



IRP-86
10.13.05

CLOSURE PROPOSAL

SS LINE 20"

DEFS REF: 130012

UL-F (SW $\frac{1}{4}$ OF THE NW $\frac{1}{4}$) OF SECTION 32 T21S R37E

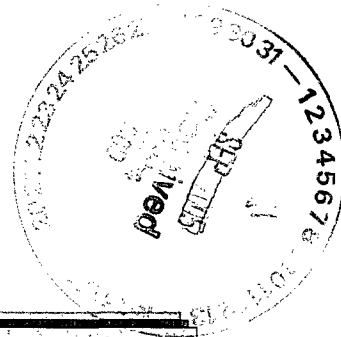
~1.6 MILES SOUTHWEST OF EUNICE

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 26' 9.12275" LONGITUDE: W 103° 11' 9.09175"

AUGUST 2005

PREPARED BY:



Environmental Plus, Inc.

2100 Avenue O

P.O. Box 1558

Eunice, NM 88231

Phone: (505)394-3481

FAX: (505)394-2601

iolness@envplus.net



Distribution List

| Name | Title | Company or Agency | Mailing Address | e-mail |
|----------------|---|--------------------------------------|---|----------------------------|
| Larry Johnson | Environmental Engineer | NMOCD | 1625 North French Drive Hobbs, NM 88240 | LWJohnson@state.nm.us |
| Cody Morrow | Environmental Manager | NMSLO | 310 Old Sante Fe Trail, P.O. Box 1148 Sante Fe, NM 87504 | cmorrow@slo.state.nm.us |
| Lynn Ward | Environmental Specialist- Western Division | Duke Energy Field Services, LP | 10 Desta Drive, Suite 400-W Midland, TX 79705 | lcward@Duke-Energy.com |
| Mark R. Owens | Construction Maintenance Supervisor | Duke Energy Field Services, LP | 1625 West Marland Hobbs, NM 88240 | mrowens@duke-energy.com |
| Steve Weathers | Environmental Manager | Duke Energy Field Services, LP | 370 17 th Street, Suite 900 Denver, CO 80202 | SWWeathers@Duke-Energy.com |
| File | | EPI | P. O. Box 1558 Eunice, NM 88231 | iolness@envplus.net |

NMOCD - New Mexico Oil Conservation Division

NMSLO – New Mexico State Land Office

EPI - Environmental Plus, Inc.

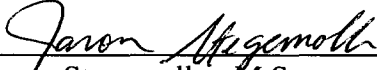
Standard of Care

Closure Report

SS Line 20-inch (Ref. #130012)

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 the 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 arrived at with currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered EPI professional with a background in engineering, environmental, and/or the natural sciences.


This report was prepared by:



Jason Stegemoller, M.S.
Environmental Scientist

1 September 2005
Date

This report was reviewed by:



Iain A. Olness, P.G.
Hydrogeologist

1 September 2005
Date

Table of Contents

| | |
|---|----|
| Project Summary..... | ii |
| 1.0 Introduction and Background | 1 |
| 2.0 Site Description | 1 |
| 2.1 Geological Description..... | 1 |
| 2.2 Ecological Description | 2 |
| 2.3 Area Ground Water | 2 |
| 2.4 Area Water Wells..... | 2 |
| 2.5 Area Surface Water Features..... | 2 |
| 3.0 NMOCD Site Ranking..... | 2 |
| 4.0 Subsurface Soil Investigation | 3 |
| 5.0 Ground Water Investigation..... | 3 |
| 6.0 Remediation Process..... | 4 |
| 7.0 Closure Justification | 4 |

FIGURES

Figure 1: Area Map
Figure 2: Site Location Map
Figure 3: Site Location Map
Figure 4: October 11 and 26, 2004 Sample Location Map

TABLES

Table 1: Summary of Excavation Analytical Results
Table 2: Well Data

APPENDICES

Appendix I: Laboratory Analytical Reports and Chain-of-Custody Forms
Appendix II: Project Photographs
Appendix III: Informational Copy of Initial C-141 Form

Project Summary

Site Specific:

- ◆ **Company Name:** Duke Energy Field Services
- ◆ **Facility Name:** SS Line-20"
- ◆ **Project Reference** 130012
- ◆ **Company Contacts:** Ms. Lynn Ward
- ◆ **Site Location:** WGS84 N32° 26' 9.12275"; W103° 11' 9.09175"
- ◆ **Legal Description:** Unit Letter F, (SW¼ of the NW¼), Section 32, T21S, R37E
- ◆ **General Description:** approximately 1.6-miles southwest of Eunice, New Mexico
- ◆ **Elevation:** 3,385-ft amsl **Depth to Ground Water:** ≈80-ft
- ◆ **Land Ownership:** State of New Mexico (leased by Mr. Sam Bruton)
- ◆ **EPI Personnel:** Project Consultant – Iain Olness
 Site Foreman – Eddie Joe Harper

Release Specific:

- ◆ **Product Released:** Natural Gas & NGL
- ◆ **Volume Released:** ≈8-bbl-reported **Volume Recovered:** 0-bbl
- ◆ **Time of Occurrence:** August 8, 2004 **Time of Discovery:** August 8, 2004
- ◆ **Release Source:** 20" steel NG pipeline operating at 8 lbs. with a normal daily flow rate of 5 million cubic feet per day; probable integrity loss due to internal-corrosion; repaired with line clamp.
- ◆ **Initial Surface Area Affected:** ≈1,075-ft²

Remediation Specific:

- ◆ **Final Vertical extent of contamination:** 5-ft-bgs; Remaining depth to ground water: ≈75-ft
- ◆ **Water wells within 1,000-ft:** 0 **Surface water bodies within 1,000-ft:** 0
- ◆ **NMOCD Site Ranking Index:** 10 points (<100-ft to top of water table)
- ◆ **Remedial goals for Soil:** TPH – 1,000 mg/kg; BTEX – 50 mg/kg; Benzene – 10 mg/kg; Chlorides – 250 mg/kg; Sulfates – 600 mg/kg
- ◆ **RCRA Waste Classification:** Exempt
- ◆ **Remediation Option Selected:** a) Excavation of contaminated soil above NMOCD remedial goals; b) laboratory analyses to confirm removal of impacted soil above NMOCD remedial thresholds; c) dispose of contaminated soil in landfarm for treatment; d) blend excavated soil with surrounding clean soil and backfill the excavation .
- ◆ **Disposal Facility:** Environmental Plus, Inc. Landfarm
- ◆ **Volume disposed of:** ≈490-yd³
- ◆ **Project Completion Date:** Not Applicable **Additional Commentary:** None

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "SS-Line" 20-inch natural gas gathering line remediation site. On August 8, 2004, Environmental Plus, Inc. (EPI) was notified by DEFS regarding a recently discovered natural gas and associated natural gas liquid (NGL) release along the SS-Line. This site is located approximately 1.6 miles southwest of Eunice, Lea County, New Mexico (*reference Figure 1*). The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on August 18, 2004, reports the release volume as approximately 8-barrels with none recovered. EPI performed GPS surveying, photography and characterization of the site on August 9, 2004. The initial site consisted of approximately 1,075 square feet (ft²) of visibly affected surface area.

Initial activities at the site consisted of repairing the pipeline with a line repair clamp and visual delineation. Once the extents of contamination had been delineated, remediation activities commenced. Remediation of this site consisted of excavation and stockpile of approximately 140 cubic yards (yds³) for blending, plus transporting approximately 490 yds³ of contaminated soil to EPI's Landfarm for treatment. The excavation would ultimately comprise ~~3,385-ft²~~²⁷, extending to 5-feet below ground surface (bgs). Soil samples were collected on September 1, 2, and 7, 2004 (*reference Figure 3*). A portion of each sample was immediately placed in a laboratory provided container and set on ice for transport to an independent laboratory for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons (TPH) and chlorides. The remainder of the sample was placed in a polyethylene bag and analyzed in the field for the presence of organic vapors utilizing an UltraRae photoionization detector (PID) equipped with a 9.8 electron volt (eV) lamp. Initial laboratory analytical results indicated TPH concentrations above the NMOCD remedial threshold of 1,000 parts per million (ppm) remained in the excavation and the stockpile material. Excavation activities resumed and further samples were collected on October 11, 2004. Analytical results for this sample indicated all contaminant concentrations within the excavation were less than the NMOCD remedial thresholds. Stockpiled material was remediated via blending clean soil, purchased from Mr. Sam Bruton, into the stockpiled NGL impacted soil. Confirmatory samples were taken from the north and east blending cells on October 26, 2004 and submitted for laboratory quantification. Analytical results indicated BTEX concentrations in ~~the~~ both blending cells were below the NMOCD remedial thresholds. TPH concentrations were slightly above the NMOCD remedial thresholds. The excavation portion of the construction phase was completed in October 2004.

This release site is located in Unit Letter F, (SW¼ of the NW¼), Section 32, T21S, R37E, N32° 26' 9.12275" and W103° 11' 9.09175". The site is approximately 1.6-miles southwest of Eunice, New Mexico. The property is owned by the State of New Mexico and leased by Mr. Sam Bruton (*reference Figures 1 through 3*).

2.0 Site Description

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

2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Quercus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. 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.

2.3 Area Ground Water

The unconfined groundwater aquifer at this site is projected to be ≈80-ft bgs based on limited water depth data obtained from the New Mexico State Engineers Office data base

2.4 Area Water Wells

All recorded wells are greater than 1,000 horizontal feet from the site.

2.5 Area Surface Water Features

No surface water bodies exist within 1,000 horizontal feet of the site.

3.0 NMOCD Site Ranking

Contaminant delineation and remedial work done at this site indicate that the chemical parameters of the soil and the physical parameters of the groundwater were characterized 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)**

Acceptable thresholds for contaminants/constituents of concern (CoC), i.e., TPH^{8015m}, benzene, and the mass sum of benzene, toluene, ethylbenzene, and total xylenes (BTEX), were determined based on the NMOCD Ranking Criteria as follows:

- ◆ *Depth to Ground water (i.e., distance from the lower most acceptable concentration to the ground water);*
- ◆ *Wellhead Protection Area (i.e., distance from fresh water supply wells); and*
- ◆ *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 10 points with the soil remedial goals highlighted in the Site Ranking table presented below.

| | | | |
|--|--|--------------------------------------|-----------|
| 1. Ground Water | 2. Wellhead Protection Area | 3. Distance to Surface Water | |
| Depth to GW <50 feet: 20 points | If <1,000' from water source, or; <200' from private domestic water source: 20 points | <200 horizontal feet: 20 points | |
| Depth to GW 50 to 99 feet: 10 points | | 200-1,000 horizontal feet: 10 points | |
| Depth to GW >100 feet: 0 points | If >1,000' from water source, or; >200' from private domestic water source: 0 points | >1,000 horizontal feet: 0 points | |
| Ground Water Score = 10 | Wellhead Protection Score= 0 | Surface Water Score= 0 | |
| Site Rank (1+2+3) = 10 + 0 + 0 = 0 points | | | |
| Total Site Ranking Score and Acceptable Remedial Goal Concentrations | | | |
| Parameter | 20 or > | 10 | 0 |
| Benzene ¹ | 10 ppm | 10 ppm | 10 ppm |
| BTEX ¹ | 50 ppm | 50 ppm | 50 ppm |
| TPH | 100 ppm | 1,000 ppm | 5,000 ppm |

¹ A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the benzene and BTEX concentration limits.

4.0 Subsurface Soil Investigation

The vertical extent of hydrocarbon contamination at the site was determined from field analyses during excavation. Organic vapor concentrations were measured in the field utilizing an UltraRae PID equipped with a 9.8 eV lamp.

On September 1, 2004, composite soil samples were collected from the excavation floor (BHC-B). A portion of the sample was analyzed in the field for organic vapor concentrations. Field analyses indicated organic vapor concentrations of 749 ppm. The remaining portion of the sample was submitted to an independent laboratory for quantification of TPH, BTEX constituents and chlorides. Laboratory analytical results indicated benzene concentrations were not detectable at or above laboratory method detection limits (MDL). Total BTEX concentrations were reported at 14.4 mg/Kg, below the NMOCD remedial thresholds of 50 mg/Kg. Analytical results indicated TPH concentrations were 5,882 mg/Kg, in excess of the NMOCD remedial thresholds of 1,000 mg/Kg. Chloride concentrations were reported at 4,319 mg/Kg, in excess of the New Mexico Water Quality Control Commission (NMWQCC) chloride groundwater standard of 250 mg/L (reference *Table 1* and *Figure 3*).

On September 2, 2004, composite soil samples were collected from the excavation from the flowpath areas (Flowpath #1 and Flowpath #2) and the leak origin (LOSWC and LOBHC). A portion of each sample was analyzed in the field for the presence of organic vapors. Field analyses indicated organic vapor concentrations ranged from 582 to 975 ppm. The remaining portion of each sample was submitted to an independent laboratory for quantification of TPH and BTEX constituents. Analytical results indicated benzene concentrations in all samples were not-detectable

at or above laboratory MDL. Total BTEX concentrations were reported to range from 1.04 to 14.6 mg/Kg, below the NMOCD remedial thresholds. Reported TPH concentrations ranged from 1,501 to 5,936 mg/Kg, in excess of the NMOCD remedial thresholds (reference *Table 1*).

On October 11, 2004, after further excavation, soil samples were collected from the excavation and submitted for laboratory quantification of TPH, BTEX constituents and chlorides. Analytical results indicated BTEX constituent concentrations were non-detectable at or above laboratory method detection limits (MDL). Reported TPH concentrations ranged from <20.0 to 33.5 mg/Kg, below the NMOCD remedial thresholds of 1,000 mg/Kg. Analytical results indicated chloride concentrations ranged from 48 to 144 mg/Kg, below the NMWQCC chloride groundwater standard (reference *Table 1* and *Figure 4*).

Stockpiled soil was sampled on September 1 and 2, 2004, prior to blending activities. A portion of each sample was analyzed in the field for the presence of organic vapors. Field analyses indicated organic vapor concentrations ranged from 367 to 753 ppm. The remaining portion of each sample was submitted for laboratory quantification of TPH, BTEX constituents and chlorides. Laboratory analyses for the sample collected on September 1 (Stockpile) indicated benzene concentrations were 0.072 mg/Kg and total BTEX concentrations of 26.4 mg/Kg, below the NMOCD remedial thresholds. TPH concentrations in this sample were 11,583 mg/Kg, above the NMOCD remedial threshold. Analyses of the laboratory composite sample (Stockpile Comp.) collected on September 2, indicated benzene and total BTEX concentrations were not-detectable at or above laboratory MDL. Reported TPH concentrations were 4,774 mg/Kg, above the NMOCD remedial threshold. Chloride concentrations in both samples were reported to range from 1,184 to 4,480 mg/Kg, in excess of NMWQCC groundwater standards of 250 mg/L (reference *Table 1*).

On October 26, 2004, composite soil samples were collected from the north and east excavated, stockpiled soil after blending with clean soil and submitted for laboratory quantification of TPH, BTEX constituent concentrations and chlorides. Laboratory analytical results indicated BTEX concentrations in the north blending cell (N.S.-P 3) were not detected at or above laboratory MDL and TPH concentrations were reported at 110 mg/Kg, below the NMOCD remedial threshold. Reported chloride concentrations were 128 mg/Kg. Laboratory analytical results for the east blending cell (ESP 6) indicated BTEX concentrations were not detected at or above laboratory MDL. TPH concentrations were reported at 1,150 mg/Kg, slightly above the NMOCD remedial threshold of 1,000 mg/Kg. Reported chloride concentrations were 560 mg/Kg, above NMWQCC groundwater standards of 250 mg/L (reference *Table 1* and *Figure 4*).

5.0 Ground Water Investigation

The projected depth to ground water at this site is approximately ~~80-ft~~ ^{15 bgs} bgs. Excavation of the site was to a maximum depth of ~~five feet~~. Final laboratory analyses for soil samples collected from the excavation indicated TPH, BTEX constituent and chloride concentrations were below NMOCD remedial thresholds (reference *Table 1*).

Based on the treatment of impacted soil, plus adequate depth to ground water, there is no need for further groundwater investigation at this site.

6.0 Remediation Process

Remediation of the site commenced on September 1, 2004 and continued through October 26, 2004. Approximately 140 yd³ of NGL contaminated soil was initially excavated and stockpiled on site,

420,
1470
1890'
with an additional 490 yd³ of impacted soil excavated and transported to EPI's Landfarm for treatment. Confirmatory samples of the excavation indicated NMOCD remedial thresholds have been achieved. The stockpiled, contaminated soil was blended with clean soil. Laboratory analyses of the composite soil sample from the blended excavation stockpile (ESP 6) indicated that TPH concentrations were slightly above the NMOCD remedial threshold at the site (reference *Table 1* and *Appendix 1*).

7.0 Closure Proposal

Environmental Plus, Inc. on behalf of DEFS, proposes that the excavation be backfilled with the excavated blended soil to approximately three-feet bgs. The final three feet of backfill will consist of clean soil obtained from an off-site source and currently stockpiled on site. Remediation work will be finalized with grading to allow natural drainage and seeding with a native range type grass approved by the New Mexico State Land Office. Upon completion of site closure activities, EPI, on behalf of DEFS, will submit a Closure Report and Final C-141 for NMOCD approval.

FIGURES

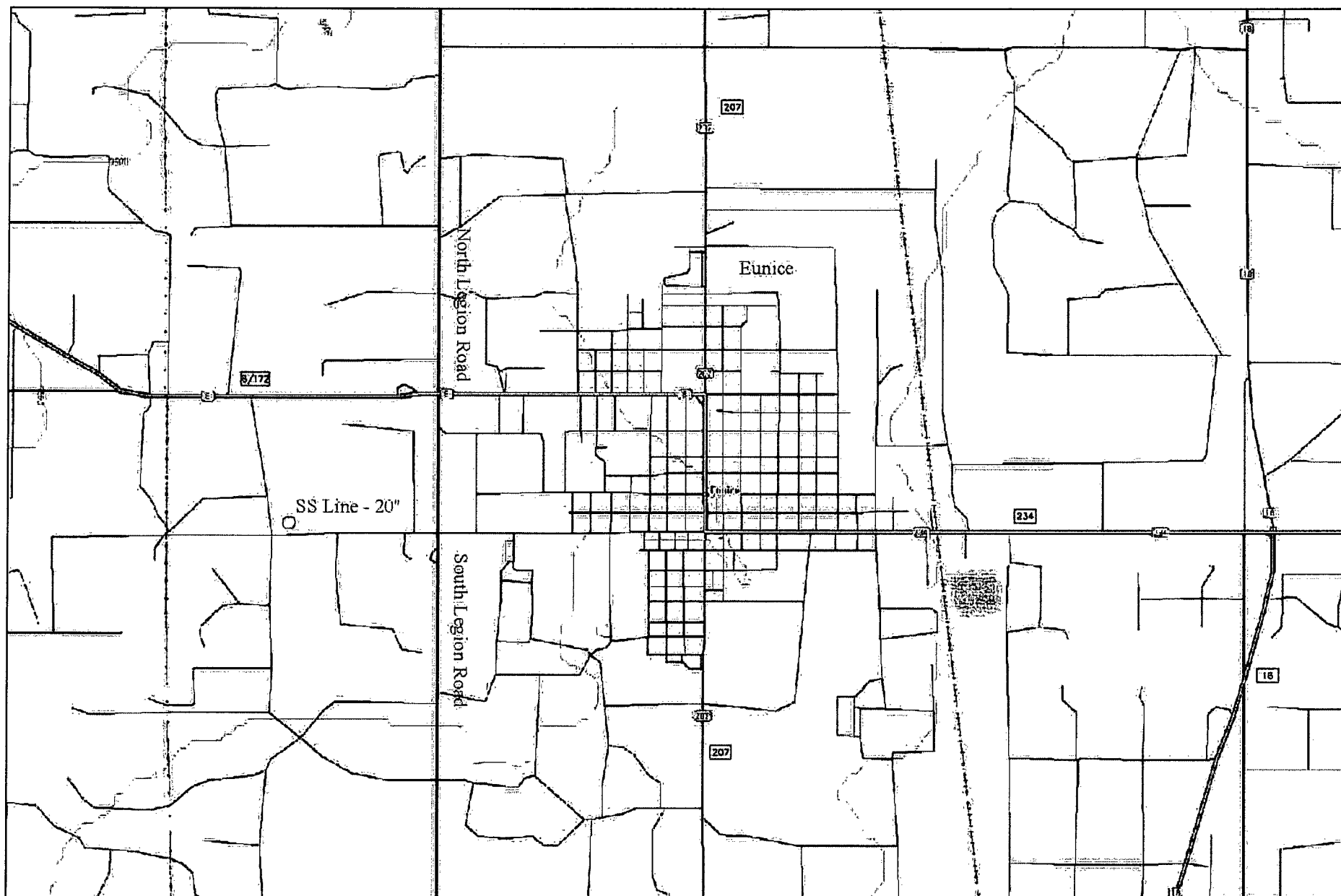
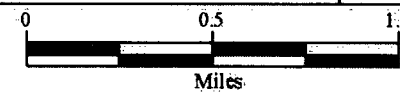


Figure 1
Area Map
Duke Energy Field Services
SS Line - 20"

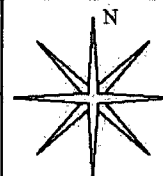
Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 32, T21S, R37E
N 32°26' 9.12" W 103°11' 9.09"
Elevation: 3,462 feet amsl

DWG By: Iain Olness
August 2004

REVISED:



SHEET
1 of 1



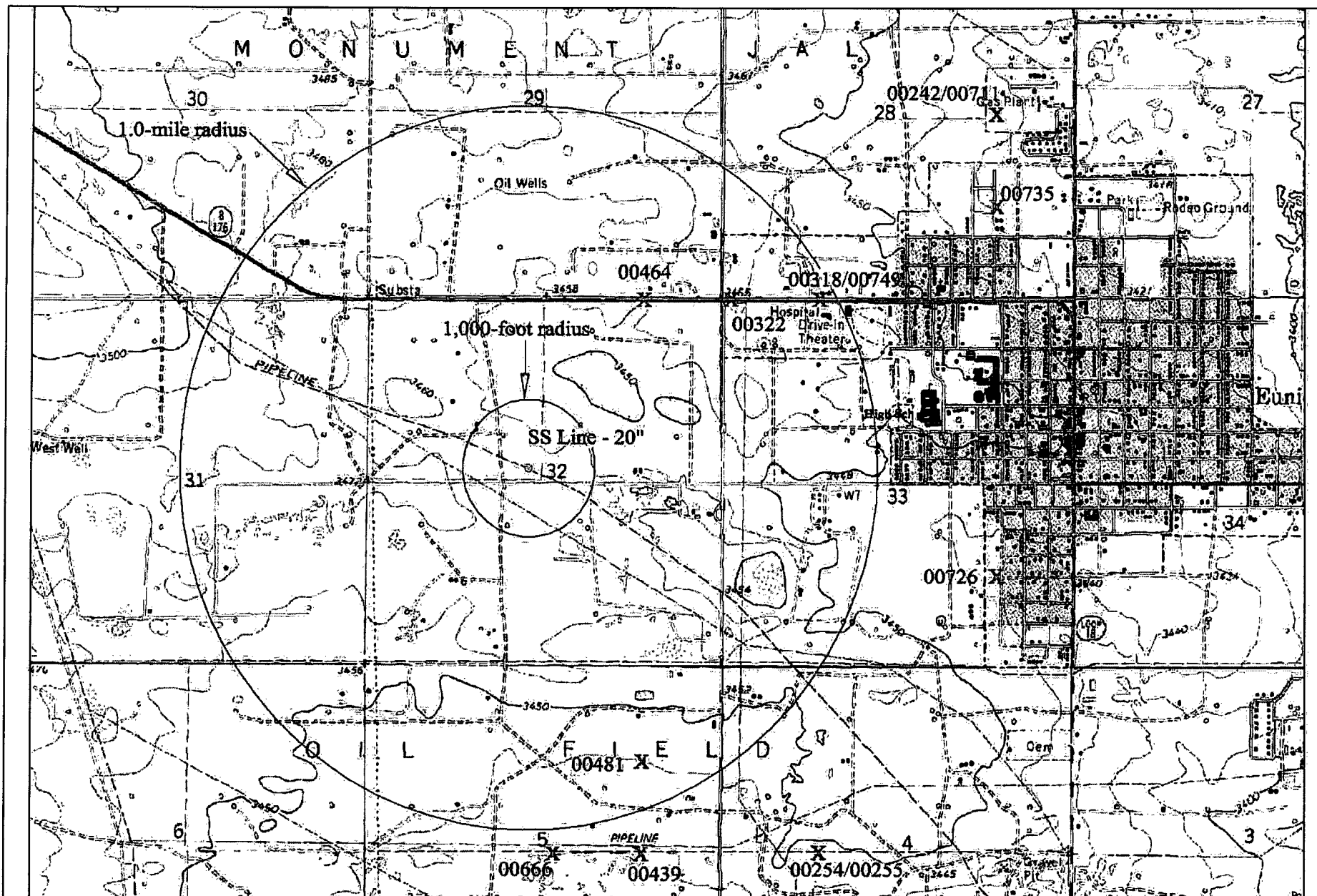


Figure 2
Site and Well Location Map
Duke Energy Field Services
SS Line - 20"

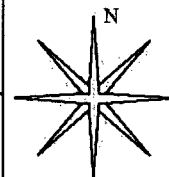
Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 32, T21S, R37E
N 32°26' 9.12" W 103°11' 9.09"
Elevation: 3,462 feet amsl

DWG By: Iain Olness
August 2004

REVISED:



SHEET
1 of 1



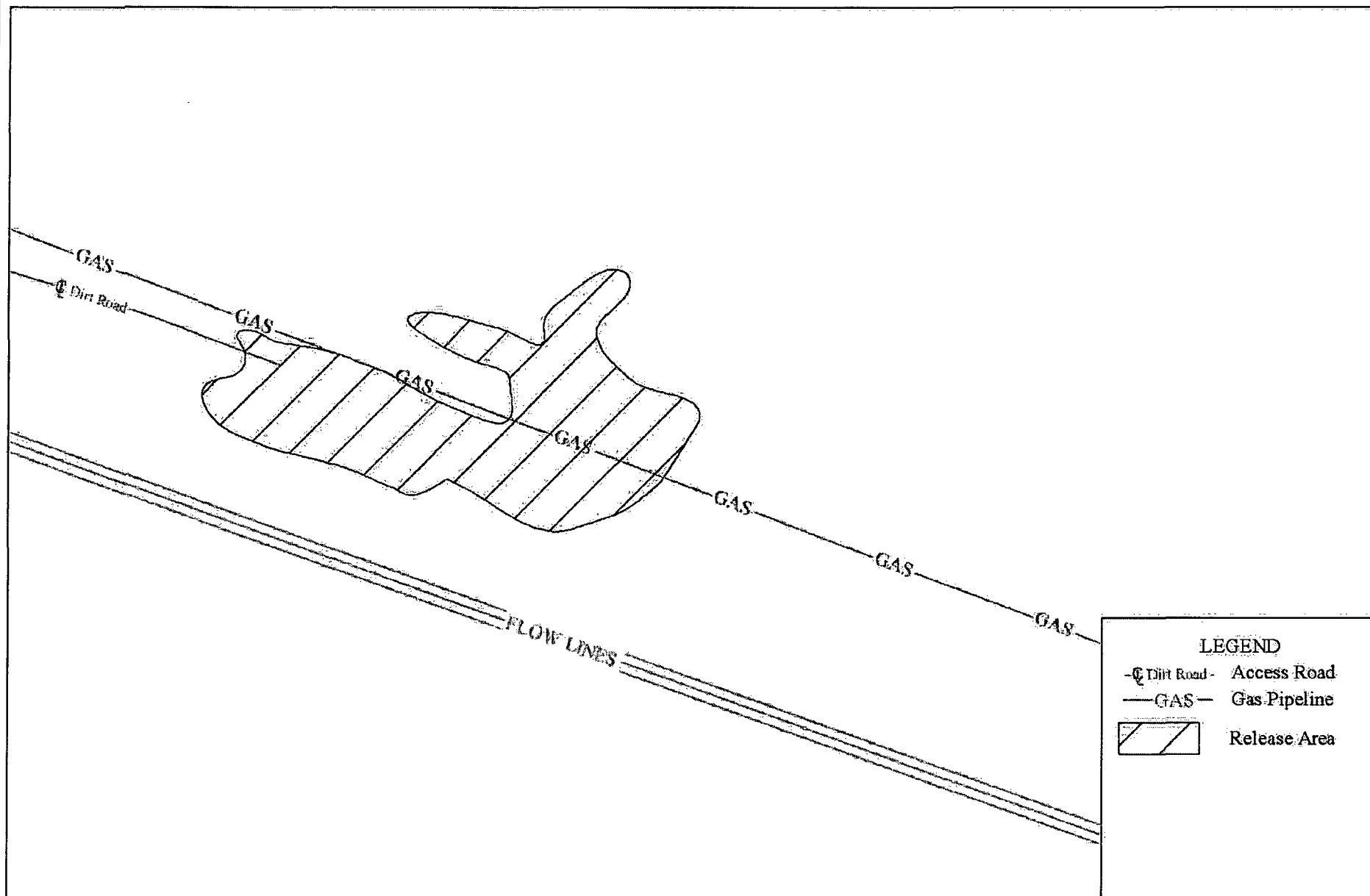


Figure 3
Site Map
Duke Energy Field Services
SS Line - 20"

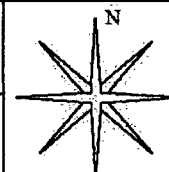
Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 32, T21S, R37E
N 32° 26' 9.12" W 103° 11' 9.09"
Elevation: 3,462 feet amsl

DWG By: Iain Olness
August 2004

REVISED:



SHEET
1 of 1



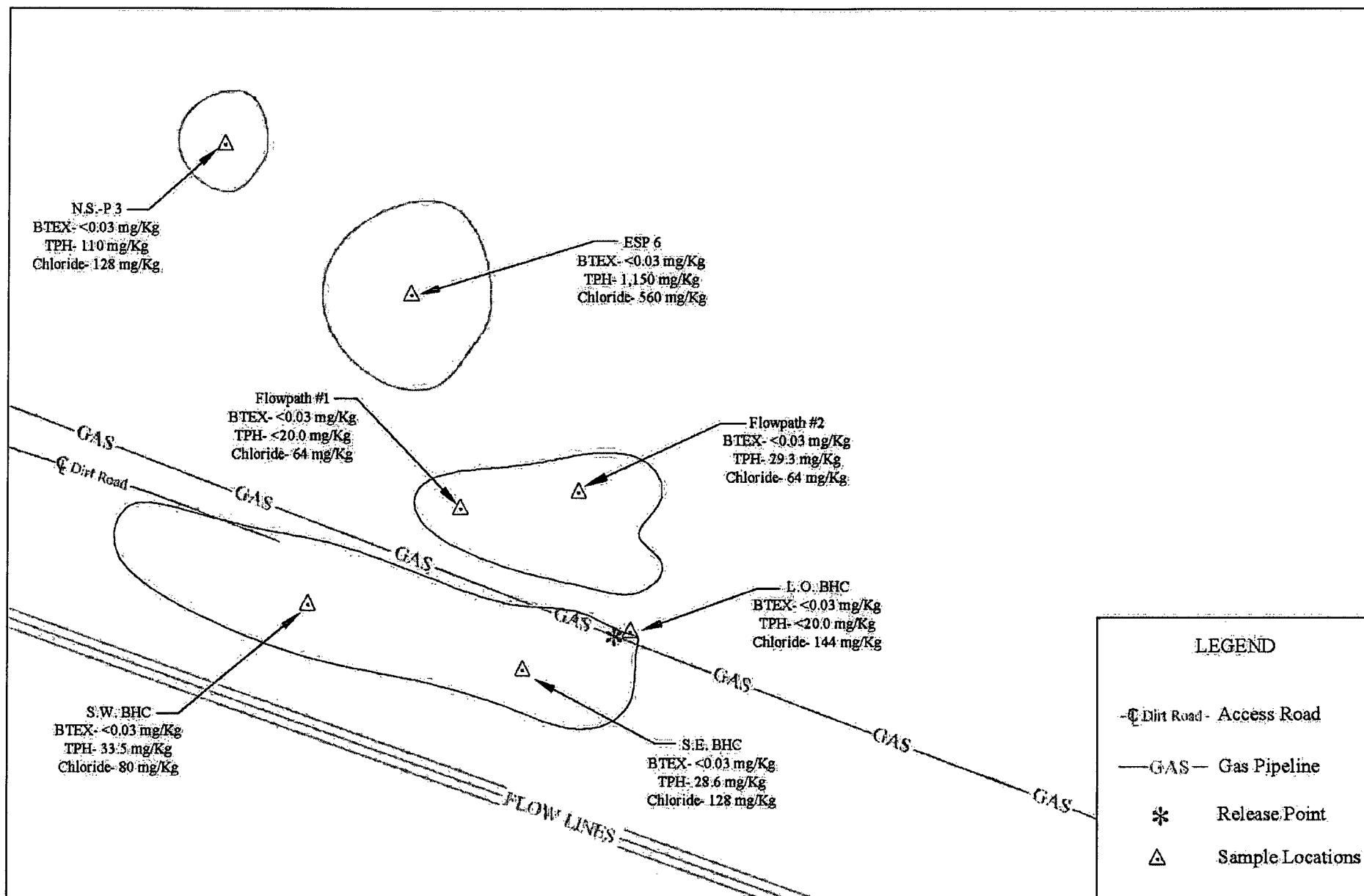


Figure 4
October 11 and 26, 2004
Sample Location Map
Duke Energy Field Services
SS Line - 20"

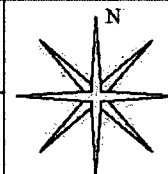
Lea County, New Mexico
SW 1/4 of the NW 1/4, Sec. 32, T21S, R37E
N 32° 26' 9.12" W 103° 11' 9.09"
Elevation: 3,462 feet amsl

DWG By: Iain Olness
August 2004

REVISED:
JCS, Aug. 2005



SHEET
1 of 1



TABLES

TABLE 1
Summary of Excavation Soil Field Analyses and Laboratory Analytical Results
DEFS-SS Line 20"

| Soil Boring | Depth (feet) | Sample Date | PID Reading (ppm) | 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) |
|----------------------------------|----------------|-------------|-------------------|-----------------|-----------------|----------------------|-----------------------|--------------------|---------------------------|-------------------------|-------------------|------------------------|
| Stockpile | Not Applicable | 9/1/2004 | 753 | 0.072 | 3.06 | 6.81 | 16.5 | 26.4 | 343 | 11,240 | 11,583 | 1,184 |
| BHC-B | 3 | 9/1/2004 | 749 | 0.043 | 1.74 | 4.14 | 8.46 | 14.4 | 202 | 5,680 | 5,882 | 4,319 |
| Flowpath #1 | 1 | 9/2/2004 | 975 | <0.005 | 0.044 | 0.209 | 0.791 | 1.04 | 130 | 3,800 | 3,930 | NA |
| Flowpath #2 | 1 | 9/2/2004 | 742 | <0.005 | 0.676 | 3.93 | 10.0 | 14.6 | 416 | 5,520 | 5,936 | NA |
| LOSWC | 3 | 9/2/2004 | 582 | <0.005 | 0.252 | 0.896 | 1.93 | 3.08 | 42.0 | 1,130 | 1,172 | NA |
| LOBHC | 4 | 9/2/2004 | 681 | <0.005 | 0.050 | 0.471 | 1.31 | 1.83 | 41.0 | 1,460 | 1,501 | NA |
| Stockpile Comp. | Not Applicable | 9/7/2004 | 367 | <0.005 | <0.005 | <0.005 | <0.005 | <0.03 | 74.0 | 4,700 | 4,774 | 4,480 |
| Flowpath #1 | 5 | 10/11/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | <10.0 | <20.0 | 64 |
| Flowpath #2 | 5 | 10/11/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | 29.3 | 29.3 | 48 |
| S.E. BHC | 5 | 10/11/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | 28.6 | 28.6 | 144 |
| L.O. BHC | 5 | 10/11/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | <10.0 | <20.0 | 128 |
| S.W.BHC | 5 | 10/11/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | 33.5 | 33.5 | 80 |
| N.S.-P 3 | Not Applicable | 10/26/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | <10.0 | 110 | 110 | 128 |
| ESP 6 | Not Applicable | 10/26/2004 | NA | <0.005 | <0.005 | <0.005 | <0.015 | <0.03 | 20.0 | 1,130 | 1,150 | 560 |
| NMOCD Remedial Thresholds | | | 100 | 10 | | | | 50 | | | 1,000 | 250³ |

¹ *Bolded values are in excess of NMOCD Remediation Thresholds*

² *NA=Not Analyzed*

³ *Chloride residuals may not be capable of impacting local groundwater above the NMW/QCC standards of 250 mg/L.*

TABLE 2

WELL / SURFACE DATA REPORT

Duke Energy Field Services SS Line 20" - Ref #130012

| DB | File Nbr | Use | Diversion ^A | Owner | Well Number | Twsp | Rng | Sec q q q | Latitude | Longitude | Start Date | Finish Date | Depth of Well (ft bgs) | Depth to Water (ft bgs) |
|----|----------|-----|------------------------|-----------------------------|-------------|------|-----|-----------|------------------|-------------------|------------|-------------|---------------------------|----------------------------|
| CP | 00242 | IND | 96 | Versado Gas Processors, LLC | CP00242 | 21S | 37E | 28 2 4 3 | N 32° 26' 59.02" | W 103° 09' 47.52" | | 31-Dec-64 | 112 | |
| CP | 00318 | SAN | 0 | McCasland Hot Oil Services | CP00318 EXP | 21S | 37E | 28 3 4 | N 32° 26' 32.92" | W 103° 10' 18.29" | | | | |
| CP | 00322 | DOM | 3 | Millard Deck | CP00322 | 21S | 37E | 28 3 | N 32° 26' 32.92" | W 103° 10' 33.69" | 8-Jun-66 | 10-Jun-66 | 138 | 73 |
| CP | 00464 | DOM | 0 | Eugene Winker | CP00464 EXP | 21S | 37E | 28 4 4 4 | N 32° 26' 32.94" | W 103° 10' 49.08" | | | | |
| CP | 00513 | SRO | 0 | Gulf Oil Corporation | CP00513 | 21S | 37E | 28 3 1 3 | N 32° 26' 45.98" | W 103° 10' 33.7" | | | | |
| CP | 00711 | DOM | 3 | Floyd G. Block | CP00711 | 21S | 37E | 28 2 4 | N 32° 26' 59.02" | W 103° 09' 47.52" | 1-Oct-87 | 2-Oct-87 | 100 | 65 |
| CP | 00726 | DOM | 3 | Clayton L. Wooten | CP00726 | 21S | 37E | 33 4 2 | N 32° 25' 53.76" | W 103° 09' 47.5" | 23-Feb-88 | 23-Feb-88 | 125 | 100 |
| CP | 00735 | DOM | 3 | Charles W. Jennings | CP00735 | 21S | 37E | 28 4 2 | N 32° 26' 45.97" | W 103° 09' 47.51" | 26-Jul-88 | 23-Feb-88 | 105 | |
| CP | 00749 | DOM | 3 | D.M. Criswell | CP00749 | 21S | 37E | 28 3 4 2 | N 32° 26' 32.92" | W 103° 10' 18.29" | 15-Jun-90 | 22-Jun-90 | 123 | 75 |
| CP | 00254 | IND | 64 | Versado Gas Processors, LLC | CP00254 | 22S | 37E | 04 1 4 2 | N 32° 25' 14.63" | W 103° 10' 18.31" | | 31-Aug-50 | 164 | |
| CP | 00255 | IND | 64 | Versado Gas Processors, LLC | CP00255 | 22S | 37E | 04 1 4 1 | N 32° 25' 14.63" | W 103° 10' 18.31" | | 31-May-54 | 162 | |
| CP | 00439 | DOM | 0 | Bobby Pearce | CP00439 EXP | 22S | 37E | 05 2 4 2 | N 32° 25' 14.58" | W 103° 10' 49.09" | | | | |
| CP | 00451 | PUB | 0 | Skelly Oil Company | CP00451 | 22S | 37E | 04 3 1 3 | N 32° 25' 01.55" | W 103° 10' 33.7" | 25-Oct-67 | | | |
| CP | 00468 | DOM | 0 | L.W. Fristoe | CP00468 DCL | 22S | 37E | 04 4 4 3 | N 32° 24' 48.55" | W 103° 09' 47.56" | | | | |
| CP | 00481 | DOM | 3 | Mix Osborn | CP00481 | 22S | 37E | 05 2 2 4 | N 32° 25' 27.64" | W 103° 10' 49.08" | 9-Apr-70 | 11-Apr-70 | 125 | 90 |
| CP | 00666 | DOM | 3 | Larry Henson | CP00666 | 22S | 37E | 05 2 | N 32° 25' 14.55" | W 103° 11' 04.49" | 27-Aug-84 | 27-Aug-84 | 120 | 79 |

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1)

Shaded well information indicates well location shown on Figure 2

^A = in acre feet per annum

IND = Industrial

EXP = Expired

SRO = Secondary Recovery of Oil

DOM = Domestic One Household

SAN = Sanitary in Conjunction with a Industrial Use

PUB = Construction of Public Works

(quarters are 1=NW, 2=NE, 3=SW, 4=SE)

(quarters are biggest to smallest - X Y are in Feet - UTM are in Meters)

APPENDIX I

LABORATORY ANALYTICAL REPORTS

AND

CHAIN-OF-CUSTODY FORMS



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: IAIN OLNESS
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

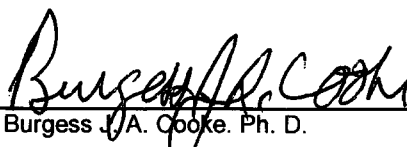
Receiving Date: 09/01/04
Reporting Date: 10/04/04
Project Number: 130012
Project Name: SS-LINE 20"
Project Location: NOT GIVEN


Sampling Date: 09/01/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: GP/BC

| LAB NO. | SAMPLE ID | GRO (C ₆ -C ₁₀) (mg/Kg) | DRO (>C ₁₀ -C ₃₅) (mg/Kg) | BENZENE (mg/Kg) | TOLUENE (mg/Kg) | ETHYL BENZENE (mg/Kg) | TOTAL XYLENES (mg/Kg) |
|---------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|
|---------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|

| | | | | | | |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| ANALYSIS DATE: | 09/11/04 | 09/11/04 | 09/02/04 | 09/02/04 | 09/02/04 | 09/02/04 |
| H9118-1 STOCKPILE | 343 | 11240 | 0.072 | 3.06 | 6.81 | 16.5 |
| H9118-2 BHC-B | 202 | 5680 | 0.043 | 1.74 | 4.14 | 8.46 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Quality Control | 282 | 240 | 0.094 | 0.096 | 0.097 | 0.297 |
| True Value QC | 270 | 230 | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | 105 | 104 | 94.1 | 96.1 | 97.2 | 99.1 |
| Relative Percent Difference | 5.3 | 8.8 | 5.6 | 0.7 | 4.9 | 7.7 |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.


Burgess J.A. Cooke, Ph. D.


Date

H9118A.XLS

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

FAX TO: (505) 394-2601

Sampling Date: 09/01/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

| LAB NUMBER | SAMPLE ID | SO ₄ (mg/Kg) | Cl (mg/Kg) |
|-----------------------------|-----------|------------------------------|-----------------|
| ANALYSIS DATE: | | 09/07/04 | 09/07/04 |
| H9118-1 | STOCKPILE | <1 | 1184 |
| H9118-2 | BHC-B | 32 | 4319 |
| | | | |
| | | | |
| | | | |
| Quality Control | | 50.98 | 950 |
| True Value QC | | 50.00 | 1000 |
| % Recovery | | 102 | 95.0 |
| Relative Percent Difference | | 1.2 | 4.2 |
| METHODS: EPA 600/4-79-020 | | 375.4 | 325.3 |

918704

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

H9118

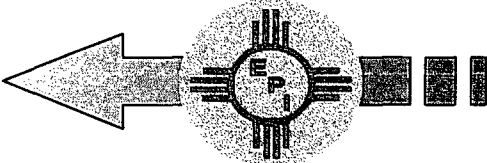
Cardinal Laboratories Inc.

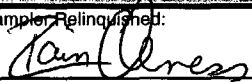
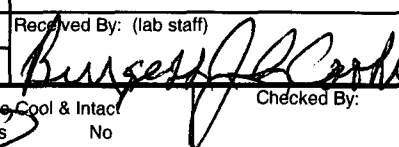
101 East Marland, Hobbs, NM 88240

505-393-2326 Fax 505-393-2476

2111 Beechwood, Abilene, TX 79603

915-673-7001 Fax 915-673-7020

| Company Name | | Environmental Plus, Inc. | | Bill To | | | | ANALYSIS REQUEST | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------|------------------------------------|--------------|--|------------|------|-----------|-------------------------|--------|-----------|----------|-------|----------|-------|------------|-----------|----------------|---|----|------|-----------|--|--|--|--|--|--|--|--|--|--|--|
| EPI Project Manager | | Iain Olness | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Billing Address | | P.O. BOX 1558 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City, State, Zip | | Eunice New Mexico 88231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Phone#/Fax# | | 505-394-3481 / 505-394-2601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Client Company | | DEFS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Facility Name | | SS-Line 20" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Reference | | 130012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Sampler Name | | Morris Burkett | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAB I.D. | SAMPLE I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX | | | | | | PRESERV. | | | SAMPLING | | BTEX 8021B | TPH 8015M | CHLORIDES (Cl) | SULFATES (SO ₄ ²⁻) | PH | TCLP | OTHER >>> | | | | | | | | | | | |
| | | | | GROUND WATER | WASTEWATER | SOIL | CRUDE OIL | SLUDGE | OTHER: | ACID/BASE | ICE/COOL | OTHER | DATE | TIME | | | | | | | | | | | | | | | | | | |
| 149115-1 | 1 Stockpile | C | | | | X | | | | | X | | 1-Sep | 11:45 | X | X | X | X | | | | | | | | | | | | | | |
| -2 | 2 BHC-B | C | | | | X | | | | | X | | 1-Sep | 11:54 | X | X | X | X | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---|--|---|---|---|
| Sampler Relinquished:  | | Date: 9/1/04 Time: 7:43 | Received By: _____ Received By: (lab staff)  | Fax Results To Iain Olness 505-394-2601 REMARKS: |
| Relinquished by: _____ | | Date: _____ Time: _____ | Checked By: _____ | |
| Delivered by: _____ | | Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: IAIN OLNESS
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601


Receiving Date: 09/10/04
Reporting Date: 10/01/04
Project Number: 130012
Project Name: SS-LINE 20"
Project Location: NOT GIVEN

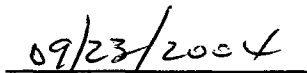
Sampling Date: 09/02/04 & 09/07/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: GP

| LAB NUMBER | SAMPLE ID | GRO (C ₆ -C ₁₀) (mg/Kg) | DRO (>C ₁₀ -C ₂₈) (mg/Kg) |
|------------|-----------|--|--|
|------------|-----------|--|--|

| | | | |
|-----------------------------|-----------------|----------|----------|
| ANALYSIS DATE: | | 09/22/04 | 09/22/04 |
| H9146-1 | FLOW PATH #2 | 416 | 5520 |
| H9146-2 | LOSWC | 42 | 1130 |
| H9146-3 | LOBHC | 41 | 1460 |
| H9146-4 | FLOW PATH #1 | 130 | 3800 |
| H9146-5 | STOCKPILE COMP. | 74 | 4700 |
| Quality Control | | 265 | 205 |
| True Value QC | | 270 | 230 |
| % Recovery | | 98.1 | 88.9 |
| Relative Percent Difference | | 1.5 | 1.5 |

METHOD: SW-846 8015 M


Chemist


Date

H9146T.XLS

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR ENVIRONMENTAL PLUS, INC.

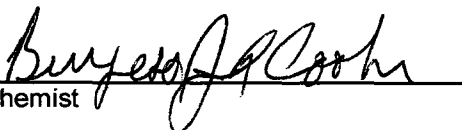
ATTN: IAIN OLNES
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601


Receiving Date: 09/10/04
Reporting Date: 09/21/04
Project Number: 130012
Project Name: SS-LINE 20"
Project Location: NOT GIVEN

Sampling Date: 09/02/04 & 09/07/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

| LAB NUMBER | SAMPLE ID | BENZENE (mg/Kg) | TOLUENE (mg/Kg) | ETHYL BENZENE (mg/Kg) | TOTAL XYLENES (mg/Kg) |
|-----------------------------|-----------------|--------------------|--------------------|-----------------------------|-----------------------------|
| ANALYSIS DATE | | 09/20/04 | 09/20/04 | 09/20/04 | 09/20/04 |
| H9146-1 | FLOW PATH #2 | <0.005 | 0.676 | 3.93 | 10.0 |
| H9146-2 | LOSWC | <0.005 | 0.252 | 0.896 | 1.93 |
| H9146-3 | LOBHC | <0.005 | 0.050 | 0.471 | 1.310 |
| H9146-4 | FLOW PATH #1 | <0.005 | 0.044 | 0.209 | 0.791 |
| H9146-5 | STOCKPILE COMP. | <0.005 | <0.005 | 0.018 | 0.173 |
| | | | | | |
| Quality Control | | 0.093 | 0.089 | 0.091 | 0.278 |
| True Value QC | | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | | 93.0 | 89.3 | 91.2 | 92.6 |
| Relative Percent Difference | | 0.4 | 22.8 | 9.6 | 14.8 |

METHOD: EPA SW-846 8260


Chemist


Date

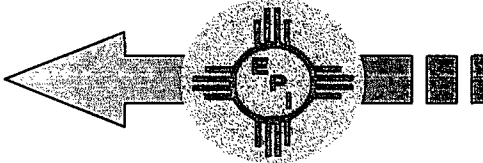
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

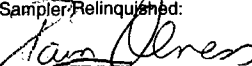
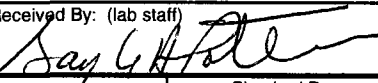
H9146B.XLS

Cardinal Laboratories Inc.

101 East Marland, Hobbs, NM 88240
505-393-2326 Fax 505-393-2476

2111 Beechwood, Abilene, TX 79603
915-673-7001 Fax 915-673-7020

| Company Name Environmental Plus, Inc. | | Bill To | | | | | | | | | | ANALYSIS REQUEST | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|--|--------------|--------------|------------|------|-----------|--------|--------|-----------|----------|-------------------------|----------|-------|-----------|-----------|------------------------------|---|----|------|-----------|--|--|--|--|--|--|--|--|--|--|--|
| EPI Project Manager Iain Olness | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Billing Address P.O. BOX 1558 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City, State, Zip Eunice New Mexico 88231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Phone#/Fax# 505-394-3481 / 505-394-2601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Client Company DEFS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Facility Name SS-Line 20" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Reference 130012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Sampler Name Morris Burkett | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAB I.D. | SAMPLE I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX | | | | | | PRESERV. | | | SAMPLING | | BTX 8021B | TPH 8015M | CHLORIDES (Cl ⁻) | SULFATES (SO ₄ ²⁻) | pH | TCLP | OTHER >>> | | | | | | | | | | | |
| | | | | GROUND WATER | WASTEWATER | SOIL | CRUDE OIL | SLUDGE | OTHER: | ACID/BASE | ICE/COOL | OTHER | DATE | TIME | | | | | | | | | | | | | | | | | | |
| 129146 -1 | 1 Flow Path #2 | C | | | | X | | | | | X | | | 2-Sep | 13:23 | X | X | X | X | | | | | | | | | | | | | |
| -2 | 2 LOSWC | C | | | | X | | | | | X | | | 2-Sep | 13:49 | X | X | X | X | | | | | | | | | | | | | |
| -3 | 3 LOBHC | C | | | | X | | | | | X | | | 2-Sep | 13:30 | X | X | X | X | | | | | | | | | | | | | |
| -4 | 4 Flow Path #1 | C | | | | X | | | | | X | | | 7-Sep | 10:45 | X | X | X | X | | | | | | | | | | | | | |
| -5 | 5 Stockpile Composite | C | | | | X | | | | | X | | | 7-Sep | 10:50 | X | X | X | X | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | |
|--|--|--|---|---|
| Sampler Relinquished:  Relinquished by: | | Date: 9/10/04 Time: 7:36 | Received By: | Fax Results To Iain Olness 505-394-2601 REMARKS: If TPH <1,000 ppm, then analyze for BTX. If benzene <10 ppm and BTX <50 ppm, then analyze for Cl ⁻ and SO ₄ ²⁻ . |
| Delivered by: | | Date: 9/10/2004 Time: 4:35P | Received By: (lab staff)  | |
| | | Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Checked By: | |



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: IAIN OLNESS
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

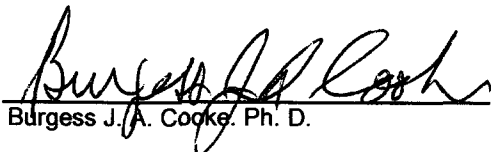
Receiving Date: 10/12/04
Reporting Date: 10/14/04
Project Number: 130012 (DEFS)
Project Name: SS-LINE 20"
Project Location: NOT GIVEN

Sampling Date: 10/11/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

| LAB NUMBER | SAMPLE ID | GRO (C ₆ -C ₁₀) (mg/Kg) | DRO (>C ₁₀ -C ₂₈) (mg/Kg) | BENZENE (mg/Kg) | TOLUENE (mg/Kg) | ETHYL BENZENE (mg/Kg) | TOTAL XYLENES (mg/Kg) |
|------------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|
|------------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|

| | | | | | | |
|-----------------------------|----------|----------|----------|----------|----------|----------|
| ANALYSIS DATE: | 10/12/04 | 10/12/04 | 10/13/04 | 10/13/04 | 10/13/04 | 10/13/04 |
| H9232-1 FLOW PATH #2 | <10.0 | 29.3 | <0.005 | <0.005 | <0.005 | <0.015 |
| H9232-2 S.E. BHC | <10.0 | 28.6 | <0.005 | <0.005 | <0.005 | <0.015 |
| H9232-3 L.O. BHC | <10.0 | <10.0 | 0.016 | 0.009 | <0.005 | <0.015 |
| H9232-4 FLOW PATH #1 | <10.0 | <10.0 | <0.005 | <0.005 | <0.005 | <0.015 |
| H9232-5 S.W. BHC | <10.0 | 33.5 | <0.005 | <0.005 | <0.005 | <0.015 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Quality Control | 793 | 774 | 0.104 | 0.096 | 0.100 | 0.307 |
| True Value QC | 800 | 800 | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | 99.1 | 96.8 | 104 | 95.8 | 99.9 | 102 |
| Relative Percent Difference | 1.6 | 4.1 | 4.0 | 2.4 | 3.1 | 4.3 |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.


Burgess J. A. Cooke, Ph. D.

10/14/04
Date

H9232A.XLS

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



ARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: IAIN OLNES
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

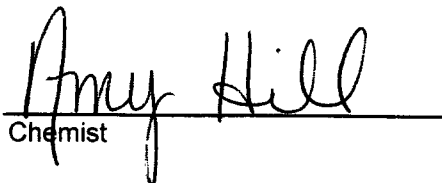
Receiving Date: 10/12/04
Reporting Date: 10/14/04
Project Number: 130012 (DEFS)
Project Name: SS-LINE 20"
Project Location: NOT GIVEN

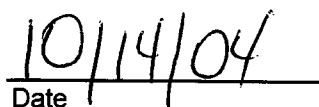
Sampling Date: 10/11/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

| LAB NUMBER | SAMPLE ID | SO ₄ (mg/Kg) | Cl (mg/Kg) |
|-----------------------------|--------------|------------------------------|-----------------|
| ANALYSIS DATE: | | 10/14/04 | 10/14/04 |
| H9232-1 | FLOW PATH #2 | 82 | 48 |
| H9232-2 | S.E. BHC | 18 | 144 |
| H9232-3 | L.O. BHC | <1 | 128 |
| H9232-4 | FLOW PATH #1 | 42 | 64 |
| H9232-5 | S.W. BHC | 28 | 80 |
| Quality Control | | 50.98 | 1050 |
| True Value QC | | 50.00 | 1000 |
| % Recovery | | 102 | 105 |
| Relative Percent Difference | | 1.2 | 2.9 |

| | | |
|---------------------------|-------|------------|
| METHODS: EPA 600/4-79-020 | 375.4 | SM 4500-Cl |
|---------------------------|-------|------------|

Note: Analyses performed on 1:4 w:v aqueous extracts.


Chemist


Date

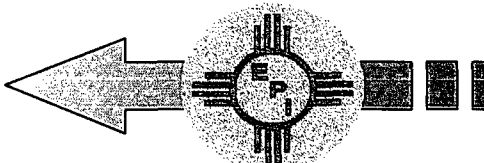
PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

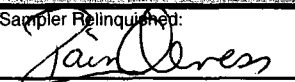
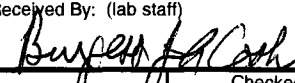
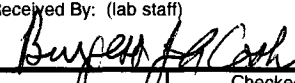
h9232

Cardinal Laboratories Inc.

101 East Marland, Hobbs, NM 88240
505-393-2326 Fax 505-393-2476

2111 Beechwood, Abilene, TX 79603
915-673-7001 Fax 915-673-7020

| Company Name Environmental Plus, Inc. | | Bill To | | | | | | | | | | ANALYSIS REQUEST | | | | | | | | | | | | | | | | | | |
|--|----------------|--|--------------|--------------|------------|------|-----------|--------|----------|-----------|----------|-------------------------|--------|------------|-----------|------------------------------|---|----|------|-----------|--|--|--|--|--|--|------|--|--|--|
| EPI Project Manager Iain Olness | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Billing Address P.O. BOX 1558 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City, State, Zip Eunice New Mexico 88231 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Phone#/Fax# 505-394-3481 / 505-394-2601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Client Company DEFS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Facility Name SS-Line 20" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Reference 130012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EPI Sampler Name Morris Burkett | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LAB I.D. | SAMPLE I.D. | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX | | | | | PRESERV. | | | SAMPLING | | BTEX 8021B | TPH 8015M | CHLORIDES (Cl ⁻) | SULFATES (SO ₄ ²⁻) | pH | TCLP | OTHER >>> | | | | | | | | | | |
| | | | | GROUND WATER | WASTEWATER | SOIL | CRUDE OIL | SLUDGE | OTHER: | ACID/BASE | ICE/COOL | OTHER | DATE | | | | | | | | | | | | | | TIME | | | |
| W9232-1 | 1 Flow Path #2 | C | 1 | | | X | | | | | X | | 11-Oct | | X | X | X | X | | | | | | | | | | | | |
| -2 | 2 S.E. BHC | C | 1 | | | X | | | | | X | | 11-Oct | | X | X | X | X | | | | | | | | | | | | |
| -3 | 3 L.O. BHC | C | 1 | | | X | | | | | X | | 11-Oct | | X | X | X | X | | | | | | | | | | | | |
| -4 | 4 Flow Path #1 | C | 1 | | | X | | | | | X | | 11-Oct | | X | X | X | X | | | | | | | | | | | | |
| -5 | 5 S.W. BHC | C | 1 | | | X | | | | | X | | 11-Oct | | X | X | X | X | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|---|--|--|---|--|--|
| Sampler Relinquished:  | | Date: 10/12/04 Time: 7:40 | Received By:  | | Fax Results To Iain Olness 505-394-2601 REMARKS: If TPH <1,000 ppm, then analyze for BTEX. If benzene <10 ppm and BTEX <50 ppm, then analyze for Cl ⁻ and SO ₄ ²⁻ . |
| Relinquished by: | | Date: Time: | Received By: (lab staff)  | | |
| Delivered by: | | Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | | |



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.

ATTN: IAIN OLNESS

P.O. BOX 1558

EUNICE, NM 88231

FAX TO: (505) 394-2601

Receiving Date: 10/26/04

Reporting Date: 10/29/04

Project Owner: DUKE ENERGY FELD SERVICES

Project Name: SS-LINE

Project Location: NOT GIVEN

Sampling Date: 10/26/04

Sample Type: SOIL

Sample Condition: COOL & INTACT



Sample Received By: BC

Analyzed By: BC

| LAB NUMBER | SAMPLE ID | GRO (C ₆ -C ₁₀) (mg/Kg) | DRO (>C ₁₀ -C ₂₈) (mg/Kg) | BENZENE (mg/Kg) | TOLUENE (mg/Kg) | ETHYL BENZENE (mg/Kg) | TOTAL XYLENES (mg/Kg) |
|------------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|
|------------|-----------|--|--|--------------------|--------------------|-----------------------------|-----------------------------|

| | | | | | | | |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|
| ANALYSIS DATE: | | 10/27/04 | 10/27/04 | 10/27/04 | 10/27/04 | 10/27/04 | 10/27/04 |
| H9283-1 | N.S.-P 3 | <10.0 | 110 | <0.005 | <0.005 | <0.005 | <0.015 |
| H9283-2 | ESP 6 | 20.0 | 1130 | <0.005 | <0.005 | <0.005 | <0.015 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Quality Control | | 755 | 812 | 0.094 | 0.087 | 0.094 | 0.296 |
| True Value QC | | 800 | 800 | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | | 94.3 | 101 | 94.4 | 87.3 | 94.4 | 98.6 |
| Relative Percent Difference | | 1.4 | 2.4 | 5.9 | 11.9 | 10.2 | 7.1 |

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.


Burgess J. A. Cooke, Ph. D.
Date

H9283A.XLS

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



ARDINAL
LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: IAIN OLNESS
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

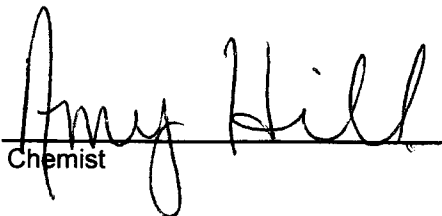
Receiving Date: 10/26/04
Reporting Date: 10/27/04
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: SS-LINE
Project Location: NOT GIVEN

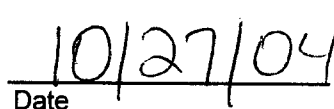
Sampling Date: 10/26/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

| LAB NUMBER | SAMPLE ID | SO ₄ (mg/Kg) | Cl (mg/Kg) |
|-----------------------------|-----------|------------------------------|-----------------|
| ANALYSIS DATE: | | 10/27/04 | 10/27/04 |
| H9283-1 | N.S.-P 3 | 111 | 128 |
| H9283-2 | ESP 6 | 23.6 | 560 |
| | | | |
| | | | |
| | | | |
| | | | |
| Quality Control | | 50.98 | 1060 |
| True Value QC | | 50.00 | 1000 |
| % Recovery | | 102 | 106 |
| Relative Percent Difference | | 1.2 | 6.0 |

| | | |
|---------------------------|-------|------------|
| METHODS: EPA 600/4-79-020 | 375.4 | SM 4500-Cl |
|---------------------------|-------|------------|

Note: Analyses performed on 1:4 w:v aqueous extracts.


Chemist


Date

PLEASE NOTE: **Liability and Damages.** Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

h9283

101 East Marland, Hobbs, NM 88240
505-393-2326 Fax 505-393-2476

APPENDIX II

PROJECT PHOTOGRAPHS



Photo #1: Release area, looking easterly along the pipeline.
Notice soil staining in center of photo.



Photo #2: Initial excavation activity, looking northerly.

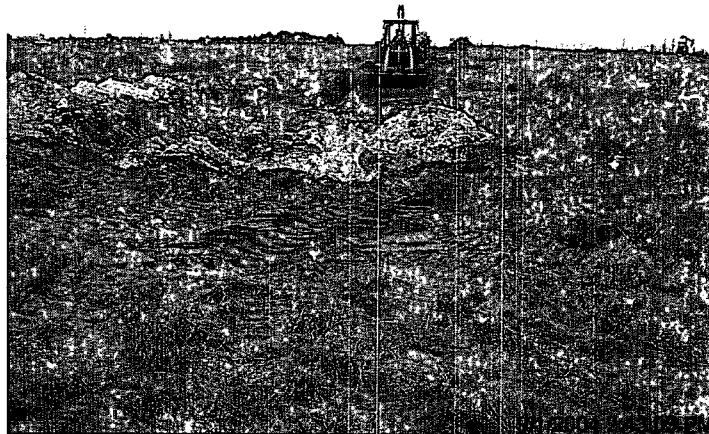


Photo #3: Initial excavation activities, looking northerly.

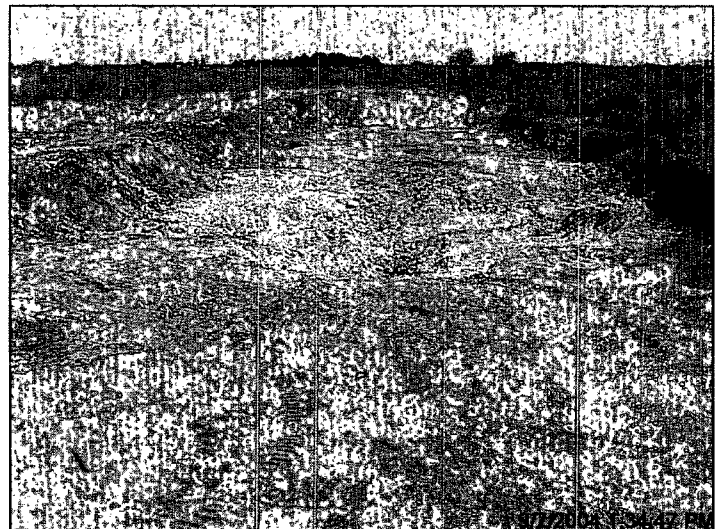


Photo #4: Initial excavation, looking easterly.



Photo #5: Initial excavation, looking northerly.

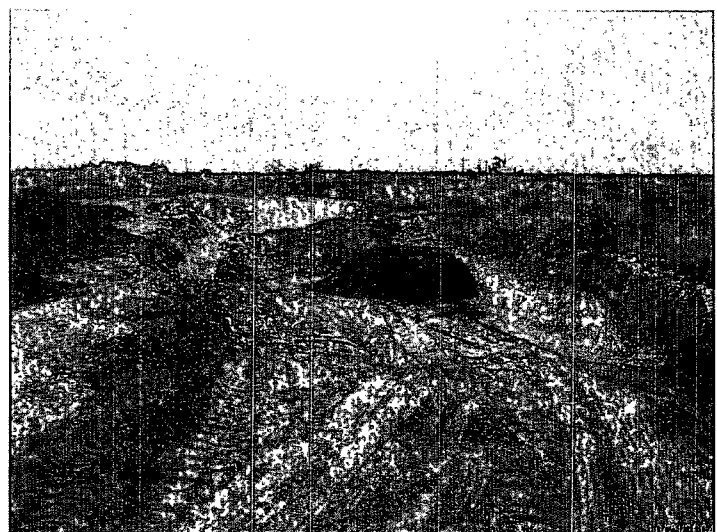


Photo #6: Current status, looking northerly.

APPENDIX III

INFORMATIONAL COPY OF INITIAL C-141 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

INFORMATIONAL COPY

☒ Initial Report

☐ Final Report

| | |
|--|-------------------------------------|
| Name of Company Duke Energy Field Services | Contact Paul Mulkey |
| Address 11525 West Carlsbad Highway Hobbs, New Mexico 88240 | Telephone No. (505) 397-5716 |
| Facility Name SS Line-20 | Facility Type 20" Steel Pipeline |

| | | |
|--|---------------|-----------|
| Surface Owner State of New Mexico, leased by Sam Bruton | Mineral Owner | Lease No. |
|--|---------------|-----------|

LOCATION OF RELEASE

| | | | | | | |
|---------------------|---------------|------------------|---------------|-----------------------------------|---------------------------------|---|
| Unit Letter F | Section 32 | Township T21S | Range R37E | Feet from the North/South Line | Feet from the East/West Line | County: Lea Lat. N 32° 26' 9.12275" Lon. W 103° 11' 9.0917" |
|---------------------|---------------|------------------|---------------|-----------------------------------|---------------------------------|---|

NATURE OF RELEASE

| | | |
|--|---|---|
| Type of Release Natural Gas Pipeline Fluids | Volume of Release 8 barrels | Volume Recovered 0 barrels |
| Source of Release 20" steel pipeline operating at 8 lbs with a normal daily flow rate of 5 million cubic feet per day | Date and Hour of Occurrence 8 August 2004 | Date and Hour of Discovery 8 August 2004 |
| Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? Not Required | |
| By Whom? Not Required | Not Required | |
| Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. NA | |

If a Watercourse was Impacted, Describe Fully.*
NA

Describe Cause of Problem and Remedial Action Taken.*
20" steel line began leaking, probably due to internal corrosion. Line clamp installed.

Describe Area Affected and Cleanup Action Taken.*
Soil contaminated above the NMOCD Remedial Guidelines will be disposed of at an approved facility or remediated on site. Remedial Goals: TPH = 1,000 mg/Kg, benzene = 10 mg/Kg, and BTEX = 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: | OIL CONSERVATION DIVISION | |
| Printed Name: Paul Mulkey E-mail Address: pdmulkey@duke-energy.com | Approved by District Supervisor: | |
| Title: Maintenance Construction Supervisor | Approval Date: | Expiration Date: |
| Date: Phone: (505) 397-5716 | Conditions of Approval: | Attached <input type="checkbox"/> |

* Attach Additional Sheets If Necessary