

# **SITE REMEDIAL PROPOSAL**

*Revised 3.23.07*

## **CONOCOPHILLIPS STATE E LEASE**

**EPI REF: #150010  
NMOCD: 1RP#1183**

**UL-I (NE¼ OF THE SE¼) OF SECTION 20, T 22 S, R 36 E**

**~8.2 MILES WEST- SOUTHWEST OF EUNICE,**

**LEA COUNTY, NEW MEXICO**

**LATITUDE: N 32° 22' 31.75"**

**LONGITUDE: W 103° 16' 44.61"**

**MARCH 2007**

***PREPARED BY:***

**ENVIRONMENTAL PLUS, INC.  
2100 AVENUE O  
EUNICE, NEW MEXICO 88231**

***PREPARED FOR:***

**ConocoPhillips**

**Distribution List**

**Site Remedial Proposal**

**ConocoPhillips State E Lease**

**NMOCD Ref. 1RP#1183; EPI Ref. #150010**

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File	--	Environmental Plus, Inc.	2100 Avenue 'O' P.O. Box 1558 Eunice, NM 88231	dduncan@envplus.net



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## STANDARD OF CARE

### Site Remedial Proposal

### ConocoPhillips - State E Lease

(NMOCD Ref. #1RP-1183; EPI Ref. #150010)

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993), the NMOCD *Unlined Surface Impoundment Closure Guidelines* (February, 1993) and Environmental Plus, Inc. (EPI) *Standard Operating Procedures and Quality Assurance/Quality Control Plan*. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were derived using currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered professional with a background in engineering, environmental and/or natural sciences.

This report was prepared by:

\_\_\_\_\_  
David P. Duncan  
Civil Engineer

\_\_\_\_\_  
Date

This report was reviewed by:

\_\_\_\_\_  
Jason Stegemoller  
Environmental Scientist

\_\_\_\_\_  
Date



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## 1.0 PROJECT SYNOPSIS

### *Site Specific:*

- ◆ **Company Name:** ConocoPhillips
- ◆ **Facility Name:** State E Lease
- ◆ **Project Reference:** NMOCD Ref. #1RP-1183; EPI Ref #150010
- ◆ **Company Contact(s):** John Abney
- ◆ **Site Location:** WGS84 N32° 22' 31.75"; W103° 16' 44.61"
- ◆ **Legal Description:** Unit Letter-I, (NE¼ of the SE¼), Section 20, T 22 S, R 36 E
- ◆ **General Description:** Approximately 8.2-miles west-southwest of Eunice, New Mexico
- ◆ **Elevation:** ~3,536-ft amsl
- ◆ **Land Ownership:** Land- Millard Deck Estate; Minerals-State of New Mexico
- ◆ **EPI Personnel:** Project Consultant – David P. Duncan

### *Release Specific:*

- ◆ **Product Released:** Produced water
- ◆ **Volume Released:** ~88-bbls
- ◆ **Volume Recovered:** Zero
- ◆ **Time of Occurrence:** 4/07/05
- ◆ **Time of Discovery:** 4/07/05 @800 hrs
- ◆ **Release Source:** Spill release from a produced water polypropylene pipeline
- ◆ **Initial Surface Area Affected:** ~ 1,600 square feet

### *Remediation Specific:*

- ◆ **Final Vertical extent of contaminates:** ~ 5-feet bgs (based on analytical data from soil borings)
- ◆ **Water wells within 1,000-ft:** None
- ◆ **Private domestic water sources within 200-ft:** None
- ◆ **Depth to Ground Water:** >100-ft bgs
- ◆ **Surface water bodies within 1,000-ft:** None
- ◆ **NMOCD Site Ranking Index:** Zero (0) points (>100-ft to top of water table and >1,000-ft from water source)
- ◆ **Remedial goals for Soil:** TPH – 5,000 mg/Kg; BTEX – 50 mg/Kg; Benzene – 10 mg/Kg; Chloride residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 mg/Kg.
- ◆ **RCRA Waste Classification:** Exempt
- ◆ **Remediation Option Proposed:** a) Impacted soil above NMOCD remedial threshold goals will be excavated and transported to a State approved disposal facility; b) conduct laboratory analyses to confirm removal of soil impacted above NMOCD remedial threshold goals in sidewalls and bottom of the excavation; c) if necessary, isolate residual chlorides in excavation bottom with a compacted clay or polyethylene barrier; d) backfill excavation with caliche to within two-feet (2') of original ground surface and remainder with clean topsoil ; e) grade area to allow natural drainage; f) seed area with a blend preferred by the land owner
- ◆ **Treatment/Disposal Facility:** Impacted soil will be transported to a State approved disposal facility
- ◆ **Volume disposed:** Not Applicable
- ◆ **Project Completion Date:** Ongoing



## 2.0 SITE AND RELEASE INFORMATION

**2.1** *Describe the land use and pertinent geographic features within 1,000 feet of the site.*  
Surface rights for the land surrounding the release site are owned by the Millard Deck Estate and mineral rights are owned by the State of New Mexico. The area is an established oil field with pump jacks, tank batteries, pipelines, lease roads and other petroleum related facilities. The surrounding land is also used for livestock grazing.

**2.2** *Identify and describe the source or suspected source(s) of the release.*  
Produced water release from a three inch (3") diameter polypropylene pipeline

**2.3** *What was the volume of the release? (if known):* ~88 barrels of produced water

**2.4** *What was the volume recovered? (if known):* Zero (0) barrels

**2.5** *When did the release occur? (if known):* Date-7-April-2005

### **2.6** *Geological Description*

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments (i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation). Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil."

The release site is located in the Eunice Plains physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is entirely covered by reddish-brown dune sand." The thickness of sand cover ranges from 2 to 5 feet in most areas to as much as 20-30 feet in drift areas.

### **2.7** *Ecological Description*

The site is located in the Eunice Plains physiographic subdivision. Vegetation consists of semi-desert grasslands interspersed with Honey Mesquite (*Prosopis glandulosa*), annual and perennial forbs. Mammals represented include Orrd's and Merriam's Kangaroo Rats, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, amphibians, and birds are numerous and typical of area. A survey of *Listed*, *Threatened*, or *Endangered* species was not conducted.

### **2.8** *Area Groundwater*

The unconfined groundwater aquifer at this site is projected to be >100-ft bgs based on water depth data obtained from the New Mexico State Engineers Office and United States Geological Survey data base (reference *Table 2*).

### **2.9** *Area Water Wells*

No public water supply wells are located within 1,000-feet of the release site. In addition, no private domestic fresh water wells or springs used by less than five households for domestic or stock watering purposes exist within 200-feet of the release site (reference *Table 1* and *Figure 2*).

### **2.10** *Area Surface Water Features*

No surface water features exist within 1,000 feet of the release site (reference *Figure 2*).



### 3.0 NMOCD SITE RANKING

Contaminant delineation and remedial work done at this site indicate chemical parameters of the soil and physical parameters of the groundwater were consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- ◆ *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- ◆ *Unlined Surface Impoundment Closure Guidelines (February, 1993)*
- ◆ *Pit and Below-Grade Tank Guidelines (November, 2004)*

Acceptable thresholds for contaminants/constituents of concern (CoC) were determined based on the NMOCD Ranking Criteria as follows:

- ◆ *Depth to Groundwater (i.e., distance from the lower most acceptable concentration to groundwater);*
- ◆ *Wellhead Protection Area (i.e., distance from fresh water supply wells);*
- ◆ *Distance to Surface Water Body (i.e., horizontal distance to all down gradient surface water bodies).*

Based on the proximity of the site to protectable area water wells, surface water bodies and depth to groundwater from the lower most contamination, the NMOCD ranking score for the site is Zero (0) points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. GROUNDWATER	2. WELLHEAD PROTECTION AREA	3. DISTANCE TO SURFACE WATER	
Depth to GW <50 feet: <b>20 points</b>	If <1,000' from water source, or <200' from private domestic water source: <b>20 points</b>	<200 horizontal feet: <b>0 points</b>	
Depth to GW 50 to 99 feet: <b>10 points</b>		200-1,000 horizontal feet: <b>10 points</b>	
Depth to GW >100 feet: <b>0 points</b>	If >1,000' from water source, or >200' from private domestic water source: <b>0 points</b>	>1,000 horizontal feet: <b>0 points</b>	
Site Rank (1+2+3) = 0 + 0 + 0 = <b>0 points</b>			
<b>Total Site Ranking Score and Acceptable Remedial Goal Concentrations</b>			
Parameter	20 or >	10	0
Benzene <sup>1</sup>	10 ppm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 ppm	50 ppm	50 ppm
TPH	100 ppm	1,000 ppm	5,000 ppm

<sup>1</sup> A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.



4.0 **EXCAVATED SOIL INFORMATION**

4.1 *Was soil excavated for off-site treatment or disposal?*     *Yes*     *No*

*Date excavated:* Not applicable

*Total volume removed:* Not applicable

4.2 *Indicated soil treatment type:*

<input checked="" type="checkbox"/>	<i>Disposal</i>
<input type="checkbox"/>	<i>Land Treatment</i>
<input type="checkbox"/>	<i>Composting/Biopiling</i>
<input type="checkbox"/>	<i>Other (    )</i>

*Name and location of treatment/disposal facility:*

Impacted soil will be disposed at a State approved disposal facility.



## 5.0 SAMPLING INFORMATION

### 5.1 *Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil.*

During the advancement of two (2) soil borings (BH-1 and BH-2), soil samples were collected at five foot (5-ft) intervals. Soil samples were analyzed in the field for organic vapor and chloride concentrations utilizing the methods described below:

**Organic Vapor Concentrations** – A portion of each soil sample was inserted into a self-sealing polyethylene bag to allow for volatilization of organic vapors. After the samples equilibrated to ~70° F, they were analyzed for organic vapor concentrations utilizing a MiniRae® Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp.

**Chloride Concentrations** – A LaMotte Chloride Test Kit was used for analyses of chloride concentrations.

Soil samples collected during the excavation of impacted material will be analyzed for organic vapor and chloride concentrations utilizing the methods as described above.

### 5.2 *Briefly describe the soil analytical sampling and handling procedures used.*

Soil samples were collected during the advancement of two (2) soil borings utilizing a hollow core drill. Soil samples were collected at five foot (5-ft) intervals from original ground surface to total depth (TD) of each respective boring hole.

A portion of each soil sample collected was immediately put into laboratory containers, appropriately labeled and placed on ice for submittal to an independent laboratory for quantification of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and total xylenes (BTEX) and chloride concentrations. The remaining portion of each sample was analyzed in the field for chloride and organic vapor concentrations utilizing methods described in Section 5.0, *Sampling Information*, Subsection 5.1.

### 5.3 *Discuss sample locations and provide rationale for their locations.*

From April 19 through April 27, 2005, two (2) soil borings were advanced to varying depths within the confines of the release area to delineate vertical extent of contamination (reference *Figure 4*). Soil boring hole BH-1 was advanced to a total depth (TD) of sixty-five feet (65-ft). Soil samples were collected at ground surface and at five foot (5-ft) intervals thereafter to delineate the vertical extent of soil contamination. Locale for BH-1 was chosen to be within close proximity of the point of release which should contain elevated concentration of contaminants (reference Appendix III, *Soil Boring Logs*).

Soil boring hole BH-2, located approximately twenty-five feet (25-ft) south of BH-1, was advanced to a total depth (TD) of thirty-five feet (35-ft). Soil samples were collected at ground surface and at five foot (5-ft) intervals thereafter to delineate vertical extent of contamination. Locale for BH-2 was chosen to indicate lateral as well as vertical extent of the impacted area (reference Appendix III, *Soil Boring Logs*).



## 6.0 ANALYTICAL RESULTS

### 6.1 *Describe the vertical and horizontal extent and magnitude of soil contamination.*

Laboratory analyses of soil samples collected on the surface area prior to advancement of soil boring hole BH-1 indicated concentrations of BTEX at 18.7 mg/Kg, TPH at 4,140 mg/Kg and chloride at 37,000 mg/Kg. TPH concentrations exceeded NMOCD threshold goals of 5,000 mg/Kg while chloride concentrations exceeded remedial threshold goals of 250 mg/Kg. Analysis of soil samples collected at five feet (5-ft) below ground surface (bgs) indicated concentrations of BTEX and TPH were at or below laboratory analytical method detection limits (MDL). Laboratory analyses of BTEX and TPH concentrations were not conducted in the intervals of ten feet (10-ft) to sixty-five feet (65-ft) as field analyses of organic vapor concentrations were non-detectable. However, during these intervals chloride concentrations ranged from 294 mg/Kg (10-ft bgs) to 1,070 mg/Kg (65-ft bgs) (reference *Figure 4* and *Table 2*).

Laboratory analyses of soil samples collected on the surface prior to advancement of soil boring hole BH-2 indicated concentrations of BTEX at 0.103 mg/Kg, TPH at 18,100 mg/Kg and chloride at 1,030 mg/Kg. TPH and chloride concentrations exceeded NMOCD remedial threshold goals of 5,000 mg/Kg and remedial threshold goals of 250 mg/Kg, respectively. BTEX concentrations were below NMOCD threshold goals of 50 mg/Kg. Analyses of soil samples collected at five feet (5-ft) bgs indicated concentrations of BTEX and TPH were at or below laboratory analytical method detection limits (MDL). Laboratory analyses for BTEX and TPH were not conducted in the intervals of ten feet (10-ft) bgs to thirty-five feet (35-ft) bgs as field analyses of organic vapor concentrations were non-detectable. Chloride concentrations during these intervals ranged from 431 mg/Kg (10-ft bgs) to 717 mg/Kg (15-ft bgs) exceeding remedial threshold goals of 250 mg/Kg (reference *Figure 4* and *Table 2*).

In reviewing analytical data in *Table 2*, the vertical extent of soil impacted with BTEX and TPH constituents exists from ground surface to approximately five feet (5-ft) bgs. Chloride concentrations of concern extended from ground surface to sixty-five feet (65-ft) bgs. Horizontal extent of BTEX, TPH and chloride contamination is uniform in the interval between the two (2) soil borings. A background soil sample collected in the vicinity near the release area indicated chloride concentration at 320 mg/Kg. This indicates natural soil in vicinity of the release area may have elevated concentrations of chloride.

*Is surface soil contamination present at the site (i.e., soil in the uppermost two feet that is visibly stained, contaminated at greater than 10 ppm (PID) or hydrocarbon saturated)?*

*yes*       *no*

*If yes, attach a site map identifying extent(s) of surface soil contamination.*

*Figure 4* shows the two (2) soil boring holes locales within the confines of the contaminated area. The surface area contains high concentrations of BTEX, TPH and chloride. Staining of soil by these contaminants is noticeable in photographs of the release area (reference Appendix II, *Project Photographs*).



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**7.0 DISCUSSION**

**7.1 *Discuss the risks associated with the remaining soil contamination:***

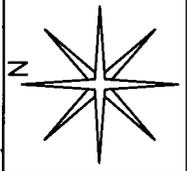
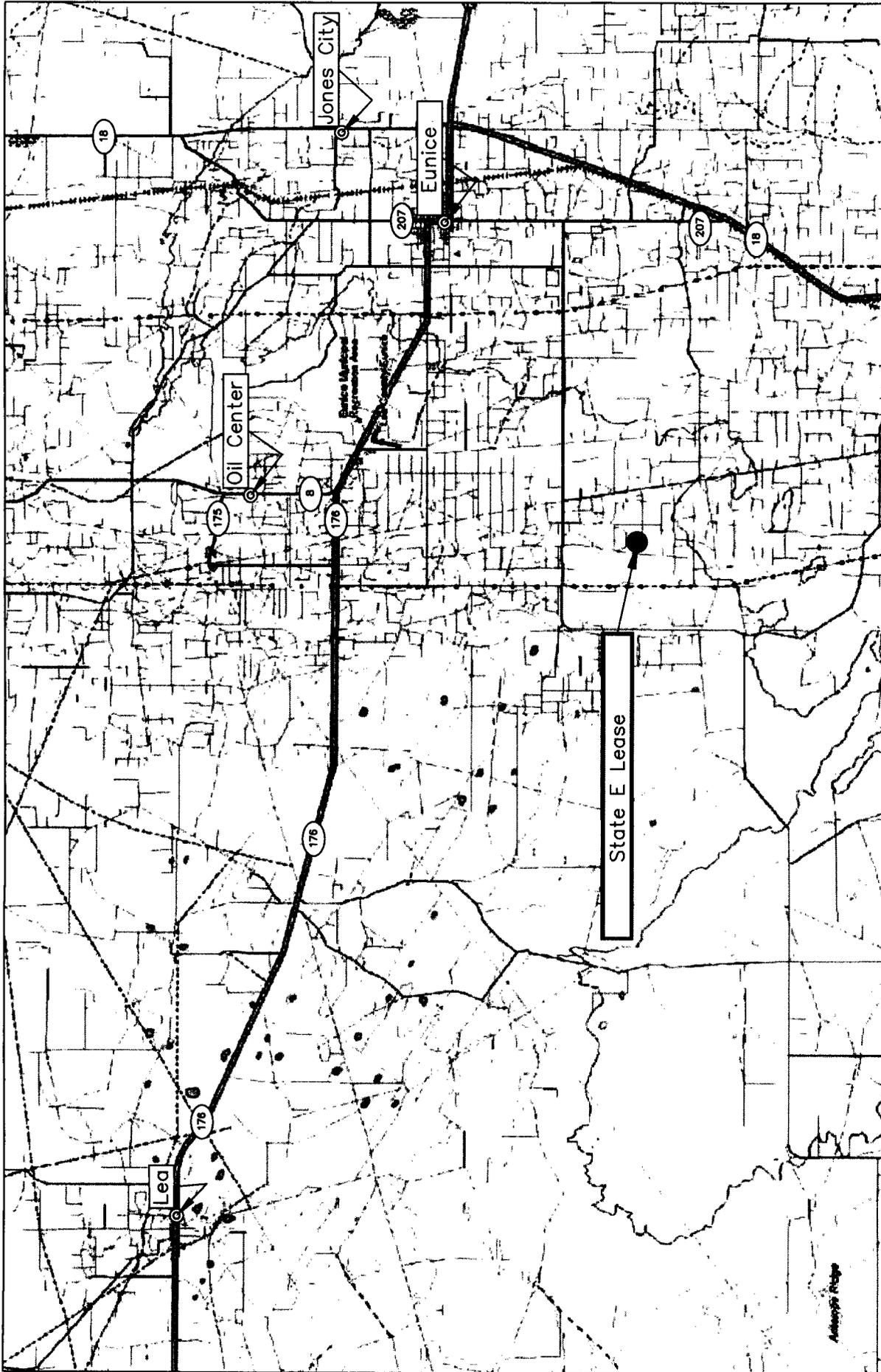
Based on depth to groundwater (>100-ft bgs), chloride residuals in the soil should not be capable of impacting groundwater above NMWQCC Groundwater Standards of 250 mg/L. In the event concerns about possible contamination of groundwater exist, an impermeable barrier (i.e., compacted clay, PVC liner or equivalent) can be placed on bottom of the excavation to retard vertical migration of residual chlorides.

**7.2 *Discuss the risks associated with the impacted groundwater:* Not Applicable**

**7.3 *Discuss other concerns not mentioned above:* Not Applicable**



**FIGURES**

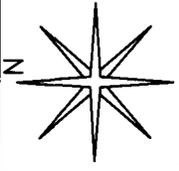
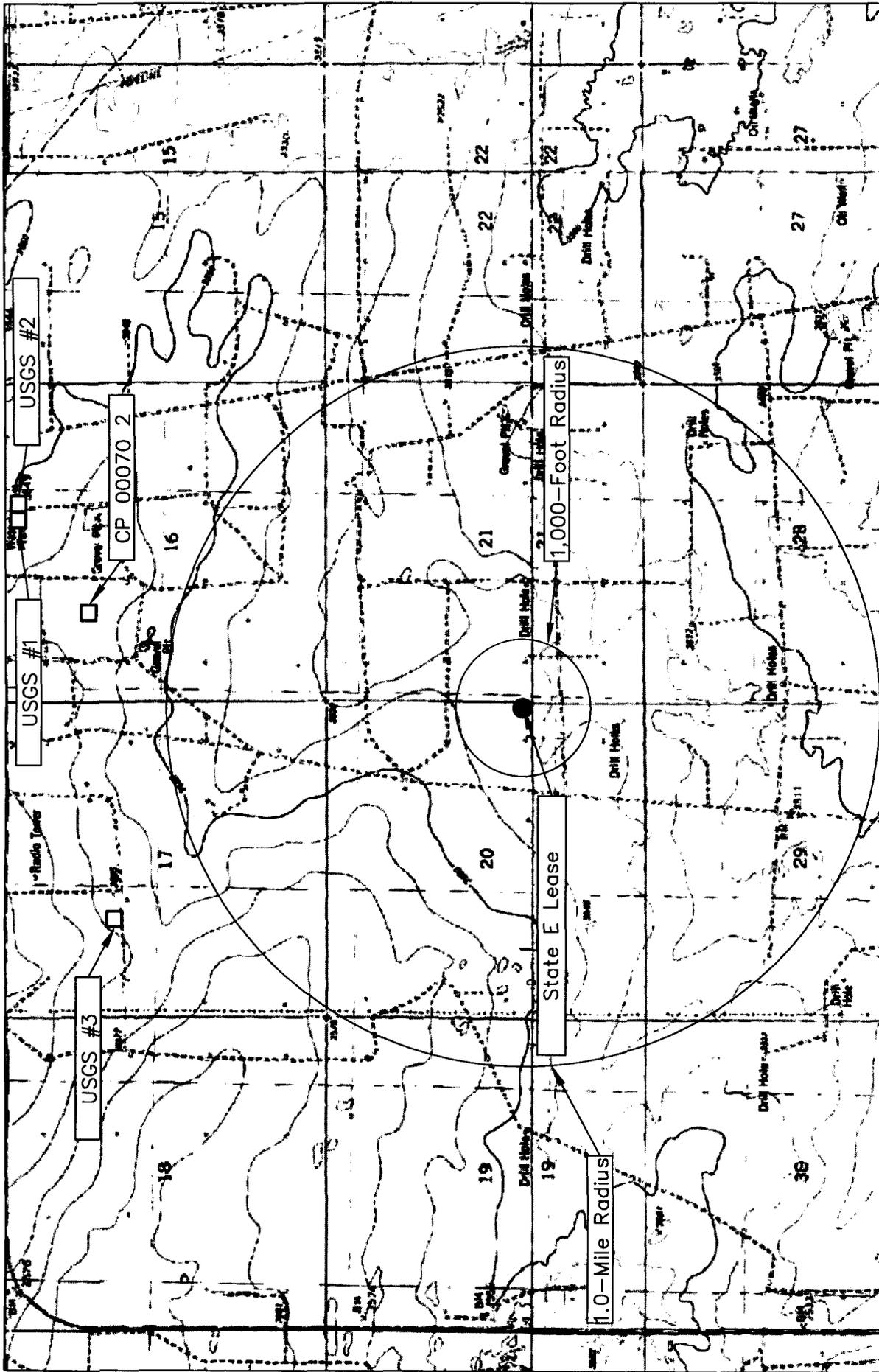


DWG By: Daniel Dominguez  
 April 2006

Lea County, New Mexico  
 NE 1/4 of the SE 1/4, Sec. 20, T22S, R36E  
 N 32° 22' 31.75" W 103° 16' 44.61"  
 Elevation: 3,536 feet amsl

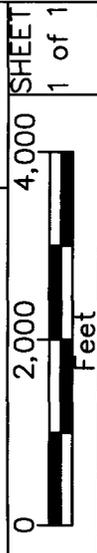
Figure 1  
 Area Map  
 ConocoPhillips  
 State E Lease





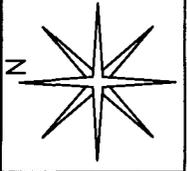
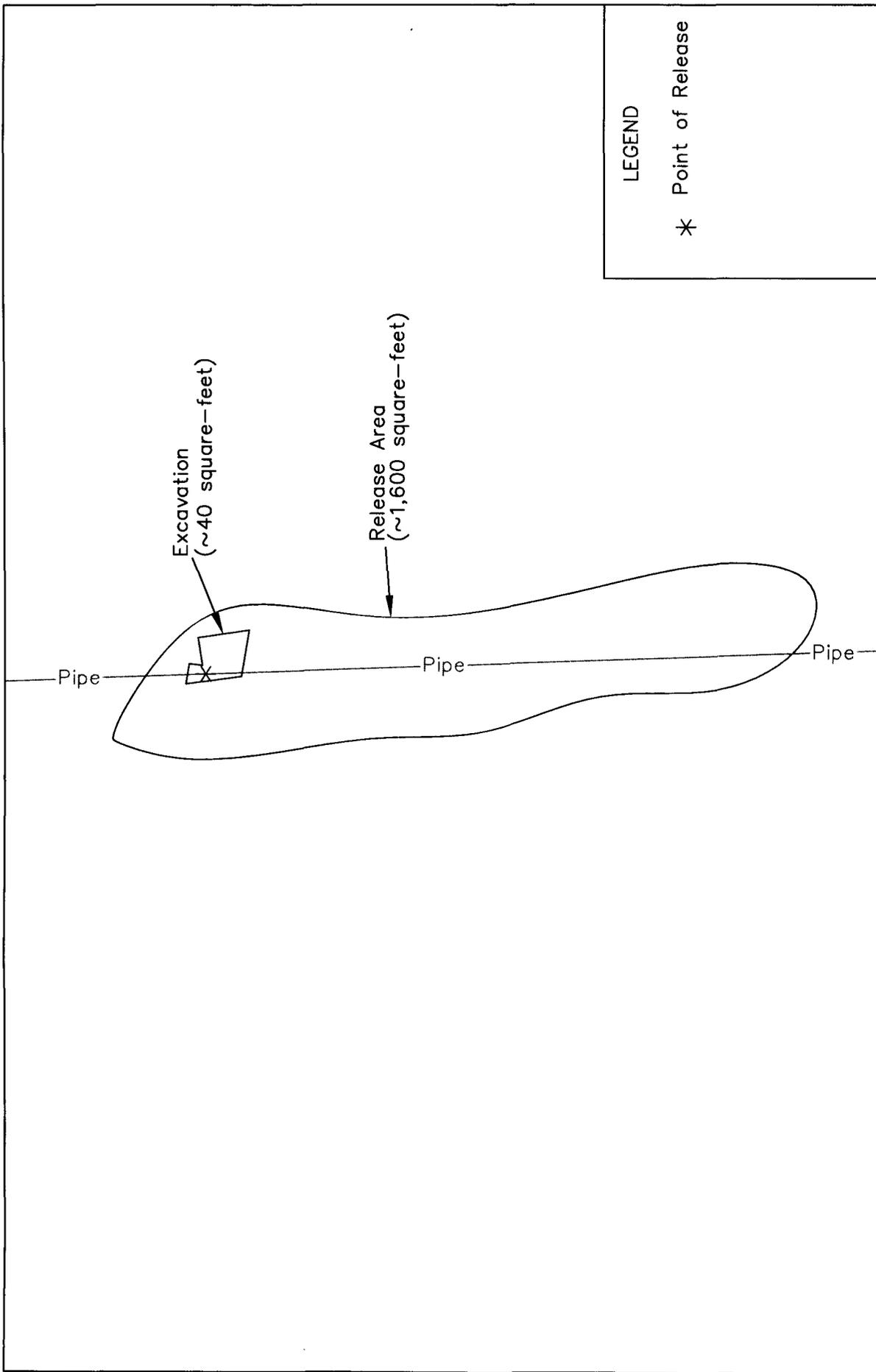
DWG By: Daniel Dominguez  
April 2006

REVISED:



Lea County, New Mexico  
NE 1/4 of the SE 1/4, Sec. 20, T22S, R36E  
N 32° 22' 31.75" W 103° 16' 44.61"  
Elevation: 3,536 feet amsl

Figure 2  
Site Map  
ConocoPhillips  
State E Lease



REVISSED:  
40 SHEET  
1 of 1

DWG By: Daniel Dominguez  
April 2006

0 20 40  
Feet

Lea County, New Mexico  
NE 1/4 of the SE 1/4, Sec. 20, T22S, R36E  
N 32° 22' 31.75" W 103° 16' 44.61"  
Elevation: 3,536 feet amsl

Figure 3  
Site Map  
ConocoPhillips  
State E Lease

LEGEND  
\* Point of Release

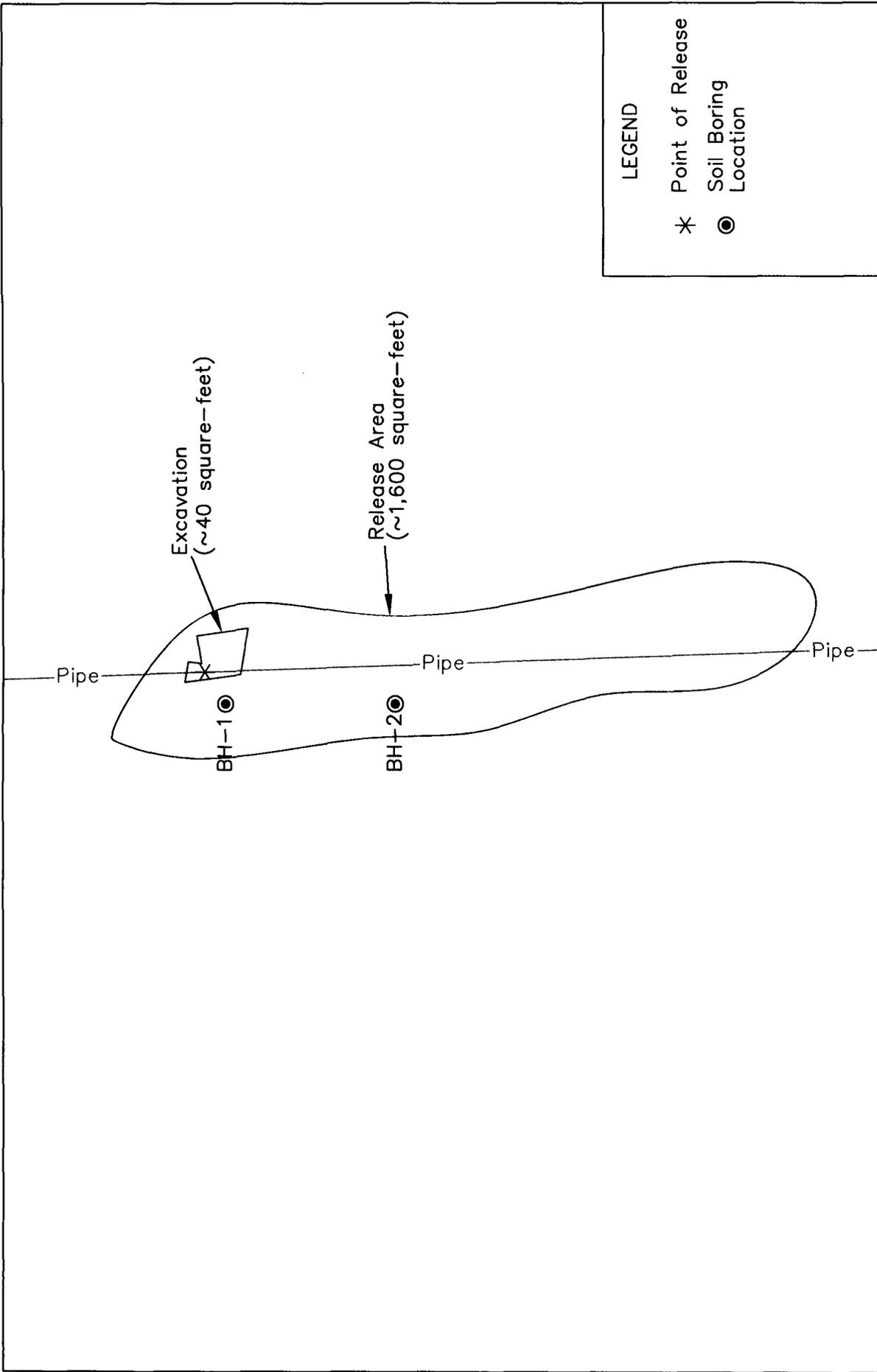


Figure 4  
 Soil Boring Map  
 ConocoPhillips  
 State E Lease

Lea County, New Mexico  
 NE 1/4 of the SE 1/4, Sec. 20, T22S, R36E  
 N 32° 22' 31.75" W 103° 16' 44.61"  
 Elevation: 3,536 feet amsl

DWG By: Daniel Dominguez  
 April 2006



REVISED:  
 SHEET  
 1 of 1

LEGEND

- \* Point of Release
- Soil Boring Location

**TABLES**

**TABLE 1**  
**Well Data**  
**Conoco Phillips - State E Lease (Ref. # 150010)**

Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation <sup>B</sup>	Depth to Water
											(ft bgs)
CP 00070 2	3	MCVAY DRILLING CO.	STK	22S	36E	16 1 2 2	N32° 23' 42.95"	W103° 16' 26.28"	05-Oct-72	3,565	170
USGS #1				22S	36E	16 2 1 1			15-Feb-96	3,549	175.28
USGS #2				22S	36E	16 2 1 1			07-Mar-86	3,549	174.09
USGS #3				22S	36E	17 1 4 1			03-Dec-70	3,565	484.06

<sup>A</sup> = in acre feet per annum

<sup>B</sup> = Elevation interpolated from USGS topographical map based on referenced location

STK = 72-12-1 Livestock watering

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

Shaded areas indicate wells not shown on Figure 2



TABLE 2  
 Summary of Soil Boring Soil Sample Field Analyses and Laboratory Analytical Results

ConocoPhillips

State E Lease

NMOCD IRP-#1183; EPI Ref. #150010

Sample I.D.	Depth (feet)	Soil Status	Sample Date	PID Field Analysis (ppm)	Field Chloride Analyses (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)		
BH-2 (surface)	Surface	In-Situ	27-Apr-05	4.9	12,000	<0.0250	0.0369	0.0368	0.029	0.103	401	18,100	18,501	1,030		
BH-2 (5')	5	In-situ	27-Apr-05	0	320	<0.0250	<0.0250	<0.0250	<0.0500	<0.1250	<10.0	J [6.55]	<20.0	174		
BH-2 (10')	10	In-situ	27-Apr-05	0	560	--	--	--	--	--	--	--	--	431		
BH-2 (15')	15	In-situ	27-Apr-05	0	800	--	--	--	--	--	--	--	--	717		
BH-2 (20')	20	In-situ	27-Apr-05	0.0	560	--	--	--	--	--	--	--	--	539		
BH-2 (25')	25	In-situ	27-Apr-05	0.0	560	--	--	--	--	--	--	--	--	580		
BH-2 (30')	30	In-situ	27-Apr-05	0	560	--	--	--	--	--	--	--	--	479		
BH-2 (35')	35	In-situ	27-Apr-05	0.0	560	--	--	--	--	--	--	--	--	526		
Background	Surface	In-situ	19-Apr-05	--	320	--	--	--	--	--	--	--	--	22		
NMOCD Remedial Threshold Goals														50	5,000	250 <sup>1</sup>

Bolded values are in excess of NMOCD Remediation Thresholds

<sup>1</sup> Chloride and sulfate residuals may not be capable of impacting groundwater above NMWQCC Groundwater Standards of 250 mg/L and 600 mg/L, respectively

J = Detected, but below Reporting Limits. Therefore, result is an estimated concentration (CLP J-Flag)

-- = Not Analyzed

ND = Not Detected

BH = Boring Hole

**APPENDICES**

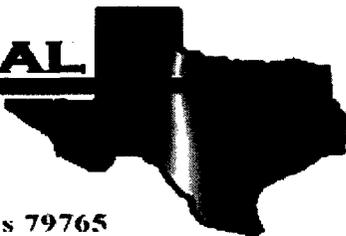
**APPENDIX I**

**LABORATORY ANALYTICAL REPORTS**

**AND**

**CHAIN-OF-CUSTODY FORM**

**E** **NVIRONMENTAL**  
**LAB OF**



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Iain Olness

Environmental Plus, Incorporated

P.O. Box 1558

Eunice, NM 88231

Project: Conoco Phillips/ State E Lease

Project Number: 150010

Location: None Given

Lab Order Number: 5D29014

Report Date: 05/05/05

Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Conoco Phillips/ State E Lease  
Project Number: 150010  
Project Manager: Iain Olness

Fax: 505-394-2601  
Reported:  
05/05/05 11:47

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (Surface)	5D29014-01	Soil	04/19/05 09:27	04/29/05 14:10
BH-1 (5')	5D29014-02	Soil	04/19/05 09:32	04/29/05 14:10
BH-1 (10')	5D29014-03	Soil	04/19/05 11:36	04/29/05 14:10
BH-1 (15')	5D29014-04	Soil	04/19/05 12:58	04/29/05 14:10
BH-1 (20')	5D29014-05	Soil	04/19/05 13:38	04/29/05 14:10
BH-1 (25')	5D29014-06	Soil	04/19/05 15:30	04/29/05 14:10
BH-1 (30')	5D29014-07	Soil	04/26/05 08:40	04/29/05 14:10
BH-1 (35')	5D29014-08	Soil	04/26/05 09:37	04/29/05 14:10
BH-1 (40')	5D29014-09	Soil	04/26/05 10:20	04/29/05 14:10
BH-1 (45')	5D29014-10	Soil	04/26/05 11:27	04/29/05 14:10
BH-1 (50')	5D29014-11	Soil	04/26/05 12:44	04/29/05 14:10
BH-1 (55')	5D29014-12	Soil	04/26/05 14:59	04/29/05 14:10
BH-1 (60')	5D29014-13	Soil	04/26/05 16:10	04/29/05 14:10
BH-1 (65')	5D29014-14	Soil	04/27/05 09:00	04/29/05 14:10
BH-2 (Surface)	5D29014-15	Soil	04/27/05 10:15	04/29/05 14:10
BH-2 (5')	5D29014-16	Soil	04/27/05 10:39	04/29/05 14:10
BH-2 (10')	5D29014-17	Soil	04/27/05 11:06	04/29/05 14:10
BH-2 (15')	5D29014-18	Soil	04/27/05 11:18	04/29/05 14:10
BH-2 (20')	5D29014-19	Soil	04/27/05 11:45	04/29/05 14:10
BH-2 (25')	5D29014-20	Soil	04/27/05 12:31	04/29/05 14:10
BH-2 (30')	5D29014-21	Soil	04/27/05 12:44	04/29/05 14:10
BH-2 (35')	5D29014-22	Soil	04/27/05 14:59	04/29/05 14:10
Background	5D29014-23	Soil	04/19/05 00:00	04/29/05 14:10

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Project Number: 150010  
Project Manager: Iain Olness

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Reported:  
05/05/05 11:47

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BH-1 (Surface) (5D29014-01) Soil</b>									
Benzene	0.749	0.100	mg/kg dry	100	EE50202	04/29/05	05/02/05	EPA 8021B	
Toluene	2.51	0.100	"	"	"	"	"	"	
Ethylbenzene	4.55	0.100	"	"	"	"	"	"	
Xylene (p/m)	13.8	0.100	"	"	"	"	"	"	
Xylene (o)	4.89	0.100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		153 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		132 %	80-120		"	"	"	"	S-04
Gasoline Range Organics C6-C12	1050	10.0	mg/kg dry	1	ED52904	04/29/05	04/29/05	EPA 8015M	
Diesel Range Organics >C12-C35	4140	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	5190	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		114 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		71.0 %	70-130		"	"	"	"	
<b>BH-1 (5') (5D29014-02) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE50306	05/03/05	05/03/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.6 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE50205	05/02/05	05/02/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		82.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		74.2 %	70-130		"	"	"	"	
<b>BH-2 (Surface) (5D29014-15) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE50202	04/29/05	05/02/05	EPA 8021B	
Toluene	0.0369	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.0368	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.0997	0.0250	"	"	"	"	"	"	
Xylene (o)	0.0294	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		83.8 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	401	50.0	mg/kg dry	5	ED52904	04/29/05	04/29/05	EPA 8015M	
Diesel Range Organics >C12-C35	18100	50.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	18500	50.0	"	"	"	"	"	"	

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Project Number: 150010  
Project Manager: Iain Olness

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Reported:  
05/05/05 11:47

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BH-2 (Surface) (5D29014-15) Soil</b>									
Surrogate: 1-Chlorooctane		11.6 %	70-130		ED52904	04/29/05	04/29/05	EPA 8015M	S-06
Surrogate: 1-Chlorooctadecane		13.0 %	70-130		"	"	"	"	S-06
<b>BH-2 (5') (5D29014-16) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	EE50306	05/03/05	05/03/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		85.0 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.3 %	80-120		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EE50205	05/02/05	05/02/05	EPA 8015M	
Diesel Range Organics >C12-C35	<b>J [6.55]</b>	10.0	"	"	"	"	"	"	J
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		81.0 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.2 %	70-130		"	"	"	"	

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**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BH-1 (Surface) (5D29014-01) Soil</b>									
Chloride	37000	5000	mg/kg	10000	EE50303	05/02/05	05/02/05	EPA 300.0	
% Moisture	12.5	0.1	%	1	EE50206	04/29/05	05/02/05	% calculation	
<b>BH-1 (5') (5D29014-02) Soil</b>									
Chloride	241	10.0	mg/kg	20	EE50409	05/03/05	05/03/05	EPA 300.0	
% Moisture	11.8	0.1	%	1	EE50301	05/02/05	05/03/05	% calculation	
<b>BH-1 (10') (5D29014-03) Soil</b>									
Chloride	294	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (15') (5D29014-04) Soil</b>									
Chloride	576	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (20') (5D29014-05) Soil</b>									
Chloride	608	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (25') (5D29014-06) Soil</b>									
Chloride	529	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (30') (5D29014-07) Soil</b>									
Chloride	577	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (35') (5D29014-08) Soil</b>									
Chloride	591	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (40') (5D29014-09) Soil</b>									
Chloride	446	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (45') (5D29014-10) Soil</b>									
Chloride	305	10.0	mg/kg	20	EE50409	05/03/05	05/03/05	EPA 300.0	

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Project Number: 150010  
Project Manager: Iain Olness

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Reported:  
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**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BH-1 (50') (5D29014-11) Soil</b>									
Chloride	389	20.0	mg/kg	40	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (55') (5D29014-12) Soil</b>									
Chloride	461	20.0	mg/kg	40	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (60') (5D29014-13) Soil</b>									
Chloride	718	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-1 (65') (5D29014-14) Soil</b>									
Chloride	1070	50.0	mg/kg	100	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-2 (Surface) (5D29014-15) Soil</b>									
Chloride	1030	50.0	mg/kg	100	EE50303	05/02/05	05/02/05	EPA 300.0	
% Moisture	0.7	0.1	%	1	EE50206	04/29/05	05/02/05	% calculation	
<b>BH-2 (5') (5D29014-16) Soil</b>									
Chloride	174	10.0	mg/kg	20	EE50409	05/03/05	05/03/05	EPA 300.0	
% Moisture	12.1	0.1	%	1	EE50301	05/02/05	05/03/05	% calculation	
<b>BH-2 (10') (5D29014-17) Soil</b>									
Chloride	431	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-2 (15') (5D29014-18) Soil</b>									
Chloride	717	50.0	mg/kg	100	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-2 (20') (5D29014-19) Soil</b>									
Chloride	539	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-2 (25') (5D29014-20) Soil</b>									
Chloride	580	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	

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Project Number: 150010  
Project Manager: Iain Olness

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### General Chemistry Parameters by EPA / Standard Methods

#### Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>BH-2 (30') (5D29014-21) Soil</b>									
Chloride	479	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>BH-2 (35') (5D29014-22) Soil</b>									
Chloride	526	25.0	mg/kg	50	EE50409	05/03/05	05/03/05	EPA 300.0	
<b>Background (5D29014-23) Soil</b>									
Chloride	21.8	5.00	mg/kg	10	EE50303	05/02/05	05/02/05	EPA 300.0	

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED52904 - Solvent Extraction (GC)**

**Blank (ED52904-BLK1)**

Prepared & Analyzed: 04/29/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	36.3		mg/kg	50.0		72.6	70-130			
Surrogate: 1-Chlorooctadecane	38.7		"	50.0		77.4	70-130			

**LCS (ED52904-BS1)**

Prepared & Analyzed: 04/29/05

Gasoline Range Organics C6-C12	430	10.0	mg/kg wet	500		86.0	75-125			
Diesel Range Organics >C12-C35	445	10.0	"	500		89.0	75-125			
Total Hydrocarbon C6-C35	875	10.0	"	1000		87.5	75-125			
Surrogate: 1-Chlorooctane	35.6		mg/kg	50.0		71.2	70-130			
Surrogate: 1-Chlorooctadecane	36.6		"	50.0		73.2	70-130			

**Calibration Check (ED52904-CCV1)**

Prepared & Analyzed: 04/29/05

Gasoline Range Organics C6-C12	464		mg/kg	500		92.8	80-120			
Diesel Range Organics >C12-C35	519		"	500		104	80-120			
Total Hydrocarbon C6-C35	983		"	1000		98.3	80-120			
Surrogate: 1-Chlorooctane	46.2		"	50.0		92.4	70-130			
Surrogate: 1-Chlorooctadecane	37.3		"	50.0		74.6	70-130			

**Matrix Spike (ED52904-MS1)**

Source: 5D29001-01

Prepared & Analyzed: 04/29/05

Gasoline Range Organics C6-C12	482	10.0	mg/kg dry	533	ND	90.4	75-125			
Diesel Range Organics >C12-C35	575	10.0	"	533	ND	108	75-125			
Total Hydrocarbon C6-C35	1060	10.0	"	1070	ND	99.1	75-125			
Surrogate: 1-Chlorooctane	44.0		mg/kg	50.0		88.0	70-130			
Surrogate: 1-Chlorooctadecane	36.6		"	50.0		73.2	70-130			

**Matrix Spike Dup (ED52904-MSD1)**

Source: 5D29001-01

Prepared & Analyzed: 04/29/05

Gasoline Range Organics C6-C12	483	10.0	mg/kg dry	533	ND	90.6	75-125	0.207	20	
Diesel Range Organics >C12-C35	561	10.0	"	533	ND	105	75-125	2.46	20	
Total Hydrocarbon C6-C35	1040	10.0	"	1070	ND	97.2	75-125	1.90	20	
Surrogate: 1-Chlorooctane	42.7		mg/kg	50.0		85.4	70-130			
Surrogate: 1-Chlorooctadecane	36.2		"	50.0		72.4	70-130			

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE50202 - EPA 5030C (GC)**

**Blank (EE50202-BLK1)**

Prepared & Analyzed: 04/29/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	94.7		ug/kg	100		94.7	80-120			
Surrogate: 4-Bromofluorobenzene	101		"	100		101	80-120			

**LCS (EE50202-BS1)**

Prepared & Analyzed: 04/29/05

Benzene	94.7		ug/kg	100		94.7	80-120			
Toluene	99.0		"	100		99.0	80-120			
Ethylbenzene	98.0		"	100		98.0	80-120			
Xylene (p/m)	220		"	200		110	80-120			
Xylene (o)	104		"	100		104	80-120			
Surrogate: a,a,a-Trifluorotoluene	111		"	100		111	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

**Calibration Check (EE50202-CCV1)**

Prepared: 04/29/05 Analyzed: 05/02/05

Benzene	89.0		ug/kg	100		89.0	80-120			
Toluene	92.0		"	100		92.0	80-120			
Ethylbenzene	90.0		"	100		90.0	80-120			
Xylene (p/m)	203		"	200		102	80-120			
Xylene (o)	98.4		"	100		98.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	105		"	100		105	80-120			
Surrogate: 4-Bromofluorobenzene	111		"	100		111	80-120			

**Matrix Spike (EE50202-MS1)**

Source: 5D28002-05

Prepared: 04/29/05 Analyzed: 04/30/05

Benzene	2310		ug/kg	2500	ND	92.4	80-120			
Toluene	2340		"	2500	ND	93.6	80-120			
Ethylbenzene	2180		"	2500	ND	87.2	80-120			
Xylene (p/m)	4770		"	5000	47.5	94.4	80-120			
Xylene (o)	2150		"	2500	ND	86.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	100		"	100		100	80-120			

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE50202 - EPA 5030C (GC)**

**Matrix Spike Dup (EE50202-MSD1)**

Source: 5D28002-05

Prepared: 04/29/05

Analyzed: 04/30/05

Benzene	2380		ug/kg	2500	ND	95.2	80-120	2.99	20	
Toluene	2440		"	2500	ND	97.6	80-120	4.18	20	
Ethylbenzene	2370		"	2500	ND	94.8	80-120	8.35	20	
Xylene (p/m)	5240		"	5000	47.5	104	80-120	9.68	20	
Xylene (o)	2410		"	2500	ND	96.4	80-120	11.4	20	
Surrogate: a,a,a-Trifluorotoluene	96.1		"	100		96.1	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			

**Batch EE50205 - Solvent Extraction (GC)**

**Blank (EE50205-BLK1)**

Prepared & Analyzed: 05/02/05

Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	38.5		mg/kg	50.0		77.0	70-130			
Surrogate: 1-Chlorooctadecane	37.4		"	50.0		74.8	70-130			

**LCS (EE50205-BS1)**

Prepared & Analyzed: 05/02/05

Gasoline Range Organics C6-C12	411	10.0	mg/kg wet	500		82.2	75-125			
Diesel Range Organics >C12-C35	444	10.0	"	500		88.8	75-125			
Total Hydrocarbon C6-C35	855	10.0	"	1000		85.5	75-125			
Surrogate: 1-Chlorooctane	35.7		mg/kg	50.0		71.4	70-130			
Surrogate: 1-Chlorooctadecane	39.8		"	50.0		79.6	70-130			

**Calibration Check (EE50205-CCV1)**

Prepared & Analyzed: 05/02/05

Gasoline Range Organics C6-C12	428		mg/kg	500		85.6	80-120			
Diesel Range Organics >C12-C35	520		"	500		104	80-120			
Total Hydrocarbon C6-C35	948		"	1000		94.8	80-120			
Surrogate: 1-Chlorooctane	46.4		"	50.0		92.8	70-130			
Surrogate: 1-Chlorooctadecane	38.2		"	50.0		76.4	70-130			

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE50205 - Solvent Extraction (GC)**

<b>Matrix Spike (EE50205-MS1)</b>		<b>Source: 5E02002-01</b>		<b>Prepared &amp; Analyzed: 05/02/05</b>						
Gasoline Range Organics C6-C12	411	10.0	mg/kg dry	503	ND	81.7	75-125			
Diesel Range Organics >C12-C35	545	10.0	"	503	ND	108	75-125			
Total Hydrocarbon C6-C35	956	10.0	"	1010	ND	94.7	75-125			
Surrogate: 1-Chlorooctane	40.7		mg/kg	50.0		81.4	70-130			
Surrogate: 1-Chlorooctadecane	36.1		"	50.0		72.2	70-130			

<b>Matrix Spike Dup (EE50205-MSD1)</b>		<b>Source: 5E02002-01</b>		<b>Prepared &amp; Analyzed: 05/02/05</b>						
Gasoline Range Organics C6-C12	495	10.0	mg/kg dry	503	ND	98.4	75-125	18.5	20	
Diesel Range Organics >C12-C35	523	10.0	"	503	ND	104	75-125	4.12	20	
Total Hydrocarbon C6-C35	1020	10.0	"	1010	ND	101	75-125	6.48	20	
Surrogate: 1-Chlorooctane	42.0		mg/kg	50.0		84.0	70-130			
Surrogate: 1-Chlorooctadecane	35.8		"	50.0		71.6	70-130			

**Batch EE50306 - EPA 5030C (GC)**

<b>Blank (EE50306-BLK1)</b>		<b>Prepared &amp; Analyzed: 05/03/05</b>								
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	87.8		ug/kg	100		87.8	80-120			
Surrogate: 4-Bromofluorobenzene	94.7		"	100		94.7	80-120			

<b>LCS (EE50306-BS1)</b>		<b>Prepared &amp; Analyzed: 05/03/05</b>								
Benzene	86.9		ug/kg	100		86.9	80-120			
Toluene	90.9		"	100		90.9	80-120			
Ethylbenzene	91.8		"	100		91.8	80-120			
Xylene (p/m)	208		"	200		104	80-120			
Xylene (o)	99.3		"	100		99.3	80-120			
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120			
Surrogate: 4-Bromofluorobenzene	117		"	100		117	80-120			

Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Conoco Phillips/ State E Lease  
Project Number: 150010  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
05/05/05 11:47

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EE50306 - EPA 5030C (GC)**

**Calibration Check (EE50306-CCV1)**

Prepared: 05/03/05 Analyzed: 05/04/05

Benzene	86.1		ug/kg	100		86.1	80-120			
Toluene	87.3		"	100		87.3	80-120			
Ethylbenzene	82.6		"	100		82.6	80-120			
Xylene (p/m)	178		"	200		89.0	80-120			
Xylene (o)	85.5		"	100		85.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	99.5		"	100		99.5	80-120			
Surrogate: 4-Bromofluorobenzene	88.0		"	100		88.0	80-120			

**Matrix Spike (EE50306-MS1)**

Source: 5D29014-02

Prepared: 05/03/05 Analyzed: 05/04/05

Benzene	90.6		ug/kg	100	ND	90.6	80-120			
Toluene	93.5		"	100	ND	93.5	80-120			
Ethylbenzene	93.6		"	100	ND	93.6	80-120			
Xylene (p/m)	211		"	200	ND	106	80-120			
Xylene (o)	101		"	100	ND	101	80-120			
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120			
Surrogate: 4-Bromofluorobenzene	106		"	100		106	80-120			

**Matrix Spike Dup (EE50306-MSD1)**

Source: 5D29014-02

Prepared & Analyzed: 05/03/05

Benzene	83.2		ug/kg	100	ND	83.2	80-120	8.52	20	
Toluene	85.0		"	100	ND	85.0	80-120	9.52	20	
Ethylbenzene	82.2		"	100	ND	82.2	80-120	13.0	20	
Xylene (p/m)	182		"	200	ND	91.0	80-120	15.2	20	
Xylene (o)	88.5		"	100	ND	88.5	80-120	13.2	20	
Surrogate: a,a,a-Trifluorotoluene	96.0		"	100		96.0	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 11 of 14

Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Conoco Phillips/ State E Lease  
Project Number: 150010  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
05/05/05 11:47

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE50206 - General Preparation (Prep)</b>										
<b>Blank (EE50206-BLK1)</b> Prepared: 04/29/05 Analyzed: 05/02/05										
% Moisture	ND	0.1	%							
<b>Duplicate (EE50206-DUP1)</b> Source: 5D29001-01 Prepared: 04/29/05 Analyzed: 05/02/05										
% Moisture	6.3	0.1	%		6.2			1.60	20	
<b>Batch EE50301 - General Preparation (Prep)</b>										
<b>Blank (EE50301-BLK1)</b> Prepared: 05/02/05 Analyzed: 05/03/05										
% Moisture	ND	0.1	%							
<b>Duplicate (EE50301-DUP1)</b> Source: 5E02002-01 Prepared: 05/02/05 Analyzed: 05/03/05										
% Moisture	0.5	0.1	%		0.5			0.00	20	
<b>Batch EE50303 - Water Extraction</b>										
<b>Blank (EE50303-BLK1)</b> Prepared & Analyzed: 05/02/05										
Chloride	ND	0.500	mg/kg							
<b>LCS (EE50303-BS1)</b> Prepared & Analyzed: 05/02/05										
Chloride	9.94		mg/L	10.0		99.4	80-120			
<b>Calibration Check (EE50303-CCV1)</b> Prepared & Analyzed: 05/02/05										
Chloride	10.9		mg/L	10.0		109	80-120			
<b>Duplicate (EE50303-DUP1)</b> Source: 5D28007-04 Prepared & Analyzed: 05/02/05										
Chloride	71.7	5.00	mg/kg		72.3			0.833	20	

Environmental Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

Project: Conoco Phillips/ State E Lease  
Project Number: 150010  
Project Manager: Iain Olness

Fax: 505-394-2601

Reported:  
05/05/05 11:47

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EE50409 - Water Extraction</b>										
<b>Blank (EE50409-BLK1)</b> Prepared & Analyzed: 05/03/05										
Chloride	ND	0.500	mg/kg							
<b>LCS (EE50409-BS1)</b> Prepared & Analyzed: 05/03/05										
Chloride	10.3		mg/L	10.0		103	80-120			
<b>Calibration Check (EE50409-CCV1)</b> Prepared & Analyzed: 05/03/05										
Chloride	10.5		mg/L	10.0		105	80-120			
<b>Duplicate (EE50409-DUP1)</b> Source: 5D29014-02 Prepared & Analyzed: 05/03/05										
Chloride	217	10.0	mg/kg		241			10.5	20	

Environmental Lab of Texas

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 13 of 14

### Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By: \_\_\_\_\_

*Raland K Tuttle*

Date: 5/5/2005

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
James L. Hawkins, Chemist/Geologist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.





order 2013

# Environmental Labs of Texas

12600 West I-20 East, Odessa, TX 79763  
(915) 563-1800 FAX: (915) 563-1713

# Chain of Custody Form

**Company Name** Environmental Plus, Inc.  
**EPI Project Manager** Iain Olness  
**Mailing Address** P.O. BOX 1558  
**City, State, Zip** Eunice New Mexico 88231  
**EPI Phone#/Fax#** 505-394-3481 / 505-394-2601  
**Client Company** Conoco Phillips  
**Facility Name** State E Lease  
**Project Reference** 150010  
**EPI Sampler Name** Manuel Gonzales



Attn: John Abney  
1410 West County Road,  
Hobbs, NM 88240

LAB I.D.	SAMPLE I.D.	PRESERV.			SAMPLING			DATE	TIME	BTX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO <sub>4</sub> )	PH	TCLP	OTHER >>	PAH
		ACID/BASE	ICE/COOL	OTHER	MATRIX	OTHER:	SLUDGE										
1-1	BH-2 (30')	G	1		X			27-Apr	12:44	X	X	X					
2-2	BH-2 (35')	G	1		X			27-Apr	14:59	X	X	X					
2-3	Background	G	1		X			19-Apr									
4																	
5																	
6																	
7																	
8																	
9																	
10																	

**Bill To:** ANALYSIS REQUEST

**E-mail results to:** ioliness@hotmail.com

**REMARKS:** Only analyze subsequent samples from each soil boring if analytes are detected in previous sample. Analyze the background sample for chlorides. ANY QUESTIONS, PLEASE CALL IAIN.

**Received By:** [Signature] Date: 4/29/05 Time: 8:35

**Received By: (lab staff):** [Signature] Date: 5-4-05 Time: 14:10

**Delivered by:** [Signature]

**Checked By:** JMM

**Sample Cool & Intact:** Yes  No

\* See pg 1

**Environmental Lab of Texas  
Variance / Corrective Action Report – Sample Log-In**

Client: EPI

Date/Time: 04-29-05 @ 1410

Order #: 5D29014

Initials: JMM

**Sample Receipt Checklist**

Temperature of <del>container</del> /cooler?	<input checked="" type="checkbox"/> Yes	No	4.5	C
Shipping <del>container</del> /cooler in good condition?	<input checked="" type="checkbox"/> Yes	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<input checked="" type="checkbox"/> Not present	
Custody Seals intact on sample bottles? <small>Seals on bags of cont.</small>	<input checked="" type="checkbox"/> Yes	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No		
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No		
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No		
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable	

Other observations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Regarding:

\_\_\_\_\_  
 \_\_\_\_\_

Corrective Action Taken:

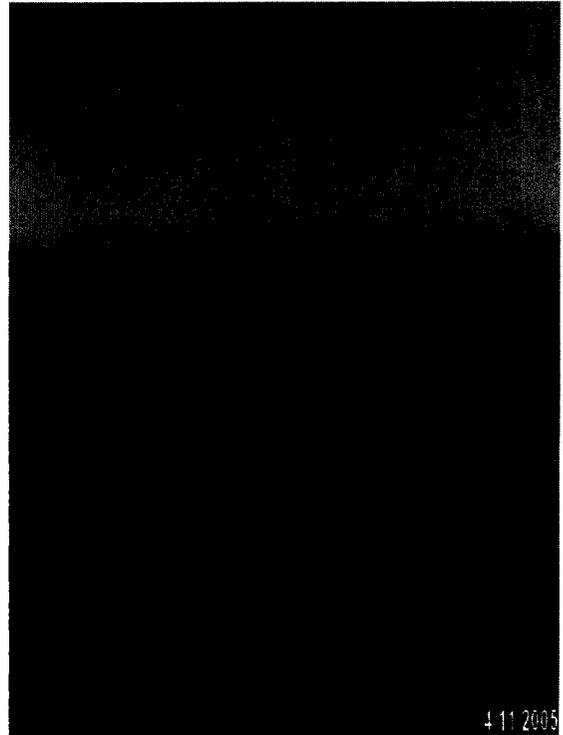
\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**APPENDIX II**

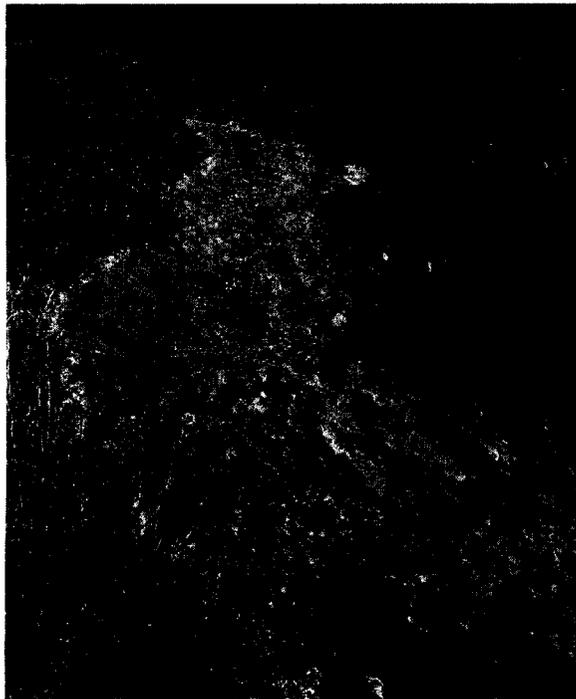
**PROJECT PHOTOGRAPHS**



Photograph #1 – Produced water pipeline ROW marker



Photograph #2- Looking north at impacted area.  
Stained area is contaminated soil



Photograph #3- Looking north at impacted area  
and soil excavated to repair the  
ruptured pipeline



Photograph #4- Excavated area at point of release  
and dresser repair clamp

**APPENDIX III**  
**SOIL BORING LOGS**

Log Of Test Borings

(NOTE - Page 2 of 2)



ENVIRONMENTAL PLUS, INC.  
CONSULTING AND  
REMEDIAL CONSTRUCTION  
EUNICE, NEW MEXICO  
505-394-3481

Project Number: 150010

Project Name: ConocoPhillips State E Lease

Location: UL-I, Section 20, Township 22 South, Range 36 East

Boring Number: SB-2

Surface Elevation: 3,536-feet amsl

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: 04-27-05 Time: 10:15	Completion Date: 04-27-05 Time: 15:02	Description
										35' SAND
										End of Soil Boring at 35' bgs
							40			
							45			
							50			
							55			
							60			
							65			

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-In Depth	Water Level	Drilling Method: HSA 3.5' ID
-	-	-	-	-	-	Backfill Method: Bentonite
-	-	-	-	-	-	Field Representative: JR

Log Of Test Borings

(NOTE - Page 1 of 2)



ENVIRONMENTAL PLUS, INC.  
CONSULTING AND  
REMEDIAL CONSTRUCTION  
EUNICE, NEW MEXICO  
505-394-3481

Project Number: 150010

Project Name: ConocoPhillips State E Lease

Location: UL-I, Section 20, Township 22 South, Range 36 East

Boring Number: SB-2

Surface Elevation: 3,536-feet amsl

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
								Start Date: 04-27-05 Time: 10:15 Completion Date: 04-27-05 Time: 15:02
1015	SS			4.9	12,000		Topsoil	Topsoil Oily Ground Soil
1039	SS			0.0	320		5	5' CLAY, Red
1106	SS			0.0	560		10	10' CALICHE, Clay
1118	SS			0.0	800		15	15' SAND
1145	SS			0.0	560		20	20' SAND
1231	SS			0.0	560		25	25' SAND
1327	SS			0.0	560		30	30' SAND
1502	SS			0.0	560		35	35' SAND

Log Of Test Borings

(NOTE - Page 2 of 2)



**ENVIRONMENTAL PLUS, INC.**  
 CONSULTING AND  
 REMEDIAL CONSTRUCTION  
 EUNICE, NEW MEXICO  
 505-394-3481

Project Number: 150010  
 Project Name: ConocoPhillips State E Lease  
 Location: UL-I, Section 20, Township 22 South, Range 36 East  
 Boring Number: SB-1      Surface Elevation: 3,536-feet amsl

Time	Sample Type	Recovery (Inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Description
								Start Date: 04-19-05      Time: 09:27 Completion Date: 04-27-05      Time: 09:00
1020	SS			0.0	480		40	40' SAND
1127	SS			0.0	400		45	45' SAND
1244	SS			0.0	480		50	50' SAND
1459	SS			0.0	480		55	55' SAND
1610	SS			0.0	800		60	60' SAND
								65' SAND
0900	SS			0.0	1,200		65	End of Soil Boring at 65' bgs

Water Level Measurements (feet)

Date	Time	Sample Depth	Casing Depth	Cave-In Depth	Water Level	Drilling Method
-	-	-	-	-	-	HSA 3.5' ID
-	-	-	-	-	-	Backfill Method: Bentonite
-	-	-	-	-	-	Field Representative: JR

Log Of Test Borings

(NOTE - Page 1 of 2)



ENVIRONMENTAL PLUS, INC.  
CONSULTING AND  
REMEDIAL CONSTRUCTION  
EUNICE, NEW MEXICO  
505-394-3481

Project Number: 150010

Project Name: ConocoPhillips State E Lease

Location: UL-I, Section 20, Township 22 South, Range 36 East

Boring Number: SB-1

Surface Elevation: 3,536-feet amsl

Time	Sample Type	Recovery (inches)	Moisture	PID Readings (ppm)	Chloride Analysis (mg/Kg)	U.S.C.S. Symbol	Depth (feet)	Start Date: 04-19-05 Time: 09:27	Completion Date: 04-27-05 Time: 09:00	Description
0927	SS			6.3	12,000		Topsoll			Topsoll SAND
0932	SS			0.0	480		5			5' CLAY, Red
1136	SS			0.0	400		10			10' CALICHE, Sand
1258	SS			0.0	560		15			15' CALICHE, Sand
1338	SS			0.0	720		20			20' CALICHE, Sand
1530	SS			0.0	720		25			25' SAND
0840	SS			0.0	640		30			30' SAND
0937	SS			0.0	560		35			35' SAND

**APPENDIX IV**

**COPY OF INITIAL**

**NMOCD FORM C-141**

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised October 10, 2002

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

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

Release Notification and Corrective Action

OPERATOR

Initial Report  Final Report

Name of Company <b>ConocoPhillips Company</b>	Contact <b>John Abney</b>
Address <b>4001 Penbrook Street Odessa, TX 79762</b>	Telephone No. <b>(505)391-3128</b>
Facility Name <b>State E</b>	Facility Type <b>Water Transfer Line</b>
Surface Owner <b>Lowell Cypert</b>	Mineral Owner <b>State of NM</b>
Lease No. <b>B-1536</b>	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	21	22S	36E					Lea

Latitude 32 22.519N Longitude 103 16.715W

*WTR 3001*

NATURE OF RELEASE

Type of Release <b>Produced Water</b>	Volume of Release <b>88 bbls</b>	Volume Recovered <b>0</b>
Source of Release <b>Buried 3" Poly Line</b>	Date and Hour of Occurrence <b>07/05</b>	Date and Hour of Discovery <b>4/7/05 8am</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Sylvia Dickey</b>	
By Whom? <b>Stanley Moran</b>	Date and Hour <b>4/07/05 2:30 pm</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>NA</b>	

If a Watercourse was Impacted, Describe Fully.\*  
NA

Describe Cause of Problem and Remedial Action Taken.\*

One of the welds in the poly line was not holding after the line was treated with acid. The line was shut in dug up and a dresser sleeve was placed on the line until the line can be repaired properly.

Describe Area Affected and Cleanup Action Taken.\*

The affected area is 15' X 105'. There was no fluid recovered the site is being delineated to determine the necessary clean up procedures.

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: <b>John Abney</b>		Approved by District Supervisor: <i>[Signature]</i>	
Title: <b>SHEaR Specialist</b>	Approval Date: <b>3.23.07</b>	Expiration Date: <b>6.23.07</b>	
E-mail Address: <b>john.h.abney@conocophillips.com</b>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: <b>04/25/2005</b>	Phone: <b>(505)391-3128</b>		

\* Attach Additional Sheets If Necessary

*Facility - PPAC 07085 44895*  
*incident - n PAC 07085 44967*  
*application - PPAC 07085 45089*

*RP# 1183*