

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 March 17, 1999

## 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>DUKE ENERGY FIELD SERVICES</b>	Contact <b>Paul Mulkey</b>
Address <b>11525 W. Carlsbad Hwy Hobbs, NM 88240</b>	Telephone No. <b>505-391-5716</b>
Facility Name <b>Kemnitz BB Loop Line</b>	Facility Type <b>Natural Gas Gathering Pipeline</b>

Surface Owner <b>State of New Mexico</b>	Mineral Owner <b>NA</b>	Lease No. <b>NA</b>
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## LOCATION OF RELEASE

Unit Letter <b>A</b>	Section <b>5</b>	Township <b>17S</b>	Range <b>34E</b>	Feet from South Line <b>4823</b>	Feet from West Line <b>4112</b>	Longitude <b>W103:34:41.226</b>	Latitude <b>N32:52:11.542</b>	County: <b>Lea</b>
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## NATURE OF RELEASE

Type of Release <b>Natural Gas release and associated liquid components</b>	Volume of Release <b>40 bbl</b>	Volume Recovered <b>35 bbl</b>
Source of Release <b>8" Steel Pipeline</b>	Date and Hour of Occurrence <b>3/8/2003 (1:00 AM)</b>	Date and Hour of Discovery <b>3/8/2003 (1:30 AM)</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Gary Wise, NMOCD-Hobbs</b>	
By Whom? <b>Ronnie Gilchrest - DEFS</b>	Date and Hour <b>3/8/2003 (2:00 AM)</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.* <b>NA</b>		
Describe Cause of Problem and Remedial Action Taken.* <b>Internally Corroded pipeline, repaired by pipe replacement</b>		
Describe Area Affected and Cleanup Action Taken.* <b>~900-ft<sup>2</sup> surface area (+ 31,000-ft<sup>2</sup> overspray area) affected. 35-bbl of NGL recovered from ~40-bbl release. RCRA Exempt Non-hazardous contaminated soil above remedial goals was remediated on-site and returned to excavation as backfill material</b>		

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: <i>Paul Mulkey</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Paul Mulkey</b>	Approved by District Supervisor:	
Title: <b>Construction &amp; Maintenance Supervisor</b>	Approval Date:	Expiration Date:
Email: <b>pdmulkey@duke-energy.com</b>		
Date: <b>1/12/04</b> Phone: <b>505-391-5716</b>	Conditions of Approval:	<input type="checkbox"/> Attached



1 RP - 73  
10-5-05

**SITE INVESTIGATION,  
REMEDATION AND FINAL C-141  
CLOSURE DOCUMENTATION**

**KEMNITZ BB LOOP LINE RELEASE SITE  
DEFS REF: KEMNITZ BB LOOP 030803**

**UL-A (NE¼ OF THE NE¼) OF SECTION 5 T17S R34E  
~6.3 MILES NORTH-NORTHWEST (BEARING 317.6°) OF BUCKEYE  
LEA COUNTY, NEW MEXICO**

**LATITUDE: N32°52'11.54**

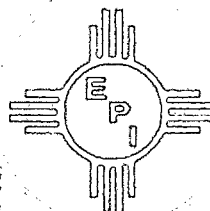
**LONGITUDE: W103°34'41.23"**

**JANUARY 12, 2004**

**PREPARED BY: JCG**

***Environmental Plus, Inc.***

2100 Avenue O  
P.O. Box 1558  
Eunice, NM 88231  
Phone: (505)394-3481  
FAX: (505)394-2601





ENVIRONMENTAL PLUS, INC. *Micro-Blaze* *Micro-Blaze Out™*

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

January 12, 2004

Mr. Larry Johnson  
Energy, Minerals, and Natural Resources Department  
New Mexico Oil Conservation Division  
1625 North French Dr.  
Hobbs, New Mexico 88240

Subject: Duke Energy Field Services – Kemnitz BB Loop Line 030803  
Final C-141 and Closure Documentation

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Duke Energy Field Services (DEFS) submits for your consideration and approval the Final C-141 and Closure Documentation for the “Kemnitz BB Loop Line 030803” remediation site. This report documents the vertical and horizontal extents of hydrocarbon and inorganic constituent contamination at the site, on-site attenuation of the contaminated soils to undetectable CoC levels, and the utilization of said contaminated soils as backfill for the excavation. The completion of this project is consistent with the Initial C-141 and Remediation Plan submitted to NMOCD on March 11, 2003. EPI, on behalf of DEFS, therefore requests that the NMOCD consider the information provided within this documentation and require “no further action” at this site.

If there are any questions please call Mr. Ben Miller or myself at EPI’s offices, or at 505-390-0288 or 505-390-9804 respectively. Mr. Paul Mulkey of Duke Energy Field Services can be contacted at 505-391-5716.

All official correspondence should be addressed to:

Mr. Paul Mulkey  
Duke Energy Field Services  
11525 West Carlsbad Highway  
Hobbs, New Mexico 88240

Sincerely,

John Good, Environmental Consultant

cc: Paul Mulkey, Duke Energy Field Services, w/enclosure  
Steve Weathers, Duke Energy Field Services, w/enclosure  
Lynn Ward, Duke Energy Field Services, w/enclosure  
Sherry Miller, EPI President  
Ben Miller, EPI Vice President and General Manager  
Pat McCasland, EPI Technical Manager

ENVIRONMENTAL PLUS, INC.

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## **Project Summary**

### ***Site Specific:***

- ◆ **Company Name:** Duke Energy Field Services
- ◆ **Facility Name:** Kemnitz BB Loop Pipeline
- ◆ **Project Reference** Kemnitz BB Loop Line 030803
- ◆ **Company Contact:** Paul Mulkey
- ◆ **Site Location:** WGS84: N32°52'11.54"; W103°34'41.23"
- ◆ **Legal Description:** UL-A (NE¼ OF THE NE¼) OF SECTION 5 T17S R34E
- ◆ **General Description:** ~6.3 miles north-northwest (bearing: 317.6°) of Buckeye, Lea County, New Mexico
- ◆ **Elevation:** 4,112-ft amsl                      **Depth to Ground Water:** ~110-ft
- ◆ **Land Ownership:** State of New Mexico
- ◆ **EPI Personnel:**      Technical Manager – Pat McCasland  
                                 Project Consultant – John Good  
                                 Project Foreman – Eddie Joe Harper

### ***Release Specific:***

- ◆ **Product Released:** Natural Gas & NGL
- ◆ **Volume Released:** 40 bbl    **Volume Recovered:** 35 bbl
- ◆ **Time of Occurrence:** 3/08/03 1:00 AM    **Time of Discovery:** 3/08/03 1:30 AM
- ◆ **Release Source:** High pressure steel NG pipeline; integrity lost due to internal corrosion; repaired by section replacement.
- ◆ **Initial Surface Area Affected:** ~900-ft<sup>2</sup> @ POR; ~31,000-ft<sup>2</sup> overspray

### ***Remediation Specific:***

- ◆ **Final Vertical extent of contamination:** 16-ft bgs; Remaining depth to ground water: ~94-ft
- ◆ **Water wells within 1000-ft:** 0                      **Surface water bodies within 1000-ft:** 0
- ◆ **NMOCD Site Ranking Index:** 10 points (<100-ft to top of water table)
- ◆ **Remedial goals for Soil 0-10-ft bgs:** TPH – 1000 ppm; BTEX – 50 ppm; Benzene – 10 ppm; Chlorides – 250 ppm; Sulfates – 600 ppm.
- ◆ **RCRA Waste Classification:** Exempt
- ◆ **Remediation Option Selected:** a) Excavation and stockpiling of grossly contaminated soil above NMOCD remedial goals during emergency response; b) excavation and analytical confirmation of bottom-hole and sidewall contaminant levels of extended excavation; c) backfill with excavated soil after onsite attenuation to below remedial contaminant goals.
- ◆ **Disposal Facility:** NA                      **Volume disposed of:** NA
- ◆ **Project Completion Date:** September 10, 2003

**ATTACHMENTS**

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Plate 2: Site Topography Map ..... 9

Plate 3: Initial GPS Demarcation with Site Features ..... 10

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Plate 5: Soil Analytical Data Table ..... 12

Lab Analyses Reports and Chain-of-Custody Forms ..... 13-18

Final NMOCD C-141 Form ..... 19

Site Information and Metrics Form ..... 20

Site Photographs ..... 21-22

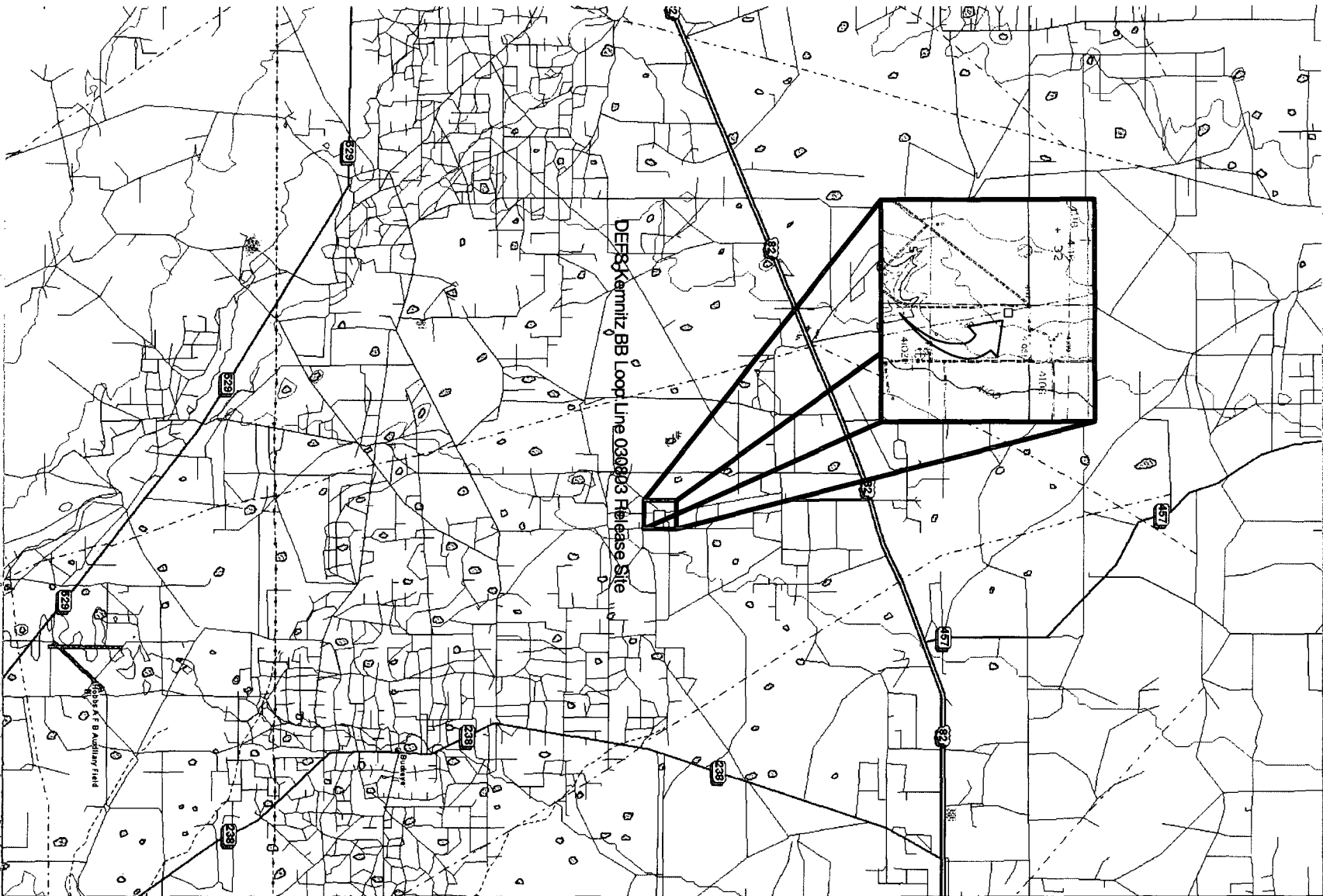


Plate 1 - Release Site Location  
Duke Energy Field Services  
Kemnitz BB Loop 030803

Lea County, New Mexico  
UL-A Section 5 T17S R34E  
N32° 52' 11.54" W103° 34' 41.23"  
Elevation: 4114-ft amsl

DWG BY: John Good  
MARCH - 2003

REVISED:  
Nov - 2003

SCALE:  
0 5  
Miles

SHEET  
1 of 1



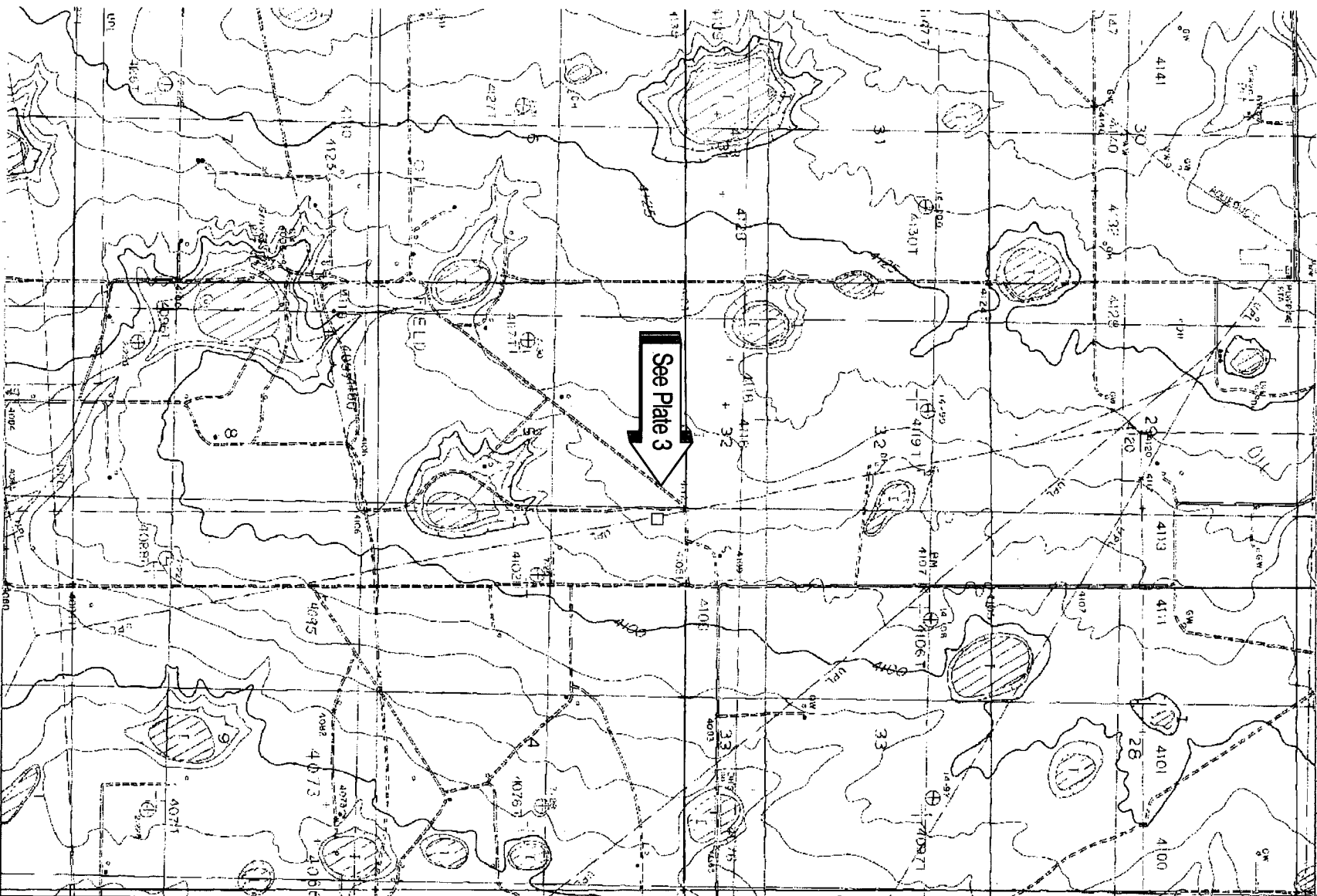


Plate 2 - Release Site Topography  
Duke Energy Field Services  
Kemnitz BB Loop Line 030803

Lea County, New Mexico  
UL-A Section 5 T17S R34E  
N32° 52' 11.54" W103° 34' 41.23"  
Elevation: 4114-ft amsl

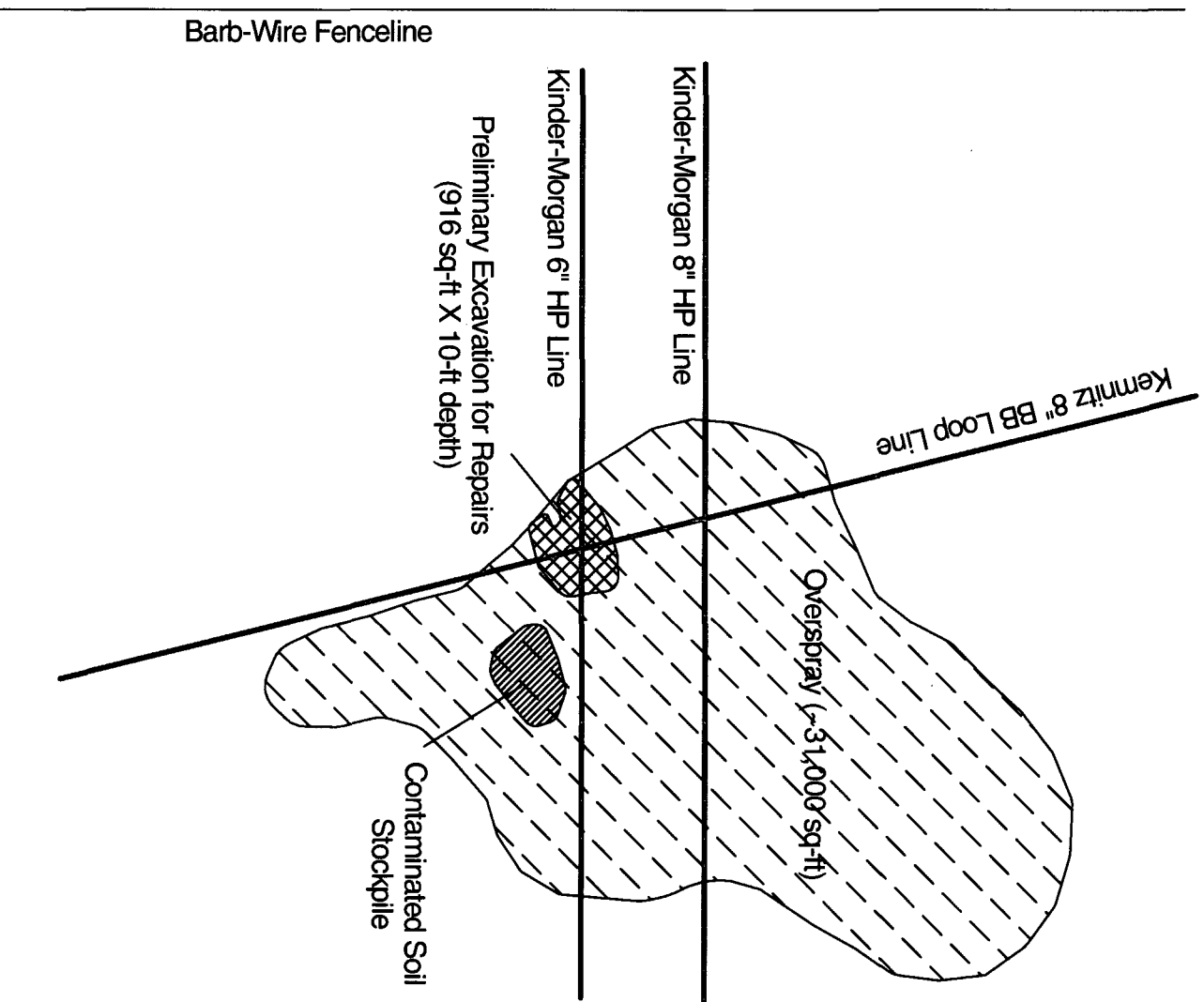
DWG BY: John Good  
March - 2003

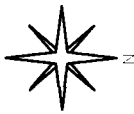

REVISED:  
Nov - 2003

SCALE:







<p>Plate 3 - Initial Site GPS Demarcations Duke Energy Field Services Kemnitz BB Loop 030803</p>	<p>Lea County, New Mexico UL-A Section 5 T17S R34E N32° 52' 11.54" W103° 34' 41.23" Elevation: 4114-ft amsl</p>	<p>DWG BY: John Good MARCH - 2003</p>	<p>REVISED: SEPT - 2003</p>	
		<p>SCALE:  0 Feet 100</p>	<p>SHEET 1 of 1</p>	

## **1.0 Introduction & Background**

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "Kemnitz BB Loop Line 030803" natural gas discharge line remediation site. On March 10, 2003, Environmental Plus, Inc. (EPI), Eunice-NM, was notified by DEFS regarding a natural gas and associated Natural Gas Liquid (NGL) release at this site on 3-8-03. The initial C-141 Form submitted to NMOCD (March 11, 2003) reports the release volume (NGL) as 40 bbl with 35 bbl recovered. EPI responded the day of the notification (3-10-03) and commenced GPS delineation, photography and preliminary evaluation of the site. The overall affected site consisted of a ~31,000-ft<sup>2</sup> overspray area with a small (~916-ft<sup>2</sup>) area affected by pooled NGL at the Point of Release (POR) (*Plate 3, Attachments*). Remediation of this release site consisted of the initial emergency response excavation and stockpiling (on a plastic barrier) of the visibly contaminated soil from the immediate area of the POR. Subsequent to the initial response and repair efforts, the contamination beneath the POR was delineated on 9-3-03 by excavation to 18-ft bgs. This depth was determined by achieving undetectable VOC levels utilizing calibrated Photo Ionization Detection (PID) equipment. Hydrocarbon contaminant concentrations were confirmed at the 8-ft, 12-ft, 16-ft and 18-ft depths with composite samples and lab analyses (*Plate 5, Attachments*). Additionally, analyses of the 8-ft and 18-ft samples for chlorides and sulfates indicated that these two inorganic contaminants were of no concern at this site. The excavation was expanded laterally in all directions to a surface area of ~1,800-ft<sup>2</sup>. The contaminated soil was placed south of the excavation (*Plate 4, Attachments*) and remediated to undetectable contaminant concentrations utilizing heat and aeration. TPH and BTEX concentrations were confirmed to be below remedial goals by composite sampling of three areas of the stockpiled material (*Plate 5, Attachments*). The remediated soil was then returned to the excavation as backfill. This site remediation project was completed on September 10, 2003 with final backfilling and contouring.

The site is associated with the DEFS Kemnitz-Wolfcamp natural gas gathering and discharge pipeline system. This release site is located in Unit Letter A, (NE $\frac{1}{4}$  OF THE NE $\frac{1}{4}$ ), Section 5, T17S, R34E, N32°52'11.54"; W103°34'41.23". The release site is ~6.3 miles north-northwest (bearing: 317.6°) of Buckeye, Lea County, New Mexico. The property is owned by State of New Mexico. A site location map, site topographical map and detailed GPS site diagrams are included in the Attachments as *Plates 1, 2, 3, and 4*.

The natural gas and associated NGL release at this site was discovered and reported to NMOCD on March 8, 2003 by Ronnie Gilchrest of DEFS. The Initial NMOCD C-141 Form was submitted on March 11, 2003 by EPI. The leak was the result of internal pipe corrosion and was repaired by replacement of a section of the Kemnitz discharge pipeline. The Kemnitz Discharge Line was deactivated prior to commencement of the final construction work at the site. Final construction work at the site resumed on September 3, 2003, and continued through September 10, 2003.

## **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 High Plains (Llano Estacado) physiographic subdivision, described by Nicholson & Clebsch as an area “capped by a thick layer of resistant caliche, locally called caprock. The High Plains surface is uniformly flat and slopes ~17-ft per mile east-southeast.”

## **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 Rat, 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 ground water aquifer at this site is projected to be ~110-ft bgs based on water depth data obtained from the NM State Engineers Office data base for water wells located in this portion of Lea County. Ground water gradient in this area is generally to the east-southeast.

## **2.4 Area Water Wells**

All recorded wells are greater than 1000 horizontal feet from the site.

## **2.5 Area Surface Water Features**

No surface water bodies exist within 1000 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 ground water 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 (CoCs), i.e., TPH<sup>8015m</sup>, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX), was 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.*
- ◆ *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 ground water 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 <1000' 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		200-1000 horizontal feet: 10 points	
Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground Water Score = 10	Wellhead Protection Score= 0	Surface Water Score= 0	
Site Rank (1+2+3) = 10 + 0 + 0 = 10 points (for soil 0-60'bgs)			
Total Site Ranking Score and Acceptable Remedial Goal Concentrations			
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	1000 ppm	5000 ppm

#### 4.0 Subsurface Soil Investigation

The vertical and lateral extents of hydrocarbon contamination at the site were determined by excavation of the release area associated with the POR to a depth of 18-ft bgs. It was determined that the NGL had penetrated the soil to a depth of ~16-ft beneath the POR. The lateral extent of contamination was within a ~20-ft radius of the POR and extended vertically to ~8-ft bgs. Contamination extent was determined by utilizing PID to measure soil VOC concentrations. Clean bottom-hole and sidewalls were confirmed with 5-point composite sampling of appropriate excavation areas (*Plate 5, Attachments*). All laboratory analyses for this project were performed by Cardinal Laboratories, Hobbs, NM. The 8-ft and 18-ft bottom-hole samples were analyzed for chloride and sulfate contamination and were found to be well below the remedial goals of 250-ppm for chlorides and 600-ppm for sulfates.

#### 5.0 Ground Water Investigation

The projected depth to ground water at this site is ~110-ft bgs. Excavation of the site was to a maximum depth of 18-ft. Final CoC levels of the bottom-hole and the sidewalls of the excavation were confirmed to be undetectable for all Constituents of Concern.

The soil from the excavation was aerated (within the pipeline right-of-way), confirmed to have undetectable levels of TPH and BTEX by composite sampling and laboratory analysis and then

utilized as backfill for the excavation. Based on the removal/attenuation of the Constituents of Concern at this site, there will be no need for further ground water investigation at this site.

## **6.0 Remediation Process**

The initial response to this release took place on March 8, 2003. At that time, NGL contaminated soil was excavated from the area immediate to the POR to allow repair of the pipeline. This contaminated soil was stockpiled adjacent to the excavation on a plastic liner. Due to the high pressures involved with the Kinder-Morgan line(s) and the DEFS Kemnitz Discharge Line, the final construction phase of the project was delayed until the Kemnitz Discharge Line was deactivated. The final construction phase of the project took place during the period September 3 to September 10, 2003.

The contaminant extents at the site were determined to be within a ~1,860-ft<sup>2</sup> area surrounding the POR to depths ranging from 12-ft near the POR to 8-ft at the lateral extents. The lateral extents of the excavation were composite sampled (5-point) on 9-8-03. Analytical results confirmed undetectable TPH and BTEX concentrations (*Plate 6, Attachments*). Based on prior experience with the highly volatile nature of the Kemnitz-Wolfcamp NGL material, it was decided to attempt on-site attenuation of the excavated soil rather than disposal and replacement of the contaminated soil. If the soil failed to attenuate adequately, it could be disposed of as a final alternative.

The excavated soil was spread out over an area south of the excavation (within the pipeline right-of-way). Lift height was maintained at <12-inches. Daytime temperatures during the early part of September-2003 were in the 95°-100° range, thus the temperature of this attenuation cell was significantly elevated. The cell was moved, combined and turned over several times during the period 9-4 to 9-9-03. The combination of high ambient heat and the aeration provided by the repeated movement of the material from one location to another ultimately resulted in undetectable VOC levels throughout the stockpiled material. On 9-8-03, the material was placed into a regular rectangular shallow pile south of the excavation (*Plate 5, Attachments*). This pile was then divided into three equal areas (north, middle and south). The three areas were then each sampled at 12 regularly spaced locations. The 12 grab samples from each of the pile areas were then combined to comprise a composite sample for that area. Analytical results for these samples confirmed undetectable TPH and BTEX concentrations in the attenuated soil. Upon lab confirmation of these results, the excavation was backfilled and contoured. The project was completed on 9-10-03.

Due to the high volatility of the NGL released at the time of the pipeline rupture, damage to vegetation in the overspray area was minimal. The site was evaluated on 11-10-03 for final closure and no residual vegetative damage is discernible.

## **7.0 Closure Justification**

This report documents successful implementation of the Remediation Plan approved by NMOCD for this release site. Soil potentially contaminated above acceptable CoC remedial concentrations was excavated and remediated onsite to remove hydrocarbon contamination (TPH and BTEX) by means of aeration in combination with high ambient heat. The remediated material was then returned to the excavation as backfill and properly contoured. Based on the data presented in this report, Environmental Plus, Inc., on behalf of Duke Energy Field Services, requests that the NMOCD require "no further action" at this site.

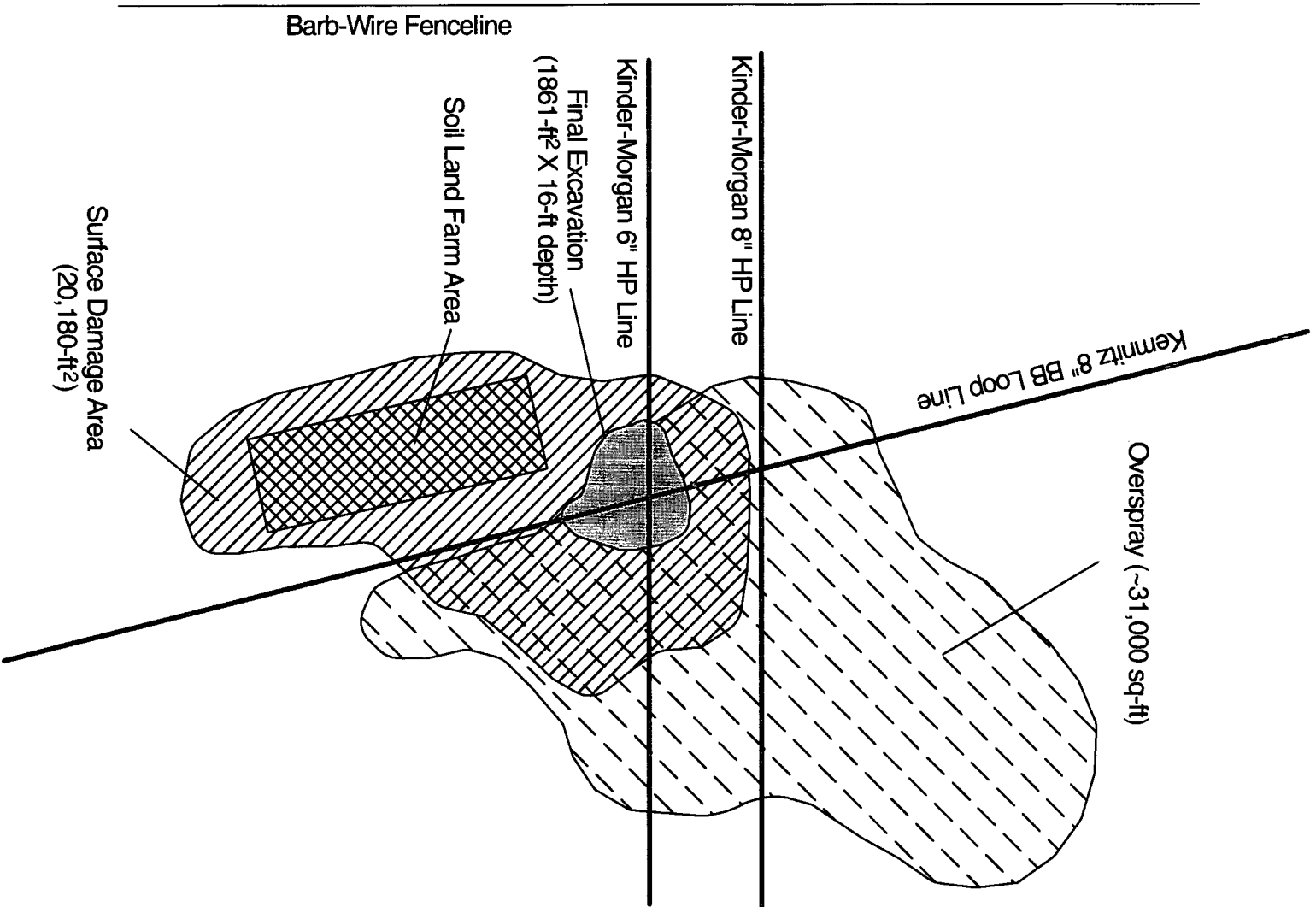
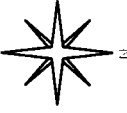



Plate 4 - Final Site GPS Demarcations Duke Energy Field Services Kernnitz BB Loop 030803	Lea County, New Mexico UL-A Section 5 T17S R34E N32° 52' 11.54" W103° 34' 41.23" Elevation: 4114-ft amsl	DWG BY: John Good	REVISED:	
		MARCH - 2003	NOV - 2003	
		SCALE:  0 Feet 100	SHEET 1 of 1	

Duke Energy Field Services - Kemnitz BB Loop Line 030803 - Excavation Sampling Results														
<b>Bold</b>	highlighted cells indicate values in excess of the NMOCD remedial action guideline thresholds: TPH: 5000 mg/Kg; BTEX: 50 mg/Kg; Benzene: 10 mg/Kg; Cl: 250 ppm; SO <sub>4</sub> : 600 ppm													
Sample Date	Excavation Sampling Area	Depth (ft - bgs <sup>1</sup> )	SAMPLE ID#	VOC ppm	GRO <sup>2</sup> mg/Kg	DRO <sup>3</sup> mg/Kg	TPH <sup>4</sup> mg/Kg	BTEX <sup>5</sup> mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Total Xylenes mg/Kg	Cl <sup>-</sup> mg/Kg	SO <sub>4</sub> mg/Kg
3-Sep	Bottomhole - Center	8-ft	SDKBBL090303-8	176	22	59	80	0.120	0.005	0.008	0.011	0.096	100	160.0
3-Sep	Bottomhole - Center	12-ft	SDKBBL090303-12	422	144	10	154	0.763	0.005	0.025	0.107	0.626		
3-Sep	Bottomhole - Center	16-ft	SDKBBL090303-16	106	10	10	20	0.030	0.005	0.005	0.005	0.015		
3-Sep	Bottomhole - Center	18-ft	SDKBBL090303-18	1	10	10	20	0.030	0.005	0.005	0.005	0.015	38	80.0
8-Sep	Sidewall - North	8-ft	SDKBBL090803NSW-8	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Sidewall - East	8-ft	SDKBBL090803ESW-8	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Sidewall - South	8-ft	SDKBBL090803SSW-8	1	10	10	20	0.032	0.005	0.007	0.005	0.015		
8-Sep	Sidewall - West	8-ft	SDKBBL090803WSW-8	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils - North	0-12"	SDKBBL090803SPC-N	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils - Middle	0-12"	SDKBBL090803SPC-M	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils - South	0-12"	SDKBBL090803SPC-S	1	10	10	20	0.030	0.005	0.005	0.005	0.015		
<sup>1</sup> bgs = below ground surface <sup>2</sup> GRO - Gasoline Range Organics (Detection Limit = 10 mg/Kg) <sup>3</sup> DRO - Diesel Range Organics (Detection Limit = 10 mg/Kg) <sup>4</sup> TPH - Total Petroleum Hydrocarbon (GRO+DRO) <sup>5</sup> BTEX = Sum of Benzene, Toluene, Ethyl Benzene (Detection Limits = 0.005 mg/Kg) and Total Xylenes (Detection Limit = 0.015 mg/Kg) Note: Reported detection limits are considered "de minimus" values and are included in the TPH and BTEX summations.														

Plate 6: Soil Analytical Data Table

# Laboratory Analytical Reports





PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (506) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

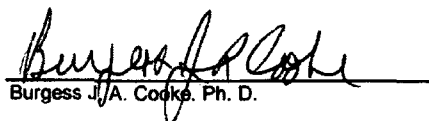
Receiving Date: 09/03/03  
Reporting Date: 09/04/03  
Project Owner: DUKE ENERGY FIELD SERVICES  
Project Name: KEMNITZ DISCHARGE  
Project Location: DEFS KEMNITZ BB LOOP 030803

Sampling Date: 09/03/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		09/03/03	09/03/03	09/03/03	09/03/03	09/03/03	09/03/03
H7967-1	SDKBBL090303-8	21.8	58.5	<0.005	0.008	0.011	0.096
H7967-2	SDKBBL090303-12	144	<10.0	<0.005	0.025	0.107	0.626
H7967-3	SDKBBL090303-16	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7967-4	SDKBBL090303-18	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		804	847	0.088	0.093	0.091	0.277
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		100	106	88.4	92.7	90.6	92.3
Relative Percent Difference		2.6	2.1	5.9	0.2	2.3	0.6

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

NOTE: Samples 1 & 2 were also found to contain Molecular Sulfur (S<sub>6</sub>).

  
Burgess J. A. Cooke, Ph. D.

9/4/03  
Date

H7967A.XLS  
PLEASE NOTE: 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.



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

ANALYTICAL RESULTS FOR  
ENVIRONMENTAL PLUS, INC.

ATTN: JOHN GOOD

P.O. BOX 1558

EUNICE, NM 88231

FAX TO: (505) 394-2601

Receiving Date: 09/03/03

Reporting Date: 09/04/03

Project Owner: DUKE ENERGY FIELD SERVICES

Project Name: KEMNITZ DISCHARGE

Project Location: DEFS KEMNITZ BB LOOP 030803

Sampling Date: 09/03/03

Sample Type: SOIL

Sample Condition: COOL &amp; INTACT

Sample Received By: BC

Analyzed By: AH

LAB NUMBER	SAMPLE ID	SO <sub>4</sub> ( mg/Kg )	Cl ( mg/Kg )
ANALYSIS DATE:		09/04/03	09/04/03
H7967-1	SDKBBL090303-8	100	160
H7967-4	SDKBBL090303-18	37.5	80
Quality Control		53.65	1000
True Value QC		50.00	1000
% Recovery		107	100
Relative Percent Difference		1.5	7.0
METHODS: EPA 600/4-79-020		375.4	325.3

Amy Hill  
Chemist

9/4/03  
Date

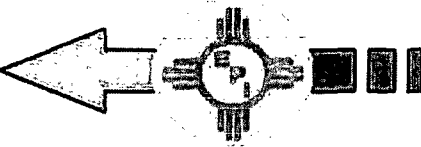
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H7967

# 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

<b>Company Name</b>		Environmental Plus, Inc.		<b>Bill To</b>				<b>ANALYSIS REQUEST</b>																									
<b>EPI Project Manager</b>		John Good																															
<b>Billing Address</b>		P.O. BOX 1558																															
<b>City, State, Zip</b>		Eunice New Mexico 88231																															
<b>EPI Phone/Fax#</b>		505-394-3481 / 505-394-2601																															
<b>Client Company</b>		DUKE ENERGY FIELD SERVICES																															
<b>Facility Name</b>		Kemnitz Discharge																															
<b>Project Reference</b>		DEFS Kemnitz BB Loop 030803																															
<b>EPI Sampler Name</b>		John Good																															
LAB I.D.	SAMPLE I.D.	IGRAB OR (COMP.	# CONTAINERS	MATRIX							PRESERV.		SAMPLING		BTEX 8021B	TPH 8015H	CHLORIDES (Cl)	SULFATES (SO <sub>4</sub> )	pH	TCLP	OTHER >>>												
				GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME																			
H7467-1	1 SDKBBL090303-8	G	1			X					X		3-Sep	9:30	X	X	X	X															
-2	2 SDKBBL090303-12	G	1			X					X		3-Sep	9:40	X	X																	
-3	3 SDKBBL090303-16	G	1			X					X		3-Sep	9:50	X	X																	
-4	4 SDKBBL090303-18	G	1			X					X		3-Sep	10:00	X	X	X	X															
5																																	
6																																	
7																																	
8	All samples taken at Point of Release																																
9																																	
10																																	

Sampler Relinquished:		Date: 9-3-03	Received By:	Fax Results To John Good 505-394-2601 REMARKS:	
Relinquished by: <i>John Good</i>		Time: 4:35	Received By: (lab staff): <i>Burke Cook</i>		
Delivered by:		Time:	Sample Cool & Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		



PHONE (325) 873-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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

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

Receiving Date: 09/08/03  
Reporting Date: 09/09/03  
Project Owner: DUKE ENERGY FIELD SERVICES  
Project Name: KEMNITZ DISCHARGE LINE  
Project Location: DEFS KEMNITZ BB LOOP 0340803

Sampling Date: 09/08/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: BC  
Analyzed By: BC

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (C <sub>10</sub> -C <sub>26</sub> ) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		09/08/03	09/08/03	09/08/03	09/08/03	09/08/03	09/08/03
H7981-1	SDKBBL090803NSW-8	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7981-2	SDKBBL090803ESW-8	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7981-3	SDKBBL090803SSW-8	<10.0	<10.0	<0.005	0.007	<0.005	<0.015
H7981-4	SDKBBL090803WSW-8	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7981-5	SDKBBL090803SPC-N	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7981-6	SDKBBL090803SPC-M	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7981-7	SDKBBL090803SPC-S	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		775	818	0.094	0.095	0.098	0.299
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		96.7	102	93.5	95.1	98.0	99.6
Relative Percent Difference		3.8	3.5	6.8	3.9	7.6	9.5

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

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

9/9/03  
Date

H7981.XLS  
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**2111 Beechwood, Abilene, TX 79603**  
**915-673-7001 Fax 915-673-7020**

Duke Energy Field Services

District I

1625 N. French Dr., Hobbs, NM 88240

**State of New Mexico**  
**Energy Minerals and Natural Resources**

Revised March 17, 1999

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

**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>DUKE ENERGY FIELD SERVICES</b>	Contact <b>Paul Mulkey</b>
Address <b>11525 W. Carlsbad Hwy                      Hobbs, NM 88240</b>	Telephone No. <b>505-391-5716</b>
Facility Name <b>Kemnitz BB Loop Line</b>	Facility Type <b>Natural Gas Gathering Pipeline</b>

Surface Owner <b>State of New Mexico</b>	Mineral Owner <b>NA</b>	Lease No. <b>NA</b>
---	----------------------------	------------------------

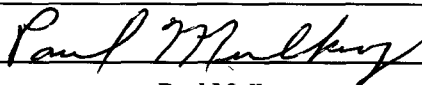
**LOCATION OF RELEASE**


Unit Letter <b>A</b>	Section <b>5</b>	Township <b>17S</b>	Range <b>34E</b>	Feet from South Line <b>4823</b>	Feet from West Line <b>4112</b>	Longitude <b>W103:34:41.226</b>	Latitude <b>N32:52:11.542</b>	County: <b>Lea</b>
-------------------------	---------------------	------------------------	---------------------	--	---------------------------------------	------------------------------------	----------------------------------	-----------------------

**NATURE OF RELEASE**

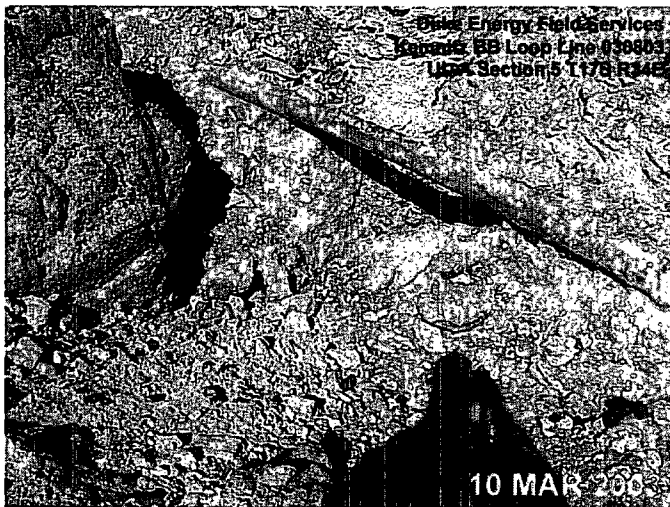
Type of Release <b>Natural Gas release and associated liquid components</b>	Volume of Release <b>40 bbl</b>	Volume Recovered <b>35 bbl</b>
Source of Release <b>8" Steel Pipeline</b>	Date and Hour of Occurrence <b>3/8/2003 (1:00 AM)</b>	Date and Hour of Discovery <b>3/8/2003 (1:30 AM)</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Gary Wise, NMOCD-Hobbs</b>	
By Whom? <b>Ronnie Gilchrest - DEFS</b>	Date and Hour <b>3/8/2003 (2:00 AM)</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.* <b>NA</b>		
Describe Cause of Problem and Remedial Action Taken.* <b>Internally Corroded pipeline, repaired by pipe replacement</b>		
Describe Area Affected and Cleanup Action Taken.* <b>~900-ft<sup>2</sup> surface area (+ 31,000-ft<sup>2</sup> overspray area) affected. 35-bbl of NGL recovered from ~40-bbl release. RCRA Exempt Non-hazardous contaminated soil above remedial goals was remediated on-site and returned to excavation as backfill material</b>		

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.

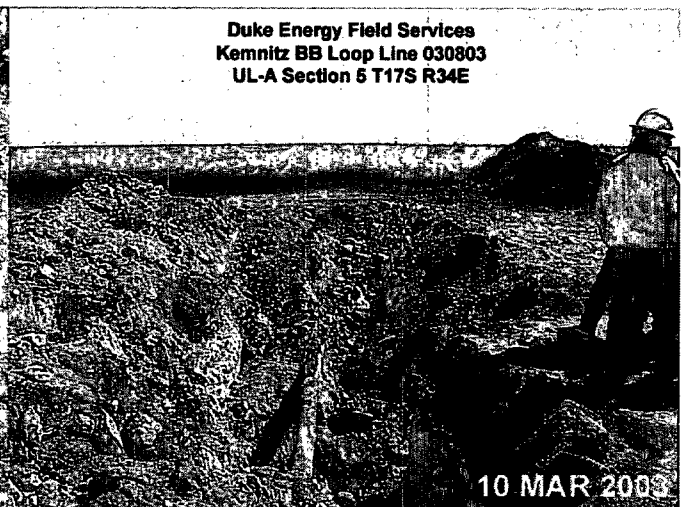
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Paul Mulkey</b>	Approved by District Supervisor:	
Title: <b>Construction &amp; Maintenance Supervisor</b>	Approval Date:	Expiration Date:
Email: <b>pdmulkey@duke-energy.com</b>		
Date: <b>1/12/04</b> Phone: <b>505-391-5716</b>	Conditions of Approval:	<input type="checkbox"/> Attached

		Incident Date and NMOCD Notified?	
		3/8/2003 (1:30 AM)	3/8/2003 (2:00 AM)
SITE: Kemnitz BB Loop Line		Assigned Site Reference #030803	
Company: DUKE ENERGY FIELD SERVICES			
Street Address:			
Mailing Address: PO Box 5493			
City, State, Zip: Denver, CO 80217			
Representative: Steve Weathers			
Representative Telephone: (303) 605-1718			
Telephone:			
Fluid volume released (bbls): 40		Recovered (bbls): 35	
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name: #030803			
Source of contamination: 8" Steel Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: State of New Mexico Commissioner of Lands, Santa Fe, NM			
LSP Dimensions: GPS Site Diagram attached			
LSP Area: 31,000 -ft <sup>2</sup>			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: N32:52:11.542			
Longitude: W103:34:41.226			
Elevation above mean sea level: 4112 -ft amsl			
Feet from South Section Line: 4823			
Feet from West Section Line: 4112			
Location - Unit and 1/4 1/4: UL- A NE 1/4 of NE 1/4			
Location - Section: 5			
Location - Township: 17S			
Location - Range: 34E			
Surface water body within 1000' radius of Site: 0			
Surface water body within 1000' radius of Site: 0			
Domestic water wells within 1000' radius of Site: 0			
Domestic water wells within 1000' radius of Site: 0			
Agricultural water wells within 1000' radius of Site: 0			
Agricultural water wells within 1000' radius of Site: 0			
Public water supply wells within 1000' radius of Site: 0			
Public water supply wells within 1000' radius of Site: 0			
Depth (ft) from land surface to ground water (DG): 110			
Depth (ft) of contamination (DC): 16			
Depth (ft) to ground water (DG - DC = DtGW): 94			
<b>1. Ground Water</b>		<b>2. Wellhead Protection Area</b>	<b>3. Distance to Surface Water Body</b>
If Depth to GW <50 feet: 20 points	If <1000' from water source, or, <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
If Depth to GW 50 to 99 feet: 10 points		200-100 horizontal feet: 10 points	
If Depth to GW >100 feet: 0 points	If >1000' from water source, or, >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground water Score: 10	Wellhead Protection Area Score: 0	Surface Water Score: 0	
Site Rank (1+2+3) = 10			
<b>Total Site Ranking Score and Acceptable 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	1000 ppm	5000 ppm

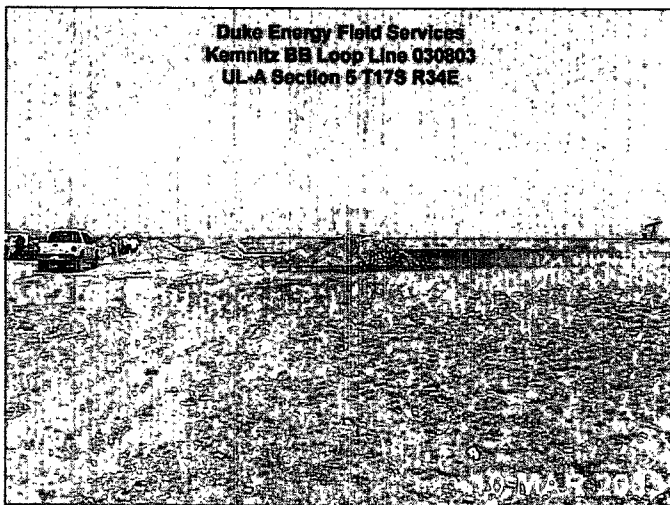
<sup>1</sup>100 ppm field VOC headspace measurement may be substituted for lab analysis



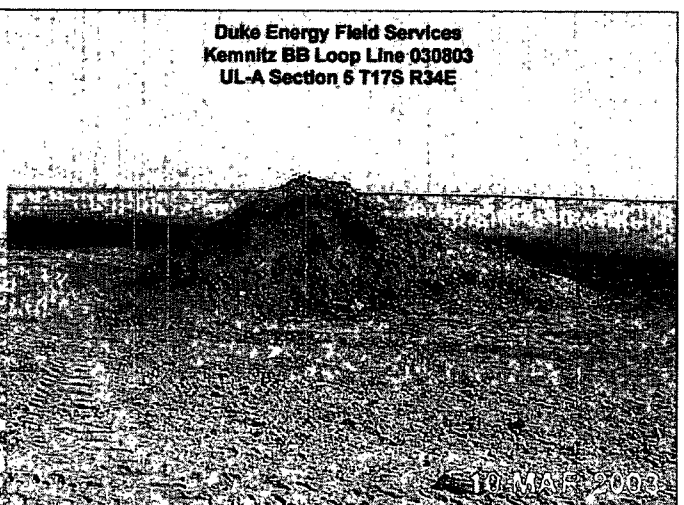
Initial Response: Point of Release



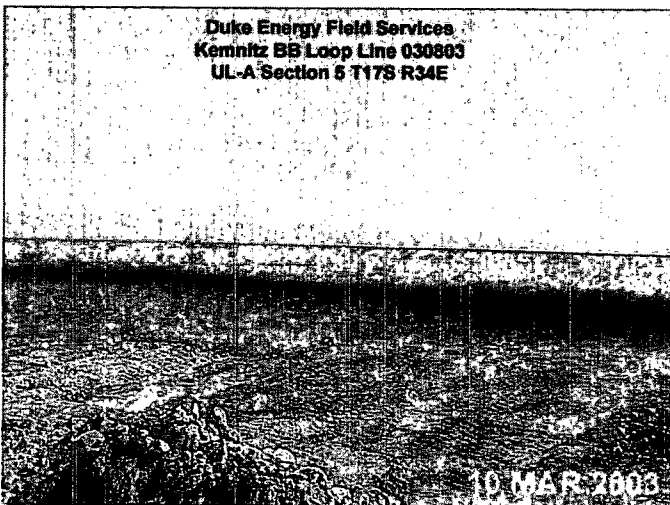
Initial Response: Point of Release



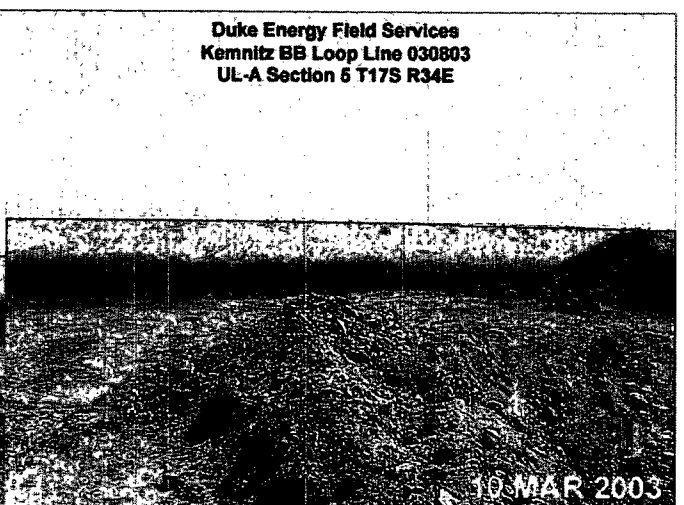
Initial Response: South looking North



Initial Response: Stockpiled soil

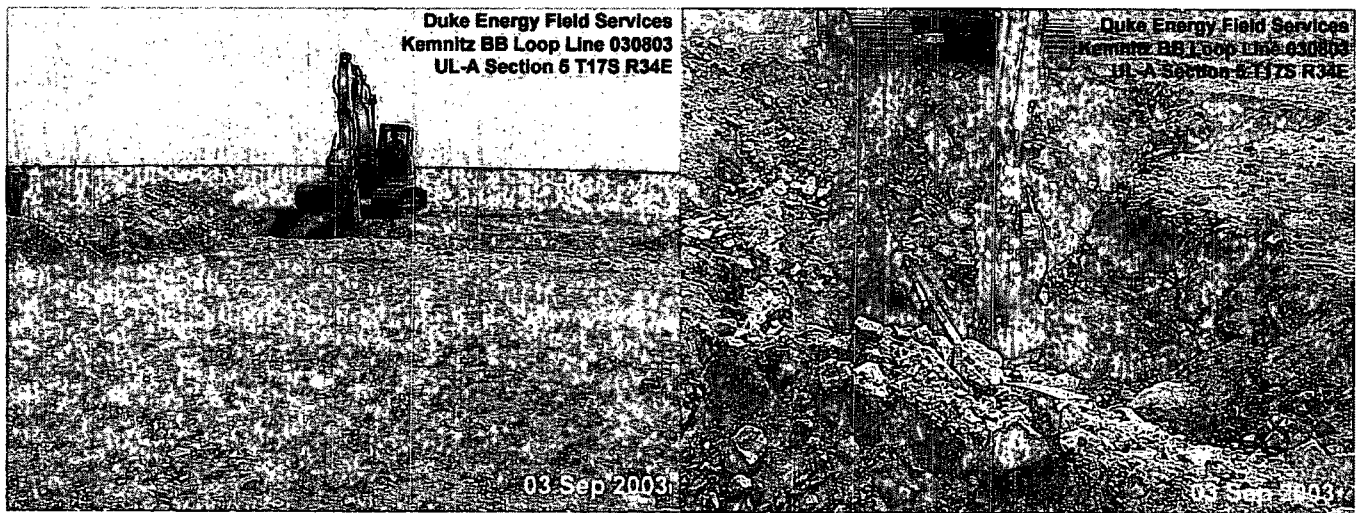


Initial Response: Overspray NE of POR



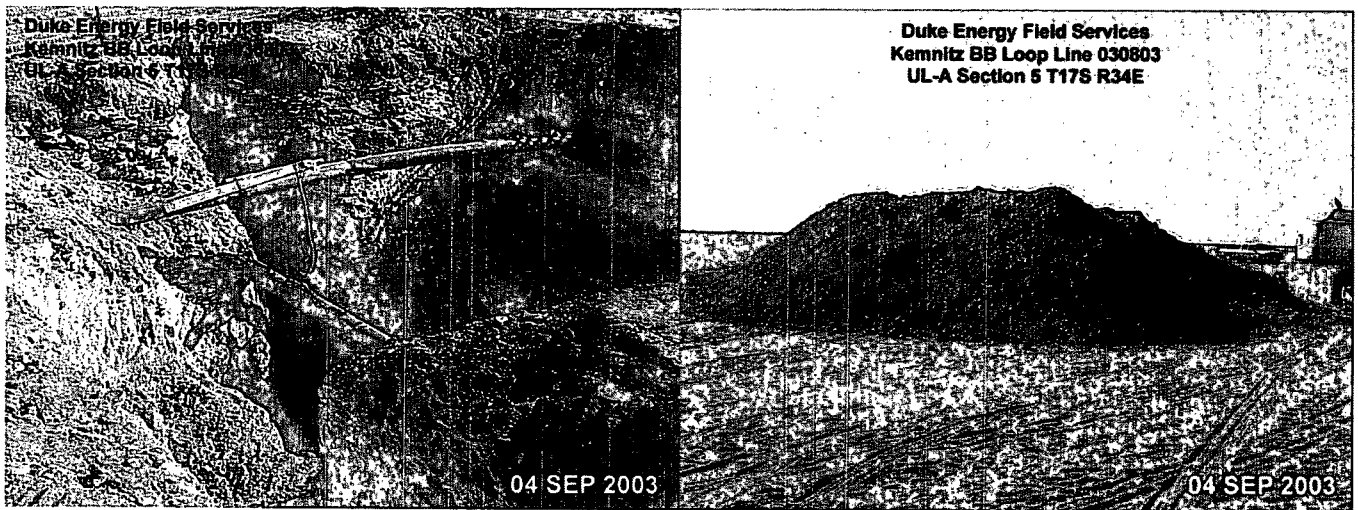
Initial Response: Overspray east of POR





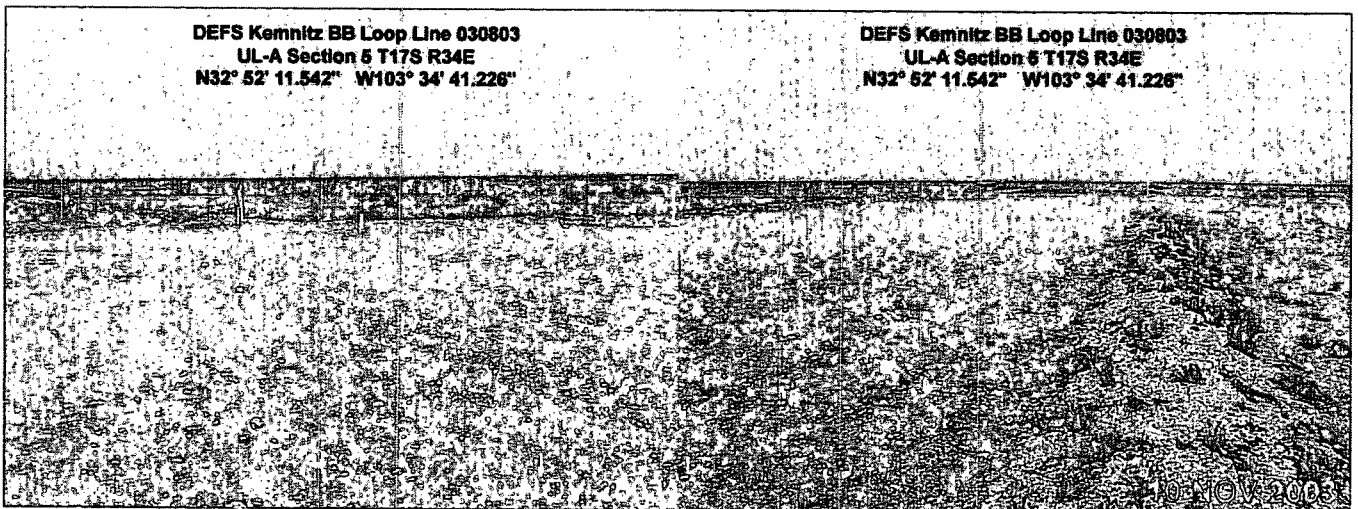
Construction Phase commences

Kinder-Morgan pipeline exposed



Kinder-Morgan (top) & Kemnitz pipelines exposed

Contaminated soil prior to being spread out



Site closed: SW to NE angle

Site closed: S looking N along right-of-way