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REPORTS

DATE:

4/2006

GENERAL REMEDIATION WORK PLAN

Clay Osborn
Rocky Top Ranch Sites
Jal, Lea County, New Mexico
Sections 7, 12 and 13, T25S R36E
Sections 7 and 18, T25S R37E

April 2006

Prepared For:

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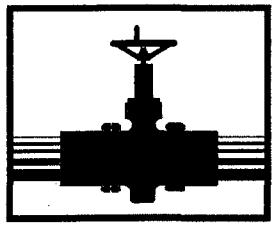

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TABLE OF CONTENTS

1.0 BACKGROUND

Plains Pipeline, L.P. (Plains) is the owner/operator of several pipelines present on the Clay Osborn Rocky Top Ranch property located in Jal, New Mexico. These pipeline assets were acquired by Eott Energy (later renamed Link Energy) from Shell and from Texas-New Mexico Pipe Line Company (TNMPLC) between 1993 and 1999. Plains acquired the Link Energy assets on April 1, 2004.

The Rocky Top Ranch is located in southern Lea County, New Mexico approximately ¾-mile northwest of Jal and made up of the SE¼ of Section 7, the S½ of Section 12 and the entire Section 13 of Township 25 South (T25S) and Range 36 East (R36E) and the S½ of Section 7 and the entire Section 18 of T25S and R37E.

This General Work Plan is provided for NMOCD review and approval. A list of the ten (10) sites that are the subject of this General Work Plan is included in Table 1 in Attachment A. A Site Location Map is included as Figure 1 in Attachment B. Please note that a site-specific work plan will be prepared for each site and will include a summary of the investigation data, categorization of the site based on site-specific characteristics, and a detailed summary of the proposed remedial activities.

2.0 PLAN OBJECTIVES

Plains proposes to remediate crude oil impacted sites at the Rocky Top Ranch, consistent with the remediation/abatement goals and objectives set forth in the New Mexico Oil Conservation Division (NMOCD) "*NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993.*" In addition, when applicable, appropriate risk-based thresholds for the contaminants of concern (CoCs) will be proposed based on the relative risk posed by the CoC residuals to local groundwater, area water wells, surface water bodies and impacts on surface reclamation success.

Plains has prepared the following general work plan for typical or standardized soil remediation objectives that will: 1) limit the amount of surface impact to the areas surrounding each of the remediation sites; 2) be effective on all the sites so that remediation at each site can be conducted in a similar manner; 3) be in accordance with New Mexico Oil Conservation Division (NMOCD) general soil remediation guidelines and accepted practices for the area; and 4) use risk-based remediation principles when and where practical. Information gathered during the subsurface site investigations conducted in these impacted areas in 2001 revealed three (3) potential remediation scenarios: 1) sites where the surface areas have restored themselves naturally, the surface expression of the release is difficult to identity, and the impacts are limited to the surface and/or shallow soils; 2) sites where impacts are limited in depth and total excavation and treatment of the impacted soil is practical; and, 3) sites where soil impacts are deeper and partial excavation of the impacted soil with risk-based closure is warranted. The investigation data also indicates that soil impacts are generally deeper at the source of pipeline leak and shallower along the

flowpath. Prior to initiating any remedial activities at these sites, several of the sites will require soil delineation and evaluation of potential groundwater impacts. Each remediation scenario is described further in Section 5.0 below.

3.0 INVESTIGATION AND DELINEATION OF NEW SITES

There are four (4) previously, uninvestigated historical sites that are potentially subject to remediation. Plains will conduct a site investigation at each location to delineate the vertical and horizontal extent of soil impacts and assess the potential impact to groundwater. In the event one or more of the six (6) previously identified sites requires additional delineation prior to or during the soil remediation phase of work, Plains will conduct these activities. The site-specific Work Plan for each site will contain details of the proposed investigation activities such as location, number and depth of soil borings as well as a sampling and analysis plan.

4.0 PROPOSED TPH AND BTEX REMEDIAL GOALS

Based on the results of the previous investigation activities, the site-specific remedial goals in soil are 10 mg/Kg for benzene, 50 mg/Kg for BTEX and 100 mg/Kg for TPH. However, for those sites where risk-based closure will be proposed, Plains will install an impermeable liner at a depth of 10 to 15 feet bgs to isolate the deeper soil impacts and the treated soils, and the site-specific remedial goals of 10 mg/Kg benzene, 50 mg/Kg BTEX, and 100 mg/Kg TPH will only apply to the sidewalls (lateral extent) of the excavation. For soils excavated, treated, and utilized as backfill over a liner, the site-specific remedial goals will be 10 mg/Kg benzene, 50 mg/Kg BTEX, and 2,000 mg/Kg TPH.

NO
1,000 ppm

5.0 REMEDIATION STRATEGIES

5.1 SURFACE RESTORATION SITES (SCENARIO 1)

For at least one of the known sites, the investigation data indicates the surface area has restored itself naturally, the surface expression of the release is difficult to identity, the impacts are limited to the surface and/or shallow soils, and there is no threat to groundwater. Listed below are the typical steps involved for a site in this category.

- Scrape the surface asphaltines where apparent and remove;
- Blend the underlying 1 to 2 feet of soil with native soil and contour;
- Do not disturb areas that have already re-vegetated.

5.2 TOTAL EXCAVATION (SCENARIO 2)

At several of the sites, investigation data indicates that soil impacts are limited in vertical extent (i.e. 10 to 15 feet in depth) and total excavation of the impacted soil is practical. Listed below are the typical steps involved for a site in this category.

- Excavation of impacted soil to below site guidelines.
- Collect and analyze soil samples from the walls and floor of the excavation to confirm that the remediation has met the site guidelines.
- Relocation of excavated soil to the centralized soil treatment area for blending and aeration.
- Collect and analyze treated soil to confirm that the soil treatment activities have met the site guidelines.
- Prepare a risk-based closure proposal for submittal and approval by the NMOCD.
- Install an impermeable liner in the bottom of the excavation to isolate the excavated/treated soils from the underlying non-impacted soils to prevent vertical migration of petroleum hydrocarbons and allow these soils to further attenuate over time (see liner detail below).
- Backfill the excavation with treated soil and restore the area to as close as possible to pre-spill conditions.

5.3 LIMITED EXCAVATION AND RISK-BASED CLOSURE (SCENARIO 3)

At several of the sites, investigation data indicates that soil impacts in the source area extend to between 10 feet and 45 feet below ground surface and excavation of all of the impacted soil to below NMOCD guidelines is not practical for these sites. Several of these sites also have an impacted "flowpath" area where the depth of the soil impacts are generally less than 10 feet in depth and excavation of the flowpath area is practical. Listed below are the typical steps involved for a site in this category.

- Excavation of impacted soil to approximately 10 feet below ground surface where investigation data indicates deeper soil impacts remain.
- If portions of the impacted area (flowpath for example) appear to be shallow, then excavate the impacted soil from shallow impacted areas to below NMOCD guidelines.
- Collect and analyze soil samples from the walls and floor of the excavation to confirm that the horizontal extent of the soil remediation effort has met the site guidelines.
- Relocation of excavated soil to the centralized soil treatment area for blending and aeration.
- Collect and analyze treated soil to confirm that the soil treatment activities have met the site guidelines.
- Prepare a risk-based closure proposal for submittal and approval by the NMOCD.
- Install an impermeable liner in the bottom of the excavation to isolate the impacted soil and prevent vertical migration of petroleum hydrocarbons (see liner details below).
- Backfill the excavation with treated soil and restore the area to as close as possible to pre-spill conditions.

5.4 LINER DETAILS

Soils impacted above site standards will be isolated from the near surface environment with the installation of an oversized 20 mil polyethylene liner that is impermeable and impervious to water and petroleum hydrocarbon. Establishment of the 3-foot wide clean area buffer around the contaminated soil in the floor of the excavation will be determined using a calibrated photoionization detector (PID) and confirmed by laboratory analysis of grab samples collected around the perimeter of the excavation. The liner shall be cushioned above and below with a 3 to 4-inch layer of sand or a geotextile to protect it from puncture and tearing during the backfilling process. After the liner has been properly installed, the excavation will be backfilled with soil remediated to acceptable levels in the soil treatment area, contoured to the natural grade and seeded with a seed mix acceptable to the landowner.

6.0 SAMPLING AND LABORATORY ANALYSIS

The Work Plan soil sampling program will consist in general of the collection of an appropriate number of confirmation soil samples from the walls and floor of the excavations and from the treated soil stockpiles. Each site-specific Work Plan will include details as to the number and location of confirmation soil samples. Soil samples will be analyzed for TPH gasoline range organics (GRO) and TPH diesel range organics (DRO) utilizing EPA Method SW-846 #8015 and benzene, toluene, ethylbenzene and xylene (BTEX) using EPA Method SW-846 #8021b.

The soil samples collected will be placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler which was secured with a custody seal. The samples and completed chain-of-custody forms will be relinquished to the selected laboratory for analysis.

7.0 CENTRALIZED SOIL TREATMENT FACILITY

Plains proposes to utilize the soil landfarm area currently located adjacent to the Jalmat #22A site as a centralized soil treatment and processing area. Prior to transporting the excavated soil to this area, the existing soil in the landfarm will be pushed up into stockpiles with a bulldozer to be later utilized as blending material during the soil treatment process. Soil excavated from each of the remediation sites will be loaded and transported to this centralized soil treatment facility where the soil will be blended, screened, and/or aerated to reduce contaminant concentrations to Work Plan limits (10 mg/Kg benzene, 50 mg/Kg BTEX, and 2,000 mg/Kg TPH). Treated soils will be segregated into approximate 500 cubic yard stockpiles.

To verify that the soil treatment process has met the Work Plan objectives, a composite soil sample will be collected and analyzed from each 500 cubic yard stockpile. Soil samples will be analyzed for TPH gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA Method SW-846 #8015 and benzene, toluene, ethylbenzene and xylene (BTEX) using EPA Method SW-846 #8021b. If laboratory results indicate the stockpile sample is below the site-specific remediation goals, the stockpiled soil will be flagged as ready to be utilized for backfill over a liner. In the event the

stockpile analytical results indicate TPH and/or BTEX results above the site-specific remediation goals, then the stockpile will be reprocessed and the sampling/verification procedure will be repeated.

8.0 BACKFILL AND SITE RESTORATION

Upon verification that the excavation activities have met the goals of the Work Plan, each site will be backfilled with treated soil that has also met the objective of the Work Plan for reuse as backfill. The backfill will be placed and compacted in lifts and the surface will be contoured to match the surrounding area. The site will be reseeded with a native grasses.

9.0 NOTIFICATIONS

At least 48-hours prior to collecting laboratory samples, Plains will notify the Hobbs, New Mexico office of the NMOCD of the intent to collect laboratory samples.

10.0 REPORTING

Remediation and monitoring activities and analytical information will be summarized in a closure report for each individual release site and submitted to the NMOCD requesting "no further action" be required at that particular site.

11.0 SITE RESTORATION

After the sites have been backfilled, the landfarm area and remediated release site will be reseeded. Follow-up inspections will be made at least quarterly to verify acceptable revegetation of the landfarmed area and the other areas disturbed during remediation of the sites.

TABLES

Plains Pipeline, L.P. Clay Osborn – Rocky Top Ranch Sites Jal, Lea County, New Mexico		
Site Name	**Legal Description**	**GPS Coordinates**
Jalmat #1	Section 7, T25N, R37E	Lat : 32.1403 N Long : 103.2106 W
Jalmat #2	Section 7, T25N, R37E	Lat : 32.1408 N Long : 103.2106 W
Jalmat #3	Section 7, T25N, R37E	Lat : 32.1378 N Long : 103.2106 W
Jalmat #22A	Section 18, T25N, R37E	Lat : 32.~~1328~~ N ~~1329~~ 1328 Long : 103.2106 W
Jalmat #22B	Section 18, T25N, R37E	Lat : 32.1319 N Long : 103.2106 W
Shell North 6" (East of Road)	Section 12, T25N, R36E	Lat : 32.1428 N Long : 103.2161 W
TM –245-2	Section 18, T25N, R37E	Lat : 32.1314 N Long : 103.2105 W
DT-27	Section 7, T25N, R37E	Lat : 32.1402 N Long : 103.2104W
SH 0193-2	Section 12, T25N, R36E	Lat : 32.1418 N Long : 103.2125 W
SH 0184-1	Section 18, T25N, R37E	Lat : 32.1313 N Long : 103.1983 W

IR-412

IR-411

IR-83

FIGURES

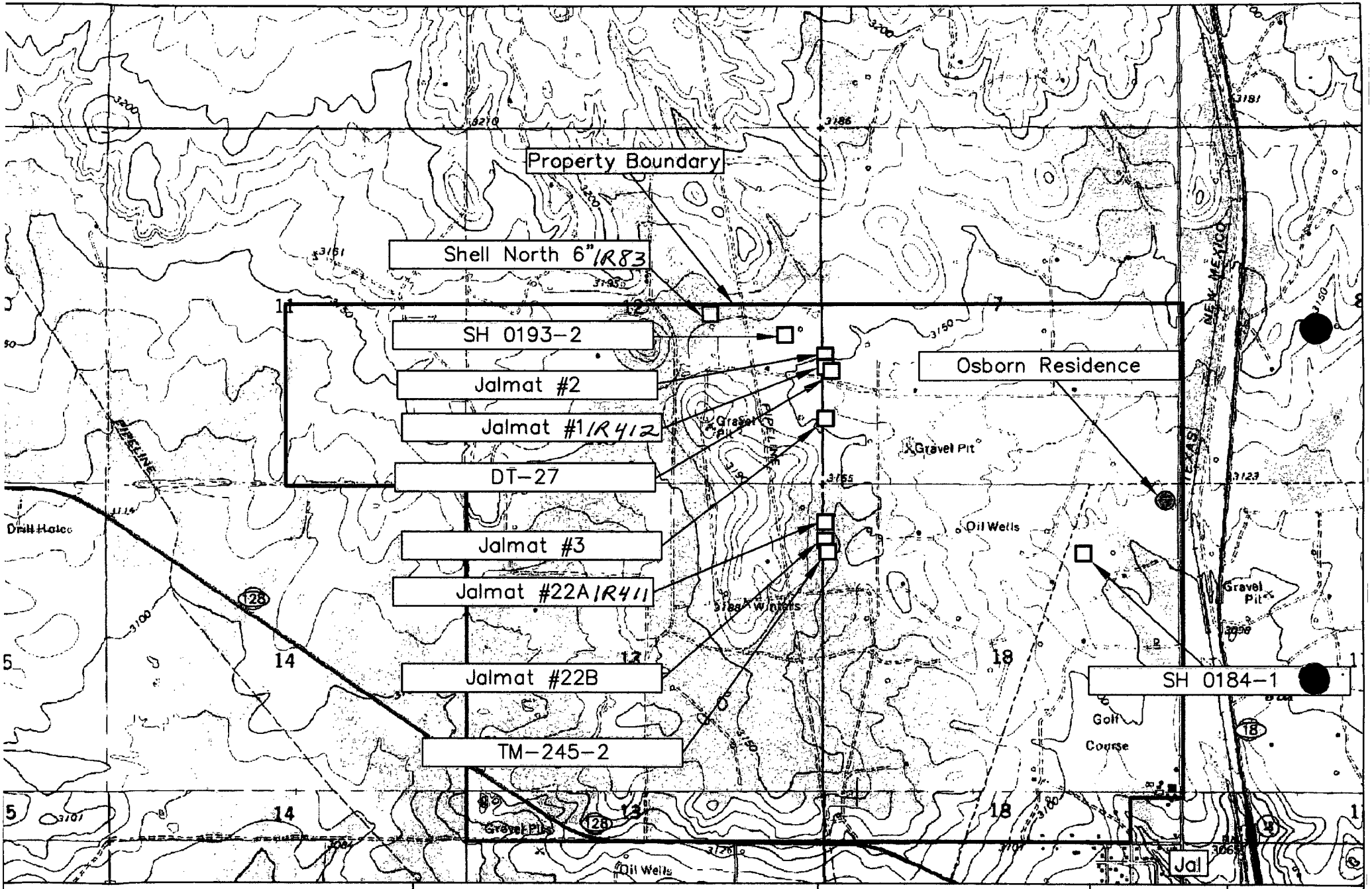

Figure 1
Area Map
Plains Pipeline, L.P.
Clay Osborn Rocky Top Ranch

Lea County, New Mexico
SE¼ Sec. 11, S½ Sec. 12, & 13 T25S R36E
S½ Sec. 7 and Sec. 18, T25S R37E
Elevation: ~3,100 feet amsl

DWG By: Daniel Dominguez
January 2006

REVISED:

0 2000 4000
Feet

SHEET
1 of 1

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