTEX. Laboratory results indicated TPH DRO concentrations ranged from 231 mg/kg to 1,180 mg/kg. Two samples (SP-3 and SP-6) indicated TPH concentrations above the typical NMOCD standard of 1,000 mg/kg for treated/blended soils. All other COCs were below NMOCD cleanup guidelines for the Site. Land farm soil sample analytical results are reported on Table 3, Appendix B.

In March 2006, Premier supervised the advancement of six soil borings to further delineate hydrocarbon impact in soils beneath the Site. The initial boring (SB-1) was drilled on March 21, 2006, and was located in the bottom of the deeper portion of the excavation, near the leak origin. Field observation and testing conducted on soil samples collected from this boring indicated BTEX and TPH concentrations in excess of NMOCD cleanup guidelines for the Site from five feet bgs to the first groundwater bearing zone at approximately 39.5 feet bgs (Table 2, Appendix B). Phase separated hydrocarbons (PSH) were noted on the sampling tool and drill rods while collecting soil samples at 35 and 40 feet bgs. After discussions with representatives for Plains, the boring was reamed to 7 7/8 – inch diameter and to a total depth of 45 feet bgs. The boring was converted into a four – inch recovery well (RW-1). After completion of RW-1, a bailer was lowered and retrieved and PSH was observed on groundwater. As a result of these observations, the soil boring program was altered to further investigate the impact to the first groundwater bearing zone beneath the site. Soil samples collected during the installation of remaining monitor and recovery wells indicated no soil impact in any other borings except at the groundwater capillary zone in recovery wells RW-2 and RW-3. The soil sample analytical findings associated with all six borings are presented on Table 2 in Appendix B. Figure 2 presents the locations of all the boring/wells installed in the March 2006 investigation.

A total of three recovery wells (RW-1, RW-2 and RW-3) were installed, as well as three monitor wells (MW-1, MW-2, and MW-3). All the wells were developed on March 28, 2006 and monitor wells MW-1, MW-2 and MW-3 were purged and groundwater samples were collected on March 29, 2006. RW-1, RW-2 and RW-3 were not sampled as PSH was present in all three recovery wells.

Laboratory results for the groundwater samples collected on March 29, 2006 indicated benzene concentrations in samples MW-1 and MW-3 in exceedence of the NMOCD cleanup standard of 0.01 mg/l for benzene. None of the remaining BTEX constituents were above NMOCD standards, however, the presence of benzene at concentrations above the NMOCD standard in the most down-gradient well (MW-1), and the presence of PSH in the three recovery wells presented the need to conduct additional groundwater investigations at the Site. Additional groundwater investigation activities were undertaken at the site in November 2006 with the installation of four new monitor wells and three new recovery wells. Details regarding the installation and findings associated with the November 2006 groundwater investigation are discussed in the March ***Annual Groundwater Report***.

5.0 REMEDIATION ACTIVITIES

Impacted surface soils containing the highest COC concentrations were primarily excavated during 2003 and 2004 emergency response activities. The initial excavation activities overseen by EPI resulted in two separate areas of excavation, the westernmost, larger and deeper area extended from approximately 25 feet south of RW-1 to

approximately 200 feet north of RW-1 and averaged between 50 and 75 feet in width. The larger area averaged between 8 and 10 feet in depth, with some areas excavated to 15 feet, and others excavated to only 2 feet. The second area of excavation was an L-shaped hole, averaging approximately 2 feet in depth and was located west and north of monitor well MW-2 and covered approximately 2,500 square feet. As of March 12, 2004, approximately 1,466 yd^3 of the most highly impacted soil was transported off site for treatment/disposal. The remainder of the excavated soil was stockpiled west of the pipelines in an area designated as the land farm area (Figure 2 in Appendix A).

The objectives presented in the approved ***Soil Remediation Plan***, dated May 2006, 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, Premier initially collected soil confirmation samples from the land farm, then the sidewalls for the purpose of determining the need for additional over excavation activities at the site. Following approval of the ***Soil Remediation Plan*** by NMOCD (in October and November 2006), Premier oversaw the remainder of the excavation, confirmation sampling and backfilling (after liner placement) activities.

5.1 Excavation Confirmation Sampling

Prior to backfilling the excavation, in October and November 2006, Premier collected confirmation samples from the sidewalls and the bottom of the excavation. During that time period, eighteen bottom samples (BH-1 through BH-16, CBH-1 and CBH-2), thirteen sidewall samples (SW-1 and SW-2, SW-1 through SW-4, SWE-1 through SWE-3 and CSW-1 through CSW-4) and one blended stockpile sample (BSP-1) were collected for laboratory analysis. Additionally, in January 2006, Premier collected twelve samples from the land farm area (SP-1 through SP-12). Confirmation samples were collected based on the following protocol:

- Excavation bottom samples were collected at a frequency of one sample for approximately every 625 square feet.
- Each bottom sample was analyzed for TPH-DRO and TPH-GRO by EPA method SW 846 8015M and BTEX by EPA method SW 846 8021B.
- Sidewall samples were collected at a frequency of one sample for approximately every 150 linear feet of sidewall.
- Each sidewall sample was analyzed for TPH-DRO and TPH-GRO by EPA method SW 846 8015M and BTEX by EPA method SW 846 8021B.
- Sidewall and bottom sample analytical results were compared to site-specific cleanup standards.
- If one or more of the sidewall samples exceeded the Site cleanup standards, additional excavation was conducted.

As removal of impacted soil was being undertaken, confirmation samples were collected from the base of the excavation (bottom) and the sidewalls, based on TPH readings and data from a TPH field analyzer and field observations. Performance or remediation standards for the excavation bottom and sidewalls were met when the total TPH concentrations were below 100 mg/kg, benzene was below 10 mg/kg and total BTEX concentrations were below 50 mg/kg.

A summary of analytical results for bottom, sidewall and stockpile samples collected in 2006 is presented in Table 4, Appendix B. The laboratory reports for samples collected during the 2006 excavation and backfilling activities are included in Appendix E.

5.1.1 Confirmation Sampling – Bottom and Sidewalls

On October 3, 2006, sixteen soil samples (BH-1 through BH-16) were collected from the bottom of the excavation (see Figure 2 in Appendix A for sample locations). Of the sixteen samples collected from the excavation bottom, four indicated TPH concentrations above the NMOCD targeted concentration of 100 mg/kg. Samples BH-4, BH-6, BH-11 and BH-13 indicated TPH concentrations ranging from 250 mg/kg to 849 mg/kg. Samples BH-11 and BH-13 were located along the eastern wall of the larger excavation and were identified with concentrations of TPH at 273 mg/kg and 250 mg/kg respectively (see Photograph 6 in Appendix D for BH-13 location). After over excavation activities in the BH-11 and BH-13 areas were undertaken on October 24, 2006, confirmation samples CBH-1 and CBH-2 were collected to verify that TPH values were less than 100 mg/kg. CBH-1 was collected in the over excavated area associated with BH-13, while CBH-2 was collected in the over excavated area associated with BH-11. Both confirmation samples indicated TPH concentrations less than the NMOCD regulatory standard of 100 mg/kg. Based on this data, a liner was not required in this area. The two remaining bottom samples (BH-4 and BH-6) that exhibited concentrations above the 100 mg/kg TPH regulatory standard were left in place without over excavation. These locations were in an area underneath the three pipelines where additional excavation activities would have been very difficult and dangerous. Therefore, with NMOCD approval, these soils were left in place and were covered with a 20 mil impermeable liner.

On October 4, 2006, two sidewall samples (SW-1 and SW-2) were collected from the smaller L-shaped excavation, located east of the southeast corner of the larger excavation. Analytical results for these two samples indicated that the regulatory standards for all BTEX and TPH constituents were met and no over excavation was needed in the smaller pit. On October 5, 2006, four sidewall samples (SW-1, SW-2, SW-3 and SW-4) were collected from the larger excavation. These samples were collected by compositing soil from five locations for every 150 linear feet along the sidewalls of the excavation. Three of these samples (SW-1, SW-2 and SW-4) indicated TPH concentrations above the 100 mg/kg regulatory standard. Therefore, on October 23, 2006, these sidewall areas were over excavated. Following the over excavation activities, on October 25, 2006 Premier

collected four confirmation sidewall samples (CSW-1, CSW-2, CSW-3 and CSW-4). See Photograph 4 for a view of the location of sample CSW-1. One of these four confirmation sidewall samples, CSW-4, indicated TPH concentration of 280 mg/kg, triggering additional over excavation at that location. Analytical results for the three remaining confirmation samples indicated that all BTEX and TPH constituents were below NMOCD regulatory standards and no additional excavation was needed at those locations.

Confirmation sample CSW-4 was collected along the southernmost sidewall of the larger excavation. Since CSW-4 indicated TPH concentrations of 280 mg/kg, additional excavation activities were performed along the southern sidewall and three additional confirmation samples (SWE-1, SWE-2 and SWE-3) were collected for laboratory analysis. Analytical results for these three samples indicated that all constituents were either not detected or were below all NMOCD standards. Therefore, no additional sidewall excavation/confirmation sampling was needed.

5.1.2 Confirmation Land Farm and Stockpile Sampling

Soil that was excavated by EPI during the emergency response activities performed at the Site between May 2003 and April 2004 was stockpiled on-site in an area west of the pipelines. EPI documents indicated that the soil was spread to approximately 18 inches in depth and was land farmed to bring down the level of hydrocarbon contamination in the soils. Land farming was accomplished by periodically tilling and blending the soils. Land farm confirmation samples were collected based on the following:

- Treated/blended stockpile samples for on-site reuse were sampled at a frequency of one sample for every 250 cubic yards.
- Each treated stockpile sample was analyzed for TPH-DRO and TPH-GRO by EPA method SW-846 8015M, BTEX by EPA method SW 846 8021B.

Performance or remediation standards for treated/blended soil were met when the total TPH concentrations were below NMOCD risk-based standards established for the Site; specifically when TPH was below 1,000 mg/kg, benzene was below 10 mg/kg and total BTEX were below 50 mg/kg. These concentrations were deemed safe to return to the excavation after placement of the 20-mil, high-density polyethylene reinforced impermeable liner.

On January 12, 2006 Premier collected twelve stockpile soil samples (SP-1 through SP-12) from the land farm soils. The stockpile samples were collected based on a frequency of one sample for every 250 yards of soil. Analytical results for the land farm samples indicated that two of the samples (SP-3 and SP-6) were identified with TPH concentrations above the 1,000 mg/kg regulatory standard for TPH in backfill material (Table 3 in Appendix B).

During excavation activities overseen by Premier in October and November 2006, approximately 250 yd^3 of soil was stockpiled on-site. A composite sample (ESP-1) was

collected from this stockpile on October 25, 2006. Analytical results for ESP-1 indicated concentrations at 0.0534 mg/kg total BTEX and 151 mg/kg total TPH. This stockpile was used in the backfilling process, as was all the soil in the land farm. During the backfilling process, all stockpiled soils that indicated TPH concentrations greater than 1,000 mg/kg were placed in areas of the excavation where the 20 mil liner was in place at the bottom of the excavation. Additionally, to prevent infiltration from rainwater and possible movement of the hydrocarbons into the groundwater beneath the site, all soils containing 1,000 mg/kg (or greater) TPH were also covered with a second impermeable 20 mil liner.

Therefore, the treated soil was blended with the remaining land farmed soil from the previous excavations and the open excavated area was backfilled to grade using the blended soil.

5.2 Excavation and Treatment On-Site

The excavations (two separate pits) at the Vac to Jal #5 Site were originally dug between May 2003 and April 2004 by EPI. The larger excavation was an oblong S-shaped pit that measured approximately 9,035 ft^2 at the surface with an average depth of 8 to 10 feet, and the smaller excavation was an L-shaped pit that measured approximately 2,500 ft^2 with an average depth of 2 feet (Figure 2 in Appendix A). Premier's excavation activities at the Site were performed between October 3, 2006 and November 6, 2006. These activities included additional soil sampling and over excavation activities conducted inside both excavations. Photographs of the excavation are included in Appendix D (Photographs 1, 2, 3, 5 and 7).

When Premier arrived at the site, the open excavation varied between two feet and fifteen feet deep and was accessed by a ramp from the southern end of excavation. Most of the southwestern and eastern sides of the excavation were benched with a series of up to three, 3 to 5 foot benches. For the most part, the upper three to five feet of soil beneath the site was unconsolidated sand. Below five feet, and to the maximum depth of the excavation, the soils were mostly poorly cemented or calcified sands and silts with interbedded caliche layers. During Premier's additional sampling and over excavation activities, care was taken to maintain benching across the sidewalls to prevent cave-ins.

As mentioned previously, additional excavation activities were supervised at the Site by Premier in 2006. Over excavation activities were carried out in the base of the northern portion of the larger excavation in areas near bottom hole samples BH-13 and in the base of the central portion of the larger excavations near BH-11, while sidewall over excavations were carried out near sidewall samples BH-16 (in the northeast corner of the larger excavation), BH-10 (in the central portion of the excavation), north of BH-3 (in the southern portion of the larger excavation) and south of BH-4 (see Figures 3 and 4 in Appendix A). The NMOCD regulatory standards that were the goals for the sidewalls and bottom samples were: 10 mg/kg benzene, 50 mg/kg total BTEX and 100 mg/kg TPH. After over excavation activities were accomplished, analytical results for all sidewall and bottom

samples indicated values that were below the regulatory standards except in two bottom samples (BH-4 and BH-6, see Figure 2). These samples indicated concentrations of 849 mg/kg TPH and 227 mg/kg TPH respectively (see Table 4 in Appendix B) and were collected from the base of the excavation at approximately 15 feet bgs. Due to the locations of these samples, being immediately below the pipelines, additional excavation would have been dangerous, therefore, these two locations were not over excavated. Instead of over excavating, these areas were lined with an impermeable liner to prevent the impacted soils from contacting rainwater and potentially migrating into the groundwater beneath the site.

The total volume of excavated soil, between the initial excavation activities in 2003 and the more recent 2006 excavation, was estimated to be between 3,600 yd^3 and 4,450 yd^3. According to EPI documents, approximately 1,466 yd^3 of soil was transported for off-site treatment, while the remaining (approximately) 3,000 yd^3 of soil was treated and/or blended on site in the land farm area. EPI documents indicate that treatment and/or blending on-site was completed using a track-hoe, front-end loaders and a bulldozer.

5.3 Liner Placement

Once it was demonstrated that the analytical data for the sidewall and excavation bottom samples were within NMOCD standards, which included allowing soil to remain in place in base of the southern part of the main excavation that was above the "typical" 100 mg/kg for TPH, the liner was installed. This was allowed with the understanding that the impermeable 20 mil liner would be placed at the bottom of the excavation in areas where soils with concentrations greater than 100 mg/kg TPH could not be excavated. After the base of the southernmost portion of the larger 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 20 mil liner was placed along the bottom in the area beneath the leak source and near RW-1 (see Figure 4 in Appendix A). The 100 foot by 40 foot sections of liner placed at the base of the excavation, were overlapped and interwoven at the ends to seal and form a single continuous barrier.

The liner was covered, in part, with soil from the land farm areas that exhibited TPH concentrations above the typical NMOCD standard of 1,000 mg/kg. Once the soils with the most elevated TPH concentrations were placed over the bottom liner, a second liner was placed above the soils (see Photograph 8 in Appendix D). Less impacted soil and clean fill was then placed above the second liner to bring the excavation back to natural grade. The purpose of the second liner was to further minimize potential water from infiltrating into the soils with elevated TPH concentrations and to prevent the percolating water from potentially carrying hydrocarbons down to deeper soils or to groundwater. In order to create a seal, bentonite was placed beneath the liner and again above the liner immediately around the recovery well RW-1.

Based on analytical data from sidewall and bottom hole confirmation samples, as well as data from a 15 foot sample from EPI boring BH-4, a liner was not placed in the northern portion of the larger excavation. Analytical data from these samples indicated non-detect or very low (less than 100 mg/kg TPH) concentrations, confirming that a liner would not be required in this area.

5.4 Backfill and Grade Excavation

Once the impermeable liners were placed into the excavation and the liner secured with 6 inches of non-impacted soil, the excavation was backfilled with the treated/blended soil that was stockpiled on-site, west of the excavation. In addition to the soil that was excavated during cleanup activities, 864 cubic yards of clean fill material was brought in from off-site to bring the site to proper grade. The surface vegetation will be restored by reseeding or as negotiated with the landowner.

6.0 CONCLUSIONS and RECOMMENDATIONS

Soil excavation activities at the Site were conducted in accordance with the Remediation Plan that was submitted to NMOCD in May 2006, and was approved by NMOCD in June 2006. The excavation activities completed between October 3 and November 6, 2006 accomplished the following:

- Soil samples were collected from the base and sidewalls of the excavation to determine where additional excavation was required and where liners would be placed to isolate residual impacted soils in the base of the excavation.

- Once it was demonstrated that the analytical data for the sidewall and bottom samples showed removal of COCs to within acceptable NMOCD limits, the bottom of the excavation was cleaned of debris and graded slightly to allow drainage of infiltrated water. Excavation activities completed at the north end of the excavation (approximately 100 yd^3) removed COCs to the extent that a liner was no longer required in this area. Confirmation samples for this area (BH-11 and BH-13) all showed concentrations of less than 100 mg/kg TPH.

- A 20-mil high-density polyethylene impermeable liner was placed along the base of the southern section of the excavation in the vicinity of RW-1. The impermeable liner was covered with approximately 6-inches of clean imported sand. The area around recovery well RW-1 was sealed by placing bentonite chips both below and above the liner and hydrating the bentonite. Treated soils from the land farm that indicated TPH concentrations greater than 1,000 mg/kg were placed over the liner. A second liner was placed over these soils and the excavation was backfilled with soil from the land farm that showed TPH concentrations less than 1,000 mg/kg and with clean fill. The Site was graded to original grade to allow for drainage from east to west.

- The smaller excavation, east of the larger excavation was backfilled with soil from the stockpile (land farm area) and with clean imported fill and graded to original grade.

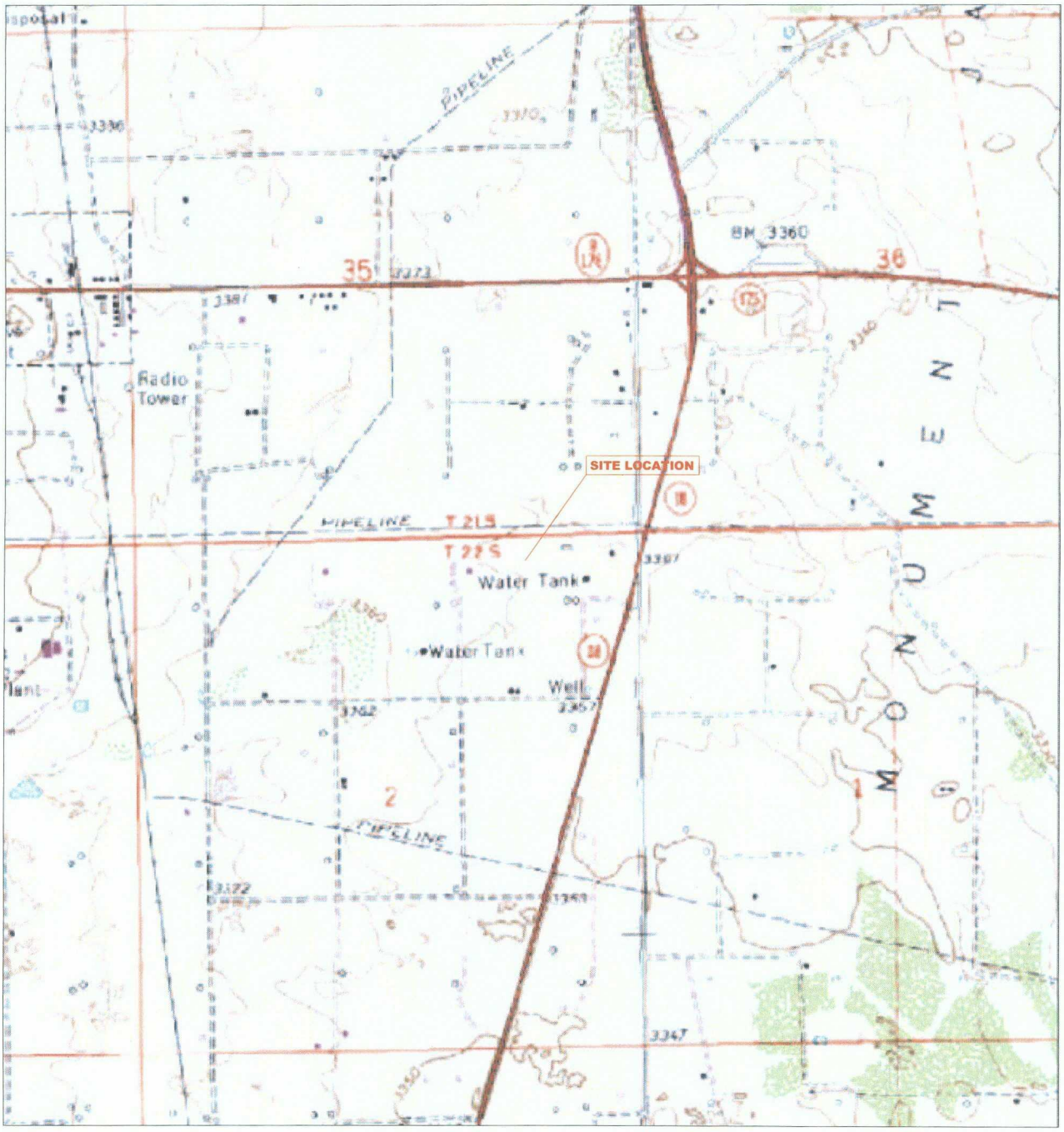
If required, the surface vegetation will be restored by reseeding in late spring or early summer of 2007.

In summary, the results of the remedial activities completed to date including the excavation, placement of impermeable liner and backfill activities described in this report, illustrate that these activities meet the requirements of the May 2006 Remediation Plan and specific conditions identified in the NMOCD approval letter. This report also illustrates the activities completed at the Vacuum to Jal 14" Mainline #5 Site have met the risk based NMOCD cleanup criteria for soil established for this Site. As such, Premier recommends that Plains submit this report to the NMOCD for final regulatory approval for closure of soil issues at this Site, and request a "No Further Action required for soil remediation" letter from the NMOCD.

Additionally, the on-going quarterly groundwater gauging, sampling and weekly PSH removal program should continue in the immediate future.

Appendix A

Figures



Eunice Quadrangle
32°25'39"N Latitude & 103°07'43"W Longitude

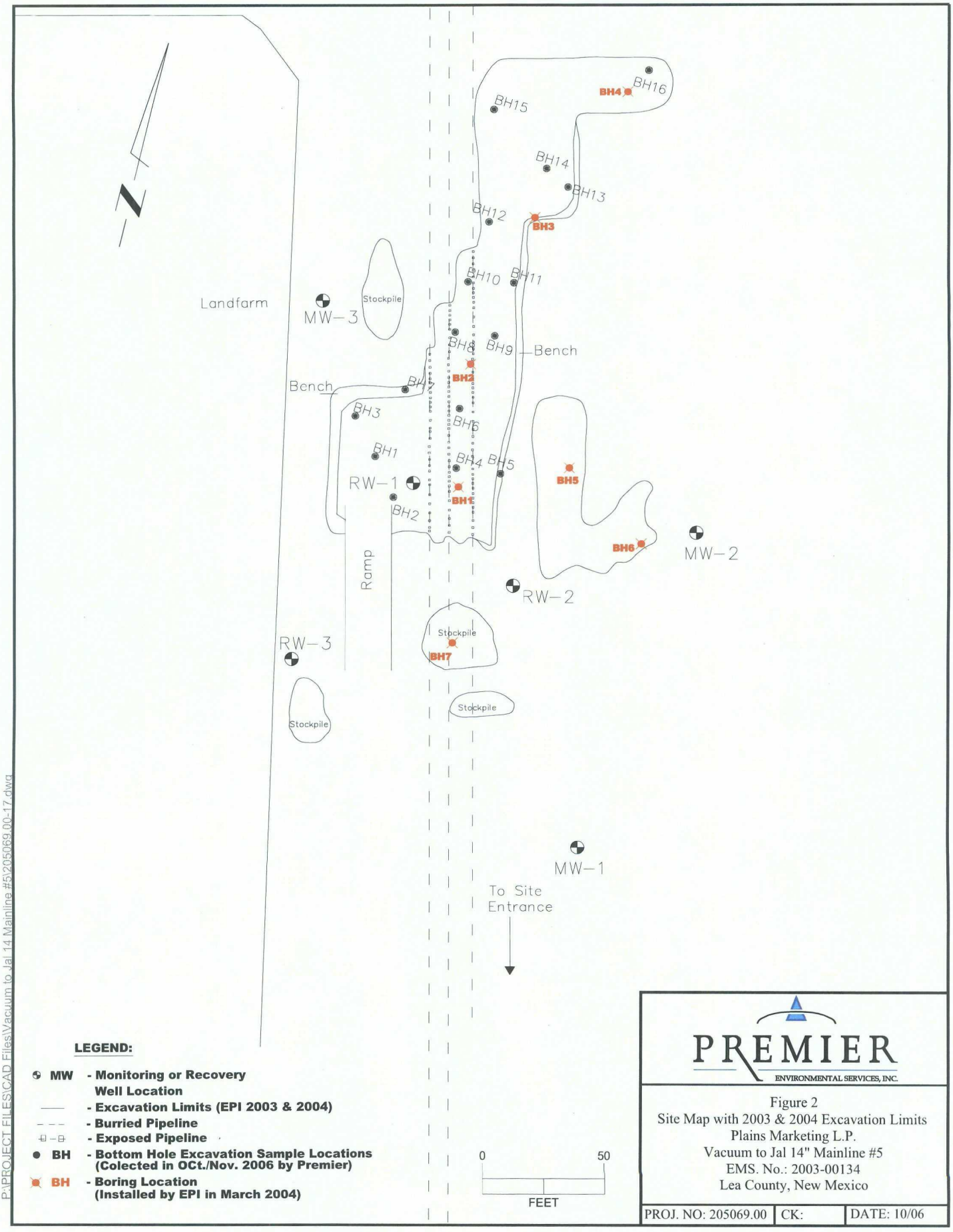
1/2 1/4 0 1/4 1/2
Distance in Miles

PREMIER
ENVIRONMENTAL SERVICES, INC.

Figure 1
Site Location Map
Plains Marketing L.P.
Vacuum to Jal 14" Mainline #5
EMS. No.: 2003-00134
Lea County, New Mexico

PROJ. NO: 205069.00	CK:	DATE: 2/06

T:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline #5\205069.00.dwg



LEGEND:

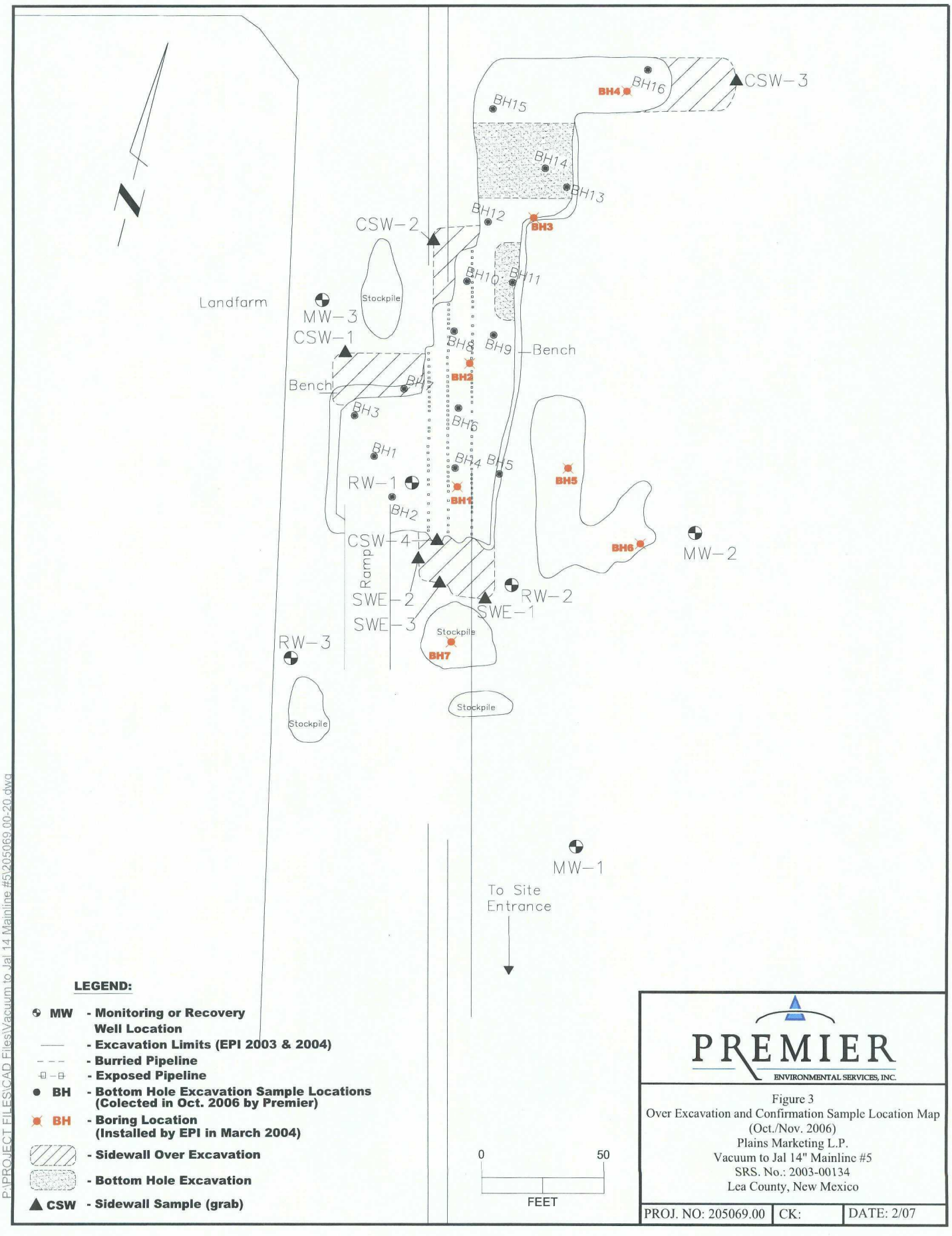
- **MW - Monitoring or Recovery Well Location**
- **____ - Excavation Limits (EPI 2003 & 2004)**
- **- - - - Burried Pipeline**
- **⊟–⊟ - Exposed Pipeline**
- **BH - Bottom Hole Excavation Sample Locations (Colected in OCt./Nov. 2006 by Premier)**
- **BH - Boring Location (Installed by EPI in March 2004)**

PREMIER
ENVIRONMENTAL SERVICES, INC.

Figure 2
Site Map with 2003 & 2004 Excavation Limits
Plains Marketing L.P.
Vacuum to Jal 14" Mainline #5
EMS. No.: 2003-00134
Lea County, New Mexico

PROJ. NO: 205069.00	CK:	DATE: 10/06

P:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline #5\205069.00-17.dwg

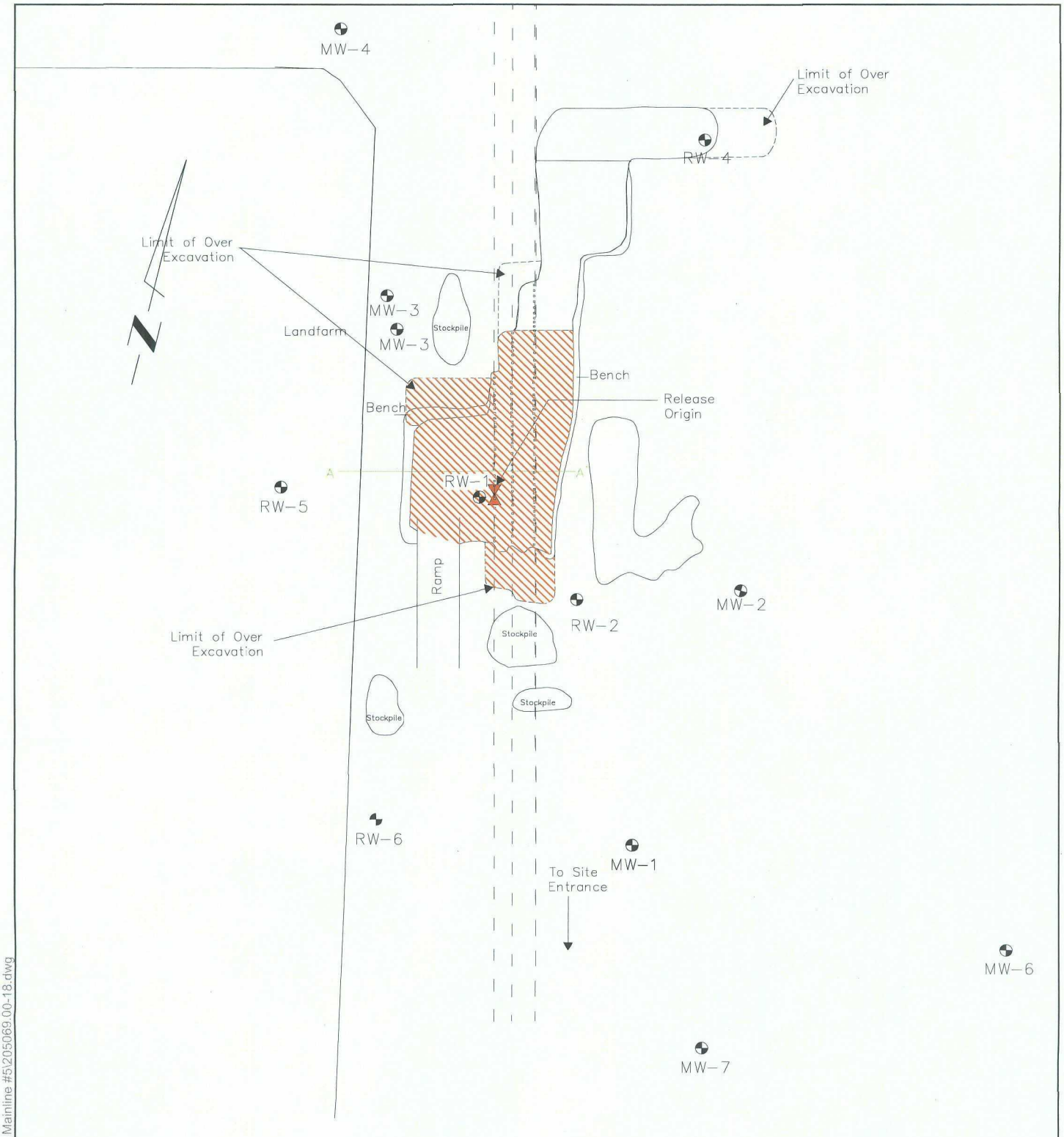


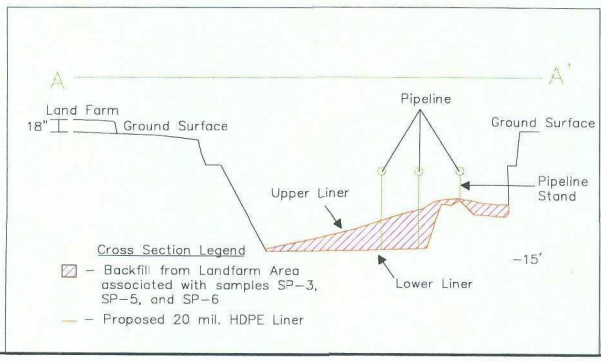
P:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline #5\205069.00-20.dwg

PREMIER
ENVIRONMENTAL SERVICES, INC.

Figure 3
Over Excavation and Confirmation Sample Location Map
(Oct./Nov. 2006)
Plains Marketing L.P.
Vacuum to Jal 14" Mainline #5
SRS. No.: 2003-00134
Lea County, New Mexico

PROJ. NO: 205069.00	CK:	DATE: 2/07





LEGEND:

- **Area with Upper and Lower 20 mil. HDPE Liner**
- **MW - Monitoring or Recovery Well Location**
- **Excavation Limits**
- **Buried Pipeline**
- **Exposed Pipeline**

PREMIER ENVIRONMENTAL SERVICES, INC.

Figure 4
Liner Placement and Well Location Map
Plains Marketing L.P.
Vacuum to Jal 14" Mainline #5
SRS. No.: 2003-00134
Lea County, New Mexico

PROJ. NO: 205069.00	CK:	DATE: 2/06

P:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline #5\205069.00-18.dwg

Appendix B Tables

Table 2
Summary of Soil Sample Analytical Results
Plains Marketing L.P.
EMS No. 2003-00134
Vacuum to Jal 14" Mainline #5
Lea County, New Mexico

Borehole ID	Date Sampled	Interval (BGS')	Sample ID	DRO mg/Kg	GRO mg/Kg	TPH mg/Kg	BTEX mg/Kg	Benzene mg/Kg	Ethylbenzene mg/Kg	Total Xylenes mg/Kg	Toluene mg/Kg
BH1	5/30/2003	2	SE14M553003BH1-2	237	<5	237	0.346	0.026	0.053	0.131	0.136
	5/30/2003	5	SE14M553003BH1-5	7.98	<5	7.98	<.020	<.020	<.020	<.020	<.020
	5/30/2003	10	SE14M553003BH1-10	754	<5	754	0.025	<.020	<.020	0.025	<.020
	5/30/2003	13	SE14M553003BH1-13	NS	NS	NS	NS	NS	NS	NS	NS
	5/30/2003	20	SE14M553003BH1-20	16.2	<5	16.2	0.100	<.020	<.020	<.020	<.020
BH2	5/30/2003	2	SE14M553003BH2-2	26600	13200	39800	363.99	6.690	75.800	212.600	68.900
	5/30/2003	5	SE14M553003BH2-5	512	5.59	517.59	0.067	<.020	<.020	0.038	0.029
	5/30/2003	10	SE14M553003BH2-10	873	<5	873	0.022	<.020	<.020	<.020	0.022
	5/30/2003	15	SE14M553003BH2-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH3	5/30/2003	2	SE14M553003BH3-2	13400	7670	21070	235.920	1.920	50.400	145.800	37.800
	5/30/2003	5	SE14M553003BH3-5	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	5/30/2003	10	SE14M553003BH3-10	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	5/30/2003	15	SE14M553003BH3-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH4	6/2/2003	2	SE14M56203BH4-2	20400	11300	31700	330.760	3.560	69.400	204.600	53.200
	6/2/2003	5	SE14M56203BH4-5	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	10	SE14M56203BH4-10	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	13	SE14M56203BH4-13	NS	NS	NS	NS	NS	NS	NS	NS
	6/2/2003	15	SE14M56203BH4-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH5	6/2/2003	2	SE14M56203BH5-2	9760	6570	16330	239.470	3.470	50.200	143.700	42.100
	6/2/2003	5	SE14M56203BH5-5	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	10	SE14M56203BH5-10	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	15	SE14M56203BH5-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH6	6/2/2003	2	SE14M56203BH6-2	10900	9330	20230	235.670	3.170	51.600	137.700	43.200
	6/2/2003	5	SE14M56203BH6-5	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	10	SE14M56203BH6-10	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	15	SE14M56203BH6-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH7	6/2/2003	2	SE14M56203BH7-2	787	<5	787	0.2249	<.020	0.084	0.106	<.020
	6/2/2003	5	SE14M56203BH7-5	2760	1390	4150	35.166	<.020	17.200	17.926	<.020
	6/2/2003	10	SE14M56203BH7-10	1160	<5	1160	0.385	<.020	0.182	0.203	<.020
	6/2/2003	15	SE14M56203BH7-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
	6/2/2003	20	SE14M56203BH7-20	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
BH8	6/2/2003	2	SE14M56203BH8-2	223	<5	223	<.020	<.020	<.020	<.020	<.020
	6/2/2003	5	SE14M56203BH8-5	302	<5	302	<.020	<.020	<.020	<.020	<.020
	6/2/2003	10	SE14M56203BH8-10	735	<5	735	<.020	<.020	<.020	<.020	<.020
	6/2/2003	15	SE14M56203BH8-15	<5	<5	<5	<.020	<.020	<.020	<.020	<.020
Test Trench Samples											
	3/3/2004		SL14M030304BH7 5'	191	<10	191	0.2152	<0.0250	0.0487	0.1665	0.0195 (J)
	3/3/2004		SL14M030304BH1 10'	5330	3190	8520	263.9	22.8	55.0	104.3	81.8
	3/3/2004		SL14M030304BH6 5'	195	16.9	211.9	0.3356	<0.0250	0.0711	0.1879	0.0766
	3/3/2004		SL14030304BH4 13'	165	16	181	0.5435	<0.0250	0.118	0.3353	0.0902

Table 2
Summary of Soil Sample Analytical Results
Plains Marketing L.P.
EMS No. 2003-00134
Vacuum to Jal 14" Mainline #5
Lea County, New Mexico

Borehole ID	Date Sampled	Interval (BGS')	Sample ID	DRO mg/Kg	GRO mg/Kg	TPH mg/Kg	BTEX mg/Kg	Benzene mg/Kg	Ethylbenzene mg/Kg	Total Xylenes mg/Kg	Toluene mg/Kg
Excavation Samples											
BH9	4/15/2004		LEVML54104NFPBH9'	11	<5	11	<.040	<.020	<.020	<.040	<.020
NSW	4/15/2004		LEVML541504NFPNSW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
ESW	4/15/2004		LEVML541504NFPESW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
WSW	4/15/2004		LEVML54104NFPWSW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
BH14	4/15/2004		LEVML54104WFPBH14'	645	53.3	698.3	<.040	<020	0.329	1.915	0.1
NSW	4/15/2004		LEVML54104WFPNSW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
SSW	4/15/2004		LEVML54104WFPSSW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
ESW	4/15/2004		LEVML541504WFPESW	5.83	<5	5.83	<.040	<.020	<.020	<.040	<.020
WSW	4/15/2004		LEVML541504WFPWSW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
WFP Bottom	4/15/2004		LEVML541504WFPLOPBH	224	16.8	240.8	0.043	<.020	<.020	0.043	<.020
EFP Bottom	4/15/2004		LEVML541504EFPBH8'	40.2	<5	40.2	<.040	<.020	<.020	<.040	<.020
EFP NESW	4/15/2004		LEVML541504EFPNESW	1380	88.5	1468.5	0.199	<.020	<.020	0.1989	<.020
EFP SESW	4/15/2004		LEVML541504EFPSESW	<5	<5	<5	<.040	<.020	<.020	<.040	<.020
EFP WSW	4/15/2004		LEVML54104EFPWSW	190	6.74	196.74	<.040	<.020	<.020	<.040	<.020
Borehole											
RW-1	3/21/2006	20	SB1-20'	**1360**	**612**	**1972**	24.904	0.0743	1.190	4.840	18.80
RW-1	3/21/2006	25	SB1-25'	**948**	**126**	**1074**	3.367	<0.015	0.129	0.608	2.630
RW-1	3/21/2006	35	SB1-35'	**477**	**218**	**695**	5.030	<0.018	<0.012	1.250	3.780
RW-2	3/21/2006	35	PMW4-35'	<3.8	<3.1	<3.8	0.00115	<0.00033	0.0003	<0.00033	0.00085
RW-2	3/21/2006	40	PMW4-40'	<3.4	<2.6	<3.4	<0.00061	<0.0003	<0.0002	<0.0003	<0.00061
RW-2	3/21/2006	45	PMW4-45'	**179**	3.36	**182**	0.01286	0.00068	0.00088	0.0013	0.010
MW-1	3/22/2006	5	MW1-5'	13	<2.9	13	0.0047	<0.00032	<0.00022	0.0011	0.0036
MW-1	3/22/2006	15	MW1-15'	<3.6	<2.9	<3.6	<0.00064	<0.00032	<0.00021	<0.00032	<0.00064
MW-1	3/22/2006	45	MW1-45'	<3.8	<3.2	<3.8	0.00030	<0.00033	0.00030	<0.00033	<0.00066
MW-2	3/23/2006	30	MW2-30'	<3.8	<3.3	<3.8	0.00036	<0.00034	<0.00023	0.00036	<0.00068
MW-2	3/23/2006	45	MW2-45'	<3.8	<3.1	<3.8	<0.00067	<0.00033	<0.00022	<0.00033	<0.00067
MW-2	3/23/2006	50	MW2-50'	<3.5	<2.8	<3.5	<0.00063	<0.00032	<0.00021	<0.00032	<0.00063
MW-3	3/23/2006	30	MW3-30'	<3.8	<3.1	<3.8	0.00031	<0.00033	0.00031	<0.00033	<0.00066
MW-3	3/23/2006	45	MW3-45'	<3.5	<2.8	<3.5	<0.00063	<0.00032	<0.00021	<0.00032	<0.00063
MW-3	3/23/2006	50	MW3-50'	4.89	<2.8	4.89	<0.00064	<0.00032	<0.00021	<0.00032	<0.00064
RW-3	3/24/2006	40	RW3-40'	<3.4	<2.6	<3.4	<0.00061	<0.0003	<0.0002	<0.0003	<0.00061
RW-3	3/24/2006	45	RW3-45'	<3.6	<3	<3.6	<0.00064	<0.00032	<0.00021	<0.00032	<0.00064
RW-3	3/24/2006	50	RW3-50'	**127**	3.56	**131**	0.02239	<0.00031	0.00029	0.0042	0.0179

Lab Report T12986 for RW and MW samples enclosed in Attachement C
NS = not sampled
BGS - Below Ground Surface DRO - Diesel Range Organics GRO - Gasoline Range Organics

TABLE 3
Land Farm Soil Sample Analytical Results (January 2006)
Plains Marketing L.P.
EMS No. 2003-00134
Vacuum to Jal 14" Mainline #5
Lea County, New Mexico

Date Sampled	Lab ID	Sample ID	DRO mg/Kg	GRO mg/Kg	TPH 8015m mg/Kg	BTEX 8021b mg/Kg	Benzene mg/Kg	Ethylbenzene mg/Kg	Total Xylenes mg/Kg	Toluene mg/Kg
1/12/2006	T12364-1	SP-1	475	<3.1	475	<0.00067	<0.00033	<0.00033	<0.00067	<0.00022
1/12/2006	T12364-2	SP-2	498	<3.1	498	<0.00066	<0.00033	<0.00033	<0.00066	<0.00022
1/12/2006	T12364-3	SP-3	1180	<3.1	1180	<0.00067	<0.00034	<0.00034	<0.00067	<0.00022
1/12/2006	T12364-4	SP-4	587	<2.9	587	<0.00066	<0.00033	<0.00033	<0.00066	<0.00022
1/12/2006	T12364-5	SP-5	949	<3.1	949	<0.00067	<0.00034	<0.00034	<0.00067	<0.00022
1/12/2006	T12364-6	SP-6	1010	<2.9	1010	0.0046	<0.00033	0.0013	0.0033	<0.00022
1/12/2006	T12364-7	SP-7	618	<2.9	618	<0.00065	<0.00033	<0.00033	<0.00065	<0.00022
1/12/2006	T12364-8	SP-8	611	<2.9	611	<0.00066	<0.00033	<0.00033	<0.00066	<0.00022
1/12/2006	T12364-9	SP-9	517	<3.0	517	<0.00065	<0.00033	<0.00032	<0.00065	<0.00022
1/12/2006	T12364-10	SP-10	246	<3.1	246	<0.00066	<0.00033	<0.00033	<0.00066	<0.00022
1/12/2006	T12364-11	SP-11	343	<3.0	343	<0.00063	<0.00032	<0.00032	<0.00063	<0.00021
1/12/2006	T12364-12	SP-12	231	<2.8	231	<0.00064	<0.00032	<0.00032	<0.00064	<0.00021

DRO - Diesel Range Organics
GRO - Gasoline Range Organics

TABLE 4
Soil Excavation Analytical Results - October/November 2006
Vacuum to Jal 14" #5
Lea County, New Mexico
Project Number 205069.00

Sample Name	Sample Location	Sample ID	Date Taken	Benzene	Ethylbenzene	Total Xylenes	Toluene	Total BTEX	TPH Fractions			Total TPH
									C_6-C_{12}	C_{12}-C_{28}	C_{28}-C_{35}	
				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
BH-1	South central portion of larger excavation	6J04001-01	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
BH-2	South side of larger excavation near RW-1	6J04001-02	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
BH-3	South side of larger excavation west of pipeline	6J04001-03	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	59.3	9.19 J	59.3
BH-4	South side of larger excavation in leak area	6J04001-04	10/3/2006	<0.0250	0.0442	0.2126	0.0156 J	0.27	79.0	675	95.0	**849**
BH-5	Southeast side of larger exc., east of pipeline	6J04001-05	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	3.81 J	26.5	4.77 J	26.5
BH-6	South side of larger excavation in leak area	6J04001-06	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	10.7	193.0	23.6	**227.0**
BH-7	South side of larger excavation west of pipeline	6J04001-07	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	11.9	2.50 J	11.9
BH-8	Central portion of larger exc. between pipelines	6J04001-08	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
BH-9	Central portion of larger exc., east of pipelines	6J04001-09	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	50.7	21.5	72.2
BH-10	Central portion of larger exc. between pipelines	6J04001-10	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
BH-11	Central portion of larger exc., east of pipelines	6J04001-11	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	197	75.7	**273**
BH-12	Northern portion of larger excavation	6J04001-12	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	27.0	16.0	43.0
BH-13	Northern portion of larger excavation	6J04001-13	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	193	56.5	**250**
BH-14	Northern portion of larger excavation	6J04001-14	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
BH-15	Northern portion of larger excavation	6J04001-15	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	19.6	9.37 J	19.6
BH-16	Northeast corner of larger excavation	6J04001-16	10/3/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	49.0	18.7	62.7
SW-1	Western sidewall of smaller excavation	6J05003-01	10/4/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	51.1	34.4	85.5
SW-2	Eastern sidewall of smaller excavation	6J05003-02	10/4/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	21.2	18.6	39.8
SW-1	Southwest section of larger excavation	6J06002-01	10/5/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	12.9	623	162	**798**
SW-2	Northwest section of larger excavation	6J06002-02	10/5/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	85.3	695	126	**906**
SW-3	Northeast section of larger excavation	6J06002-03	10/5/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
SW-4	Southeast secton of larger excavation	6J06002-04	10/5/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	71.1	34.7	**107**
CSW-1	North of BH-3	6J24013-01	10/25/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	15.60	5.74 J	15.60
CSW-2	Northeast of BH-10, along pipeline	6J24013-02	10/25/2006	<0.0250	<0.0250	0.0273	0.0228 J	0.0501	<10.0	52.20	22.60	74.80
CSW-3	Northeast corner of larger excavation	6J24013-03	10/25/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
CBH-1	Confirmation bottom sample for BH-13	6J24013-04	10/25/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	16.20	2.80 J	16.20
CBH-2	Confirmation bottom sample for BH-11	6J24013-05	10/25/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0
CSW-4	Southern sidewall of larger excavation	6J24013-06	10/25/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	7.59 J	226.00	54.10	**280.00**
BSP-1	Stockpile sample from 2006 excavated soil	6J24013-07	10/25/2006	<0.0250	<0.0250	0.0211 J	0.0323	0.0534	3.20 J	133.00	18.30	151.00
SWE-1	Southeast corner of larger excavation	6K06010-01	11/6/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	29.3	1.92 J	29.3
SWE-2	South side of larger excavation	6K06010-02	11/6/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	27.8	<10.0	27.8
SWE-3	Southwest corner of larger excavation	6K06010-03	11/6/2006	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0

J = detected but below the Reporting Limit; therefore, results is an estimated concentration.
SW= Side wall
SP=Stock Pile
BH=Bottom Hole
Side wall limits = 100 mg/Kg
CSW= Confirmation Side Wall
CBH= Confirmation Bottom Hole
BSP= Blended Stock Pile
SWE = South Wall Excavation (confirmation samples for CSW-4 after overexcavation
Concentrations in bold above regulatory limits require liner for bottom hole samples or excavation for side wall samples

Appendix C

NMOCD Approval Letter of Soil Remediation Plan

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

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

June 12, 2006

Mr. Daniel Bryant
Plains Marketing, L.P.
3705 E. Highway 158
Midland, TX 79706

RE: Soil Remediation Plan
Vacuum to Jal 14" Mainline #5
Plains EMS Number: 2003-00134
Unit Letter A, Section 2, Township 22 South, Range 37 East
Lea County, New Mexico
NMOCD File Number 1R-0464

Dear Mr. Bryant:

The New Mexico Oil Conservation Division (NMOCD) has received and reviewed the above plan submitted on behalf of Plains Marketing, L.P. (Plains) by Premier Environmental Services, Inc. This plan is hereby approved with the following understandings and conditions:

1. Additional soil samples will be collected at the points indicated in Section 7.2 of the plan entitled "Remedial Plan Details."
2. Over-excavation will take place at any point in these locations where the analyses for TPH and BTEX shows contamination above NMOCD regulatory standards.
3. No further vertical excavation, i.e. removal of contamination source, will be done at the site due to the instability of the surface soil.
4. The bottom of the existing excavation will be re-sampled and analyzed for TPH and BTEX.
5. If any areas that exceed NMOCD regulatory levels still exist in the bottom of the current excavation, Plains will install a 20-mil prior to backfilling as described in Section 7.2 of the plan.
6. If, after further sampling and analyses of the bottom of the excavation, Plains finds no areas above NMOCD regulatory limits, Plains shall contact the NMOCD Santa Fe office for approval to backfill at the site without installing a liner.
7. After backfilling is complete, Plains will further delineate groundwater contamination at the site as described in Section 7.4 of the plan entitled "Groundwater Remediation."
8. Plains will continue quarterly groundwater monitoring at the site and semi-monthly phase-separated hydrocarbons recovery.
9. Plains will submit a final report of soil remediation activities at the site within four weeks of backfilling the excavation and grading the site to original slopes.

NMOCD approval does not relieve Plains of responsibility 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 governmental agency.

If you have any questions, contact me at (505) 476-3470, (505) 690-2365 or ed.martin@state.nm.us

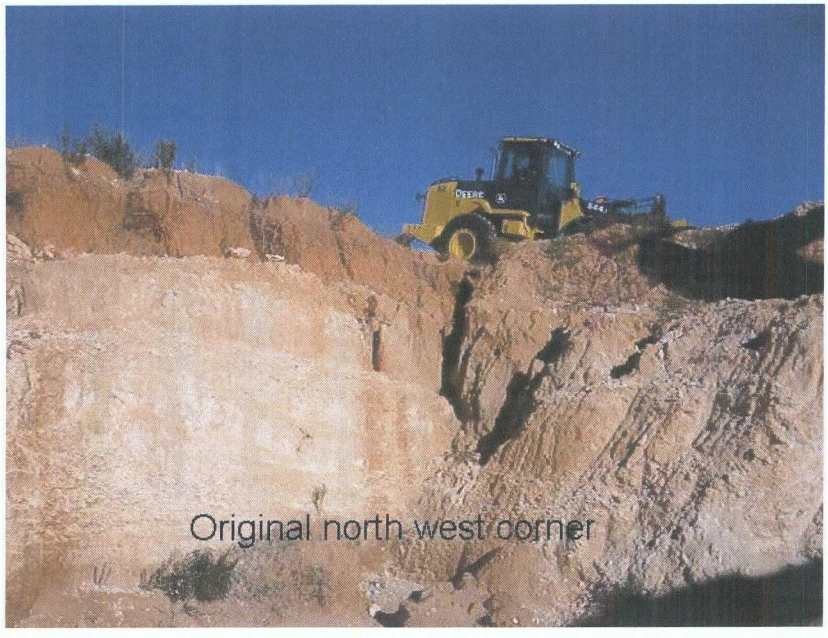
NEW MEXICO OIL CONSERVATION DIVISION

Ed Martin
Environmental Bureau

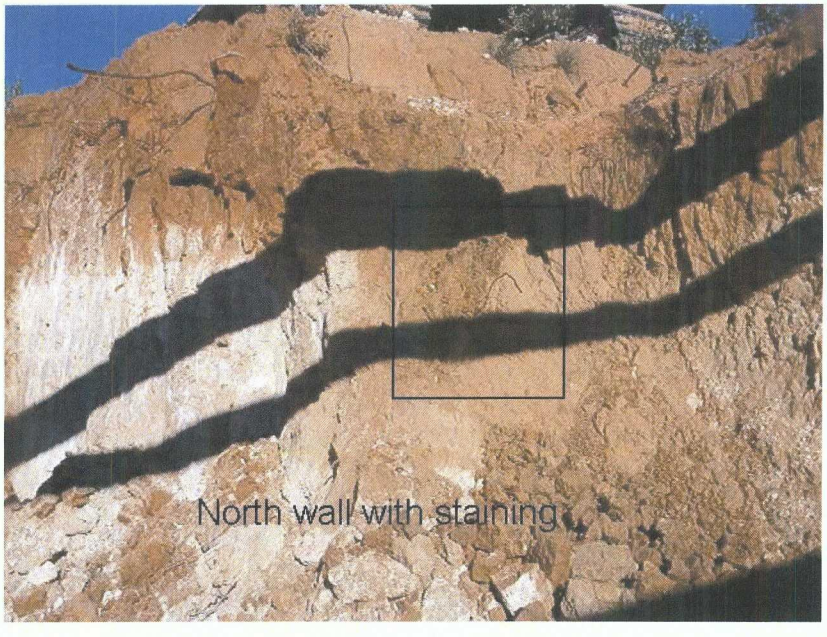
Copy: NMOCD, Hobbs
Chan Patel, Premier

Appendix D

Site Photographs

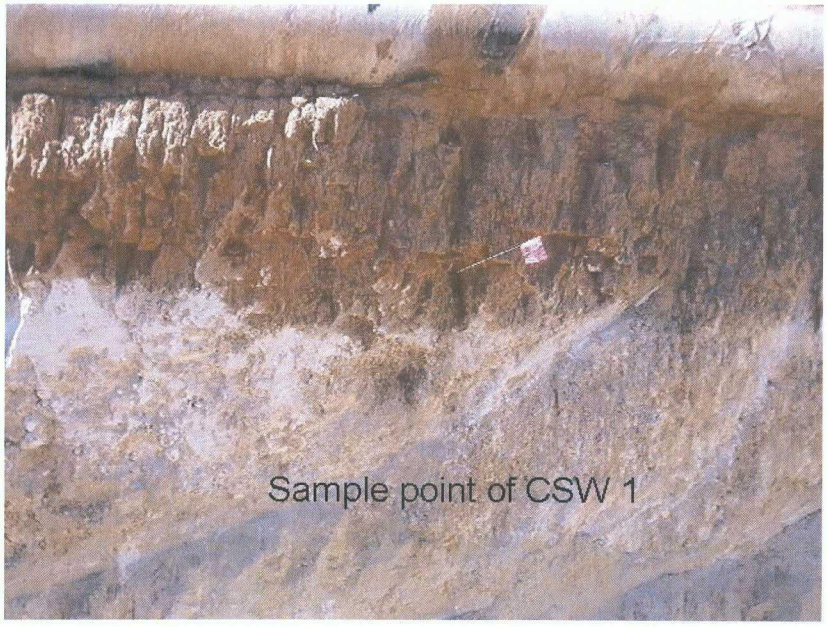


Photograph 1: Northwest corner of excavation, prior to over excavation activities.

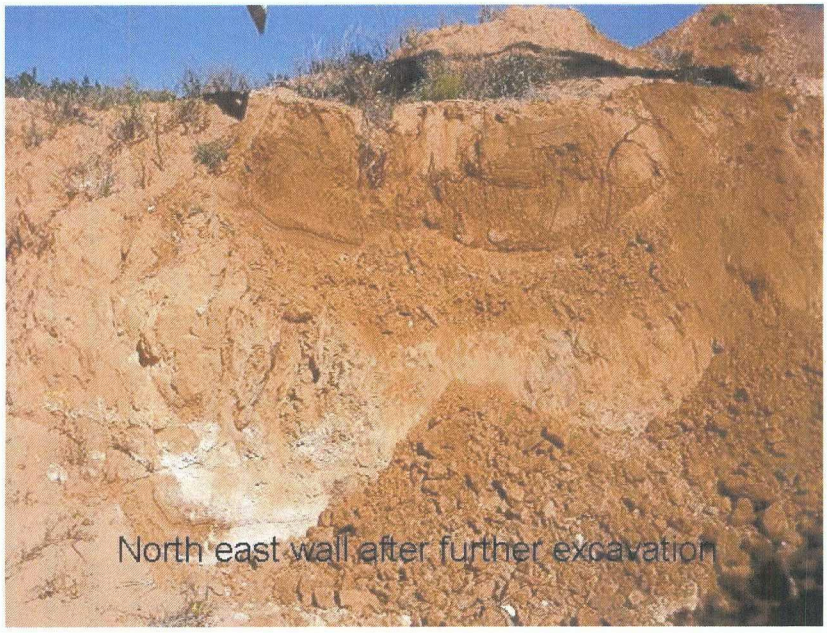


Photograph 2: Staining along northern wall, prior to over excavation activities.

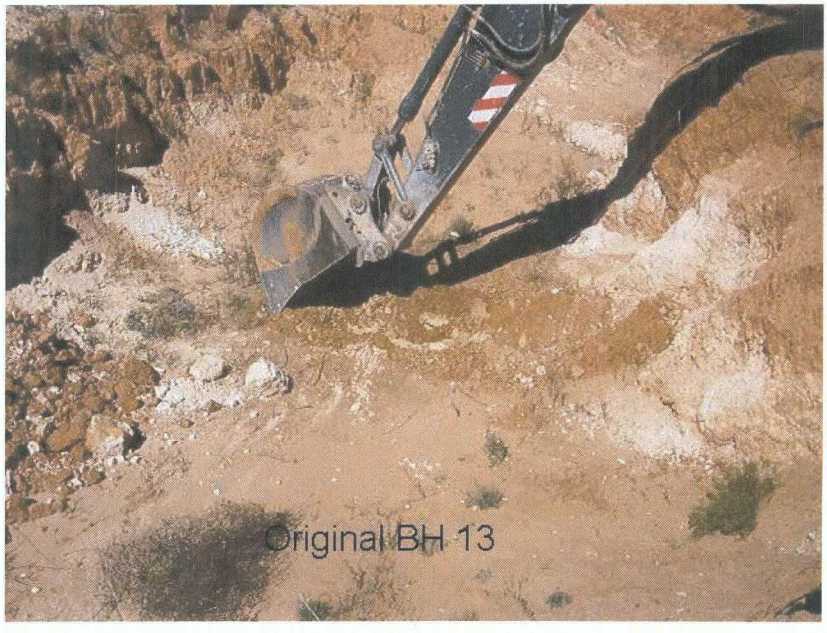
Photograph 3: Photograph shows the 14-inch pipeline on the north side of the excavation.



Photograph 4: Photograph shows the sample location of side wall sample CSW-1, located west of the pipelines.



Photograph 5: Northwest wall after over excavation activities.



Photograph 6: Bottom hole sample BH-13 located in the northern portion of the excavation.

Photograph 7: View of the southernmost wall after over excavation activities.

Photograph 8: Installation of upper liner with recovery well RW-1 in the background.

Appendix E

Analytical Laboratory Reports –Available Electronically on CD Only

T12364	*January 2006 – Land farm Data*
T12986	*March 2006 – Soil Boring Data*
6J04001	*October 2006 – Bottom Hole Data*
6J05003	*October 2006 – Soil Side wall Data*
6J06002	*October 2006 – Soil Side wall Data*
6J24013	*October 2006 – Soil Side wall, Bottom Hole and Stockpile Data*
6K06010	*November 2006 – Soil Side wall Data*

Appendix F

C-141 Release Notification Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company **EOTT Energy LLC**	Contact **Frank Hernandez**
Address **PO Box 1660 5805 East Highway 80 Midland, Texas 79702**	Telephone No. **713.253.7006**
Facility Name **Vacuum to Jal 14" Mainline #5**	Facility Type **14" Steel Pipeline**

Surface Owner **Greg Holt**	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Lea
2	**2**	**T22S**	**R37E**					**Lat. 32 25' 39.006"N** **Lon. 103 07' 43.155"W**

NATURE OF RELEASE

Type of Release **Crude Oil**	Volume of Release **20 bbls barrels**	Volume Recovered **5 bbls barrels**
Source of Release **14" Steel Pipeline**	Date and Hour of Occurrence **5-23-03 @ 3:00 PM**	Date and Hour of Discovery **4:00 PM @ 5-23-03**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Buddy Hill**	
By Whom? **Pat McCasland, EPI**	Date and Hour **5-23-03 @ 8:00 PM**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
14" Steel Pipeline. The cause was either internal or external corrosion. The line was being pressure tested at the time of the occurrence. The line was depressured and a line repair clamp installed. Contaminated soil placed on a plastic barrier.

Describe Area Affected and Cleanup Action Taken.*
~200' x 100' 8,730 sqft ***Site will be delineated to determine the vertical and horizontal extents of contamination. Contaminated soil will be disposed of or remediated on site. Remedial Goals: TPH 8015m = 1000 mg/Kg, Benzene = 10 mg/Kg, and BTEX, i.e., the mass sum of Benzene, Ethyl Benzene, Toluene, and Xylenes = 50 mg/Kg.***

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

Signature: Frank Hernandez	**OIL CONSERVATION DIVISION** Approved by District Supervisor:	
Printed Name: Frank Hernandez		
Title: District Environmental Supervisor	Approval Date:	Expiration Date:
Date: May 27, 2003 Phone: 713.253.7006	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary