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 June 10, 2003

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	DUKE ENERGY FIELD SERVICES	Contact	Paul Mulkey
Address	11525 W. Carlsbad Hwy, Hobbs, NM 88240	Telephone No.	505-391-5716
Facility Name	Kemnitz Discharge Line	Facility Type	Natural Gas Discharge Pipeline

Surface Owner	Mineral Owner	Lease No.
State of New Mexico	NA	NA

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
G	32	16S	34E	3210	3180	W103° 34' 50.17"	N32° 52' 47.71"	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Natural Gas release and associated NGL's	10 bbl	0 bbl
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
6" Steel Pipeline	10/6/2002	10/6/2002
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD-Hobbs	
By Whom? Ronnie Gilchrist - DEFS	Date and Hour 10/6/2002	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

Internally Corroded pipeline, repaired by replacing pipeline section

Describe Area Affected and Cleanup Action Taken.*

~57,600-ft² affected, primarily overspray. 112-yd³ of RCRA Exempt Non-hazardous contaminated soil excavated and disposed of by EPI. Remainder of contaminate soil excavated from site, attenuated on-site and returned to excavation.

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: Paul Mulkey	OIL CONSERVATION DIVISION
Printed Name: Paul Mulkey	Approved by District Supervisor:
Title: Construction & Maintenance Supervisor	Approval Date: / Expiration Date:
E-mail Address: pdmulkey@duke-energy.com	Conditions of Approval: ☐ Attached .
Date: 1/12/04 Phone: 505-391-5716	

Duke Energy Field Services

1RP-81
10-7-05

SITE INVESTIGATION, REMEDIATION AND FINAL C-141 CLOSURE DOCUMENTATION

KEMNITZ DISCHARGE LINE RELEASE SITE

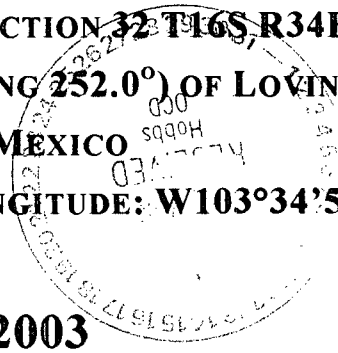
DEFS REF: KEMNITZ DISCHARGE 100602

UL-G (SW¼ OF THE NW¼) OF SECTION 32 T16S R34E

~14.2 MILES WEST-SOUTHWEST (BEARING 252.0°) OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N32°52'47.71 LONGITUDE: W103°34'50.17"



JANUARY 12, 2003

PREPARED BY: JCG

Environmental Plus, Inc.

2100 Avenue O

P.O. Box 1558

Eunice, NM 88231

Phone: (505)394-3481

FAX: (505)394-2601

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 Discharge Line 100602
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 Discharge Line 100602" remediation site. This report documents the vertical and horizontal extents of hydrocarbon and inorganic constituent contamination at the site, on-site attenuation of 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 October 11, 2002. 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.

Table of Contents

Project Summary

Site Specific:

- **Company Name**: Duke Energy Field Services
- **Facility Name**: Kemnitz Discharge Pipeline
- **Project Reference** Kemnitz Discharge Line 100602
- **Company Contact**: Paul Mulkey
- **Site Location:** WGS84: N32°52'47.71"; W103°34'50.17"
- **Legal Description**: UL-G (SW¼ OF THE NW¼) OF SECTION 32 T16S R34E
- **General Description**: ~14.2 Miles west-southwest (bearing: 252.0°) of Lovington, Lea County, New Mexico
- **Elevation**: 4,114-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 – Morris Burkett

Release Specific:

- **Product Released**: Natural Gas & NGL
- **Volume Released**: 7-10 bbl **Volume Recovered**: 0 bbl
- **Time of Occurrence**: 10/06/02 **Time of Discovery**: 10/06/02
- **Release Source**: High pressure steel NG pipeline; integrity lost due to internal corrosion; repaired by section replacement.
- **Initial Surface Area Affected**: 57,600-ft^2 (including overspray)

Remediation Specific:

- **Final Vertical extent of contamination**: 9-ft bgs; Remaining depth to ground water: ~100-ft
- **Water wells within 1000-ft**: 0 **Surface water bodies within 1000-ft**: 0
- **NMOCD Site Ranking Index**: 0 points (100-ft to top of water table)
- **Remedial goals for Soil 0-10-ft bgs**: TPH – 5000 ppm; BTEX – 50 ppm; Benzene – 10 ppm; Chlorides – 250 ppm; Sulfates – 600 ppm.
- **RCRA Waste Classification**: Exempt
- **Remediation Option Selected**: a) Excavation and disposal of grossly contaminated soil above NMOCD remedial goals during emergency response; b) excavation and analytical confirmation of bottom-hole and sidewall contaminant levels; c) backfill with excavated soil after onsite attenuation to below remedial contaminant goals.
- **Disposal Facility**: Artesia Aeration **Volume disposed of**: 112-yd^3
- **Project Completion Date**: September 10, 2003

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "Kemnitz Discharge Line 100602" natural gas discharge line remediation site. On October 7, 2002, Environmental Plus, Inc. (EPI), Eunice-NM, was notified by DEFS regarding a natural gas and associated Natural Gas Liquid (NGL) release at this site. The initial C-141 Form submitted to NMOCD (October 11, 2002) reports the release volume (NGL) as 7-10 bbl with 0 bbl recovered. EPI responded the day of the notification (10-7-02) and commenced GPS delineation, photography, preliminary excavation and characterization of the site. The overall affected site consisted of a 57,600–ft^2 area with evidence of NGL at the Point of Release (POR) in addition to a significant overspray area *(Plate 3, Attachments)*. Remediation of this release site consisted of the initial excavation and disposal of 112-yd^3 of contaminated soil at the Artesia Aeration Surface Waste Facility. Subsequent to the initial response efforts, the contamination beneath the pipeline was delineated by cross-trenching to 10-ft bgs both parallel and perpendicular to the pipeline in the area of the POR. Contaminant extents were determined with field VOC readings and confirmed with composite lab analyses on September 3, 2003. The contamination extended beneath a ~80-ft section of the Kemnitz Line and laterally ~5-ft on both sides of the pipeline. The contaminated soil was excavated, remediated on-site and returned to the excavation as backfill. This site remediation 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 G, (SW¼ OF THE NW¼)), Section 32, T16S, R34E, N32°52'47.71"; W103°34'50.17". The release site is ~14.2 miles west-southwest (bearing: 252.0°) of Lovington, 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, 4 and 5.*

The natural gas and associated NGL release at this site was discovered and reported to NMOCD on October 6, 2002 by Ronnie Gilchrist of DEFS. The Initial NMOCD C-141 Form was submitted on October 11, 2002 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 August 29, 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 (*Querqus 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^{8015m}, 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 0 points with the soil remedial goals highlighted in the Site Ranking table presented on the following page.

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 = 0	Wellhead Protection Score= 0	Surface Water Score= 0
Site Rank (1+2+3) = 0 + 0 + 0 = 0 points (for soil 0-10'bgs)		

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	1000 ppm	5000 ppm

4.0 Subsurface Soil Investigation

The vertical and lateral extents of hydrocarbon contamination at the site were determined by cross-trenching the release area associated with the POR to a depth of 10-ft bgs. It was determined that the NGL had penetrated the soil to a depth of ~9-ft beneath the pipeline along an 80-ft section. The lateral extent of contamination was ~5-ft on both sides of the pipeline. Contamination extent was determined by utilizing Photo Ionization Detection (PID) technology 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 9-ft bottom-hole sample was analyzed for chloride and sulfate contamination and was found to be well below the remedial goals of 250-ppm for chlorides and 600-ppm for sulfates, so these inorganic contaminants were not of concern in this remediation project.

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 10-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 during the period October 6-9, 2002. At that time, 112-yd^3 of NGL contaminated soil was excavated from the site and disposed of at the Artesia Aeration surface waste facility. Due to the high pressures involved with the Kemnitz Discharge Line and DEFS' plan to deactivate the line within one-year, the project was delayed until late August-2003.

The contaminant extents at the site were determined to be 9-10-ft in depth along an approximate 80-ft section of the pipeline. The contamination extended laterally at this depth ~5-ft on the east and west sides of the pipeline *(see Section 4.0)*. It was noted during the initial sampling (9-3-03) that VOCs present in the soil at concentrations >100-ppm at the time of sampling apparently dissipated to undetectable levels before they were analyzed by the laboratory. The 9-ft bgs bottom hole composite sample collected on 9-3-03 had an initial VOC concentration of 278-ppm, yet laboratory analysis of the sample yielded undetectable TPH and BTEX levels. With this in mind, it was decided to attempt on-site remediation of the excavated soil rather than disposal and replacement of the contaminated soil. If the soil failed to remediate adequately as desired, it could be disposed of as a final alternative. An 80-ft X 10-ft area was excavated to a depth of 10-ft (~300-yd^3). The bottom hole and sidewalls of this excavation were composite sampled (5-point) on 9-4-03 *(Plate 5, Attachments)*, with laboratory analytical results confirming undetectable TPH and BTEX concentrations throughout *(Plate 6, Attachments)*.

The excavated soil was spread out over areas north, west and 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 these remediation cells was significantly elevated. The cells were moved, combined and turned over several times during the period 9-4 to 9-9-03. The combination of heat and 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 9-9-03, the material was placed into a 40-ft X 100-ft area immediately west of the excavation *(Plate 5, Attachments)*. This pile was then divided into three equal areas (north, central 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 remediated 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 11-11-03 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. 112-yd^3 of soil contaminated above acceptable CoC remedial concentrations was excavated and removed from the location. Disposal of this RCRA exempt contaminated soil was at the Artesia Aeration Surface Waste Facility. The release site was additionally excavated to a final depth of 10-ft, the excavated soil (~300-yd^3) was remediated on-site to undetectable hydrocarbon concentrations by aeration. The attenuated 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.

ATTACHMENTS

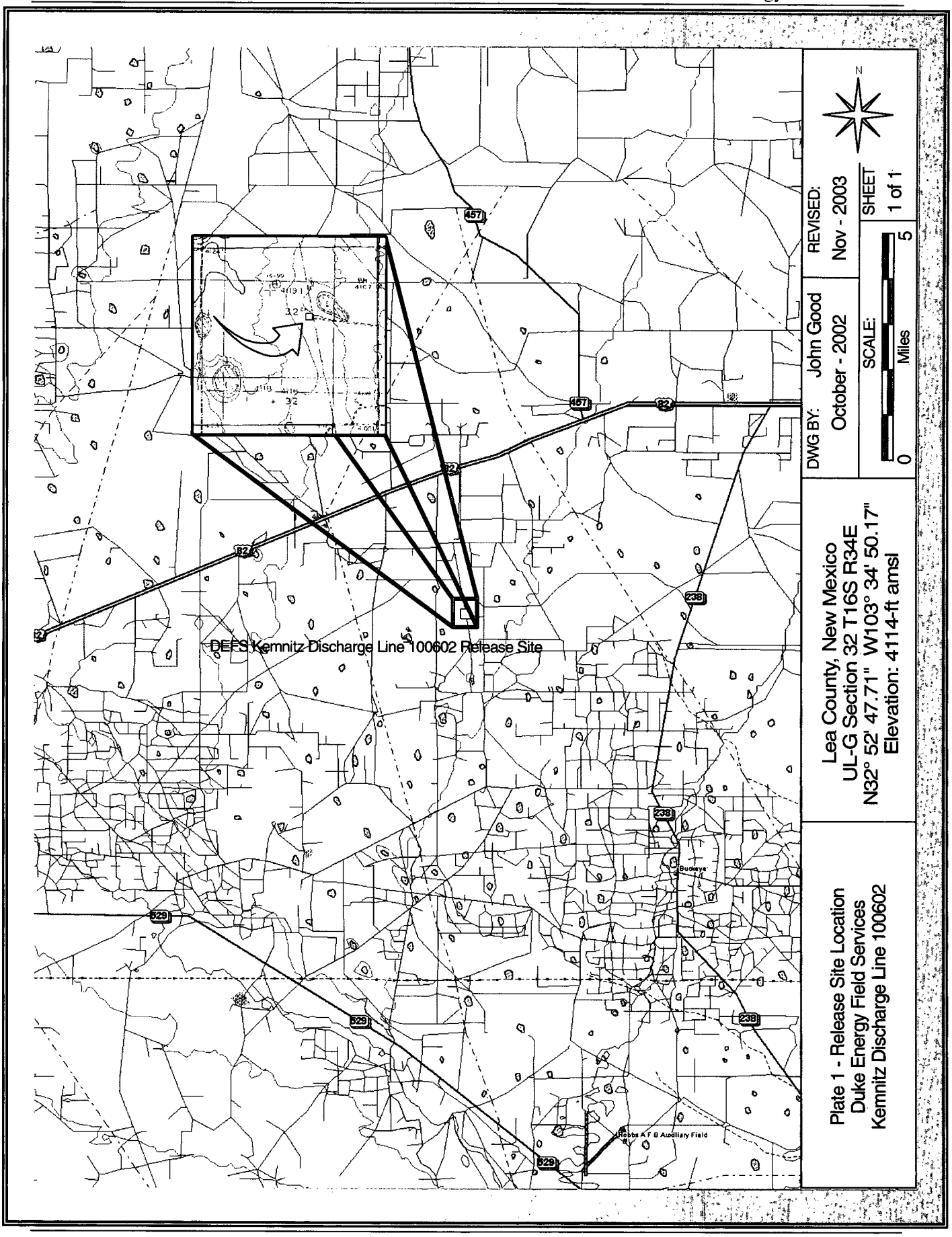

DEFS Kemnitz Discharge Line 100602 Release Site
Plate 1 - Release Site Location
Duke Energy Field Services
Kemnitz Discharge Line 100602
Lea County, New Mexico
UL-G Section 32 T16S R34E
N32° 52' 47.71" W103° 34' 50.17"
Elevation: 4114-ft amsl
DWG BY: John Good
October - 2002
REVISED: Nov - 2003
SCALE: 0 5 Miles
SHEET 1 of 1
N
457
82
238
529
Buckeye
Hobbs A F B Auxiliary Field

Plate 2 - Release Site Topography
Duke Energy Field Services
Kemnitz Discharge Line 100602

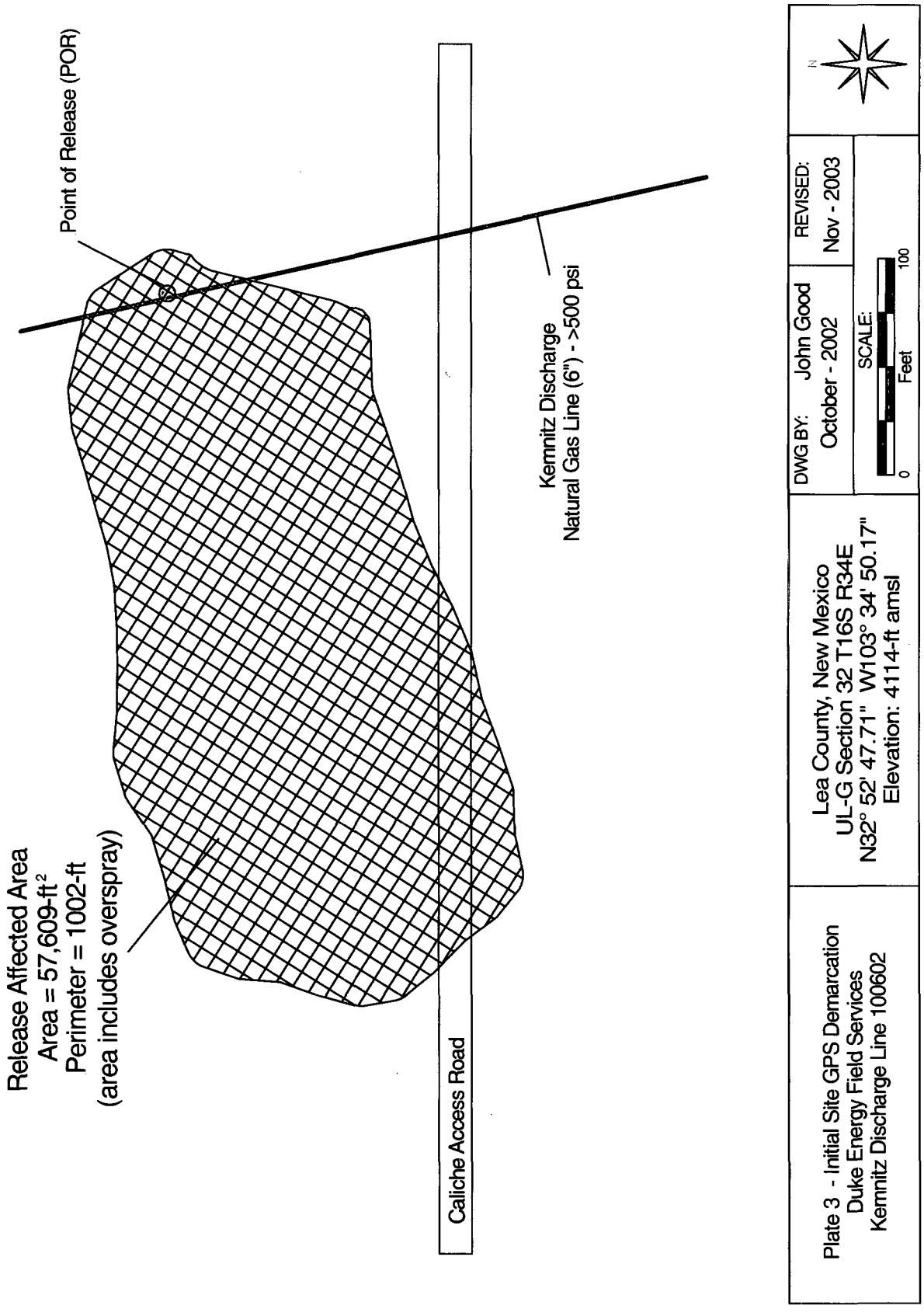
Lea County, New Mexico
UL-G Section 32 T16S R34E
N32° 52' 47.71" W103° 34' 50.17"
Elevation: 4114-ft amsl

DWG BY: John Good
October - 2002

REVISED:
Nov - 2003

SCALE:
0 Mile 1

N


Point of Release (POR)
Release Affected Area
Area = 57,609-ft²
Perimeter = 1002-ft
(area includes overspray)
Caliche Access Road
Kemnitz Discharge
Natural Gas Line (6") - >500 psi
Plate 3 - Initial Site GPS Demarcation
Duke Energy Field Services
Kemnitz Discharge Line 100602
Lea County, New Mexico
UL-G Section 32 T16S R34E
N32° 52' 47.71" W103° 34' 50.17"
Elevation: 4114-ft amsl
DWG BY: John Good
October - 2002
REVISED:
Nov - 2003
SCALE:
0
100
Feet
N

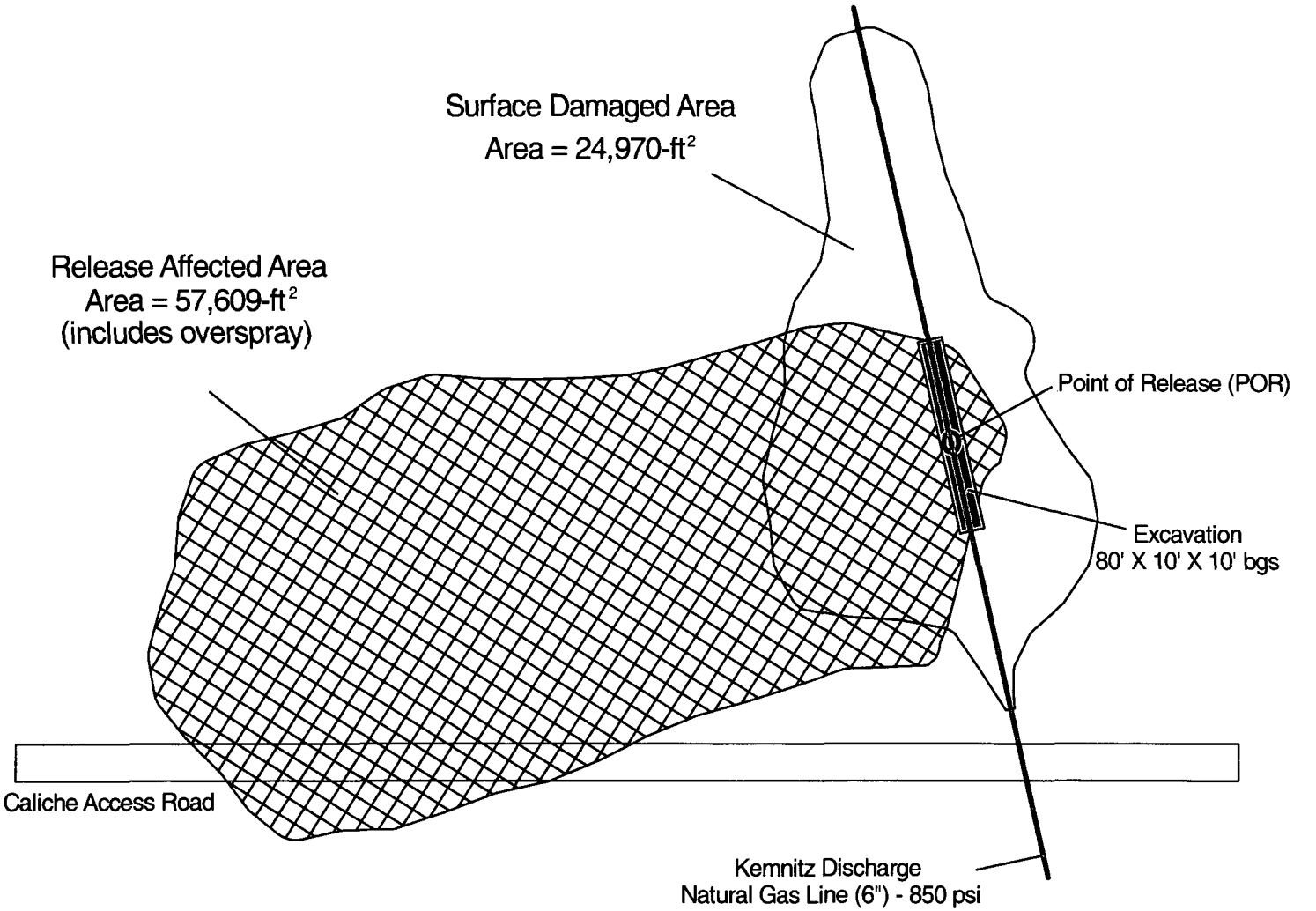


Plate 4 - Final Site GPS Demarcations Duke Energy Field Services Kemnitz Discharge Line 100602	Lea County, New Mexico UL-G Section 32 T16S R34E N32° 52' 47.71" W103° 34' 50.17" Elevation: 4114-ft amsl	DWG BY: John Good October - 2002 SCALE: 0 Feet 100	REVISED: Nov - 2003

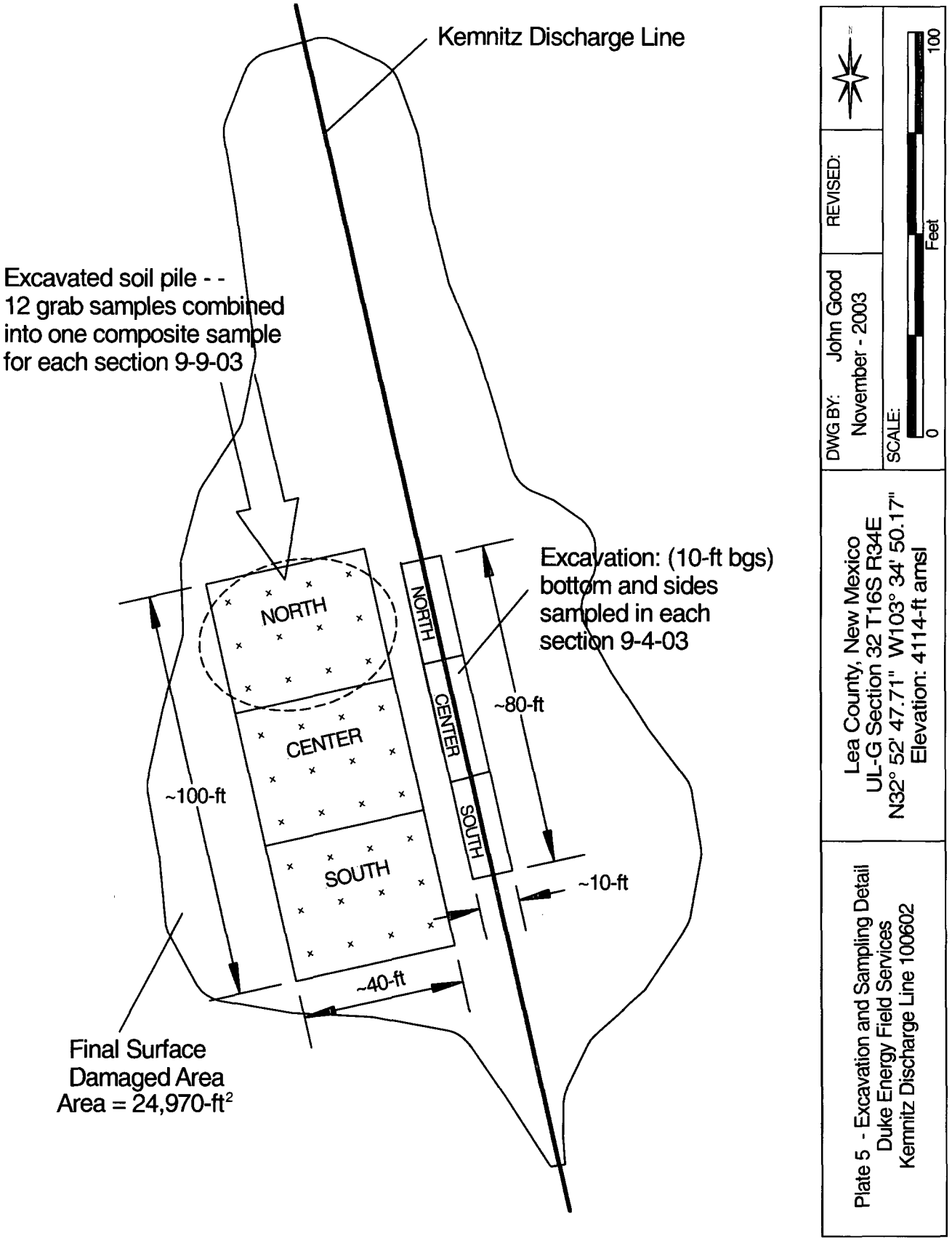

Kemnitz Discharge Line
Excavated soil pile - -
12 grab samples combined
into one composite sample
for each section 9-9-03
Excavation: (10-ft bgs)
bottom and sides
sampled in each
section 9-4-03
NORTH
CENTER
SOUTH
NORTH
CENTER
SOUTH
~80-ft
~100-ft
~10-ft
~40-ft
Final Surface
Damaged Area
Area = 24,970-ft²
DWG BY: John Good
November - 2003
REVISED:
SCALE:
0
100
Feet
Lea County, New Mexico
UL-G Section 32 T16S R34E
N32° 52' 47.71" W103° 34' 50.17"
Elevation: 4114-ft amsl
Plate 5 - Excavation and Sampling Detail
Duke Energy Field Services
Kemnitz Discharge Line 100602

Plate 6: Soil Analytical Data Table

Duke Energy Field Services - Kemnitz Line 100602 - Excavation Sampling Results

Bold 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_4: 600 ppm

Sample Date	Excavation Sampling Area	Depth (ft - bgs[1])	SAMPLE ID#	VOC ppm	GRO[2] mg/Kg	DRO[3] mg/Kg	TPH[4] mg/Kg	BTEX[5] mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Total Xylenes mg/Kg	Cl^- mg/Kg	SO_4 mg/Kg
3-Sep	POR	9-ft	SDKL090303 -9	278	10	10	20	0.030	0.005	0.005	0.005	0.015	8	48.0
3-Sep	POR	10-ft	SDKL090303 -10	68	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Bottomhole - North	10-ft	SDKL090403NBHC	1.8	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Bottomhole - Center	10-ft	SDKL090403MBHC	2.7	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Bottomhole - South	10-ft	SDKL090403SBHC	2.4	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - North	5-10-ft	SDKL090403NSWC	5.8	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - South	5-10-ft	SDKL090403NSWC	5.0	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - Southeast	5-10-ft	SDKL090403SESWC	3.5	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - East	5-10-ft	SDKL090403ESWC	7.2	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - Northeast	5-10-ft	SDKL090403NESWC	3.8	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - Southwest	5-10-ft	SDKL090403SWSWC	2.6	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - West	5-10-ft	SDKL090403WSWC	6.6	10	10	20	0.030	0.005	0.005	0.005	0.015		
4-Sep	Sidewall - Northwest	5-10-ft	SDKL090403NWSWC	9.2	10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils Pile - North	NA	SDKL090803SPC-N		10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils Pile - Central	NA	SDKL090803SPC-C		10	10	20	0.030	0.005	0.005	0.005	0.015		
8-Sep	Spoils Pile - South	NA	SDKL090803SPC-S		10	10	20	0.030	0.005	0.005	0.005	0.015		

[1] bgs = below ground surface [2] GRO - Gasoline Range Organics (Detection Limit = 10 mg/Kg) [3] DRO - Diesel Range Organics (Detection Limit = 10 mg/Kg)

[4] TPH - Total Petroleum Hydrocarbon (GRO+DRO) [5] 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.

Laboratory Analytical Reports

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 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: 09/03/03
Reporting Date: 09/04/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ DISCHARGE
Project Location: DEFS KEMNITZ LINE 100602

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_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:		09/03/03	09/03/03	09/03/03	09/03/03	09/03/03	09/03/03
H7968-1	SDKL090303-9	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7968-2	SDKL090303-10	<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 & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

9/4/03
Date

H7968A.XLS

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 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: 09/03/03
Reporting Date: 09/04/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ DISCHARGE
Project Location: DEFS KEMNITZ LINE 100602

Sampling Date: 09/03/03
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:		09/04/03	09/04/03
H7968-1	SDKL090303-9	8.32	48
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

H7968

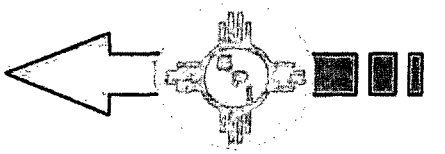
Cardinal Laboratories Inc.

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.
EPI Project Manager	John Good
Billing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	DUKE ENERGY FIELD SERVICES
Facility Name	Kemnitz Discharge
Project Reference	DEFS Kemnitz Line 100602
EPI Sampler Name	John Good

Bill To



ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>
H7468-1 1	SDKL090303-9	G	1			X					X		3-Sep	10:30	X	X	X	X			
-2 2	SDKL090303-10	G	1			X					X		3-Sep	10:35	X	X					
3																					
4																					
5																					
6																					
7																					
8	*Samples taken at Point of Release*																				
9																					
10																					

Sampler Relinquished: John Good — Date 9-3-03 Time 4:35 — Received By:

Relinquished by: — Date — Time — Received By: (lab staff)

Delivered by: — Sample Cool & Intact: Yes / No — Checked By:

Fax Results To John Good 505-394-2601

REMARKS:

DEFS Kemnitz Discharge Line 100602

Duke Energy Field Services

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 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: 09/05/03
Reporting Date: 09/08/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ DISCHARGE LINE
Project Location: DEFS KEMNITZ LINE 100602

Sampling Date: 09/04/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NO.	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:		09/05/03	09/05/03	09/05/03	09/05/03	09/05/03	09/05/03
H7979-1	SDKL090403NBHC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-2	SDKL090403MBHC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-3	SDKL090403SBHC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-4	SDKL090403NSWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-5	SDKL090403SSWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-6	SDKL090403SESWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-7	SDKL090403ESWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-8	SDKL090403NESWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-9	SDKL090403SWSWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-10	SDKL090403WSWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7979-11	SDKL090403NWSWC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		775	818	0.087	0.091	0.091	0.270
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		96.7	102	87.2	91.4	90.6	90.1
Relative Percent Difference		3.8	3.5	1.5	1.5	<0.1	2.4

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

Burgess J. A. Cooke, Ph.D.

9/8/03
Date

H7979.XLS

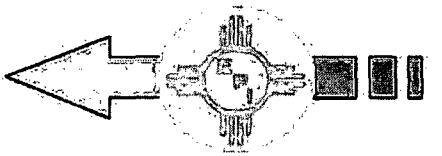
Cardinal Laboratories Inc.

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.
EPI Project Manager	John Good
Billing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	DUKE ENERGY FIELD SERVICES
Facility Name	Kemnitz Discharge Line
Project Reference	DEFS Kemnitz Line 100602
EPI Sampler Name	Morris Burkett

Bill To



ANALYSIS REQUEST

LAB I.D.		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>
47979-1	1	SDKL090403NBHC	C	1			X					X		4-Sep	3:00	X	X					
-2	2	SDKL090403MBHC	C	1			X					X		4-Sep	3:05	X	X					
-3	3	SDKL090403SBHC	C	1			X					X		4-Sep	3:10	X	X					
-4	4	SDKL090403NSWC	C	1			X					X		4-Sep	3:15	X	X					
-5	5	SDKL090403SSWC	C	1			X					X		4-Sep	3:20	X	X					
-6	6	SDKL090403SESWC	C	1			X					X		4-Sep	3:25	X	X					
-7	7	SDKL090403ESWC	C	1			X					X		4-Sep	3:30	X	X					
-8	8	SDKL090403NESWC	C	1			X					X		4-Sep	3:35	X	X					
-9	9	SDKL090403SWSWC	C	1			X					X		4-Sep	3:40	X	X					
-10	10	SDKL090403WSWC	C	1			X					X		4-Sep	3:45	X	X					
-11	11	SDKL090403NWSWC	C	1			X					X		4-Sep	3:50	X	X					

Sampler Relinquished: Morris Burkett Date 7-4-03 Time 4:00 P

Received By: John Good

Relinquished by: John Good Date 9-5-03 Time 12:30

Received By: (lab staff)

Delivered by:

Sample Cool & Intact: Yes / No

Checked By:

Fax Results To John Good 505-394-2601

REMARKS:

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 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 LINE 100602

Sampling Date: 09/08 & 09/04/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NO.	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:		09/08/03	09/08/03	09/08/03	09/08/03	09/08/03	09/08/03
H7982-1	SDKL090803SPC-N	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7982-2	SDKL090803SPC-C	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7982-3	SDKL090803SPC-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 & DRO - EPA SW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

9/9/03
Date

H7982.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.

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.
EPI Project Manager	John Good
Billing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	DUKE ENERGY FIELD SERVICES
Facility Name	Kemnitz Discharge Line
Project Reference	DEFS Kemnitz Line 100602
EPI Sampler Name	John Good

Bill To

ANALYSIS REQUEST

LAB I.D.		SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl⁻)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>					
H7562-1	1	SDKL090803SPC-N	C	1			X					X		8-Sep	8:00	X	X										
-2	2	SDKL090803SPC-C	C	1			X					X		4-Sep	8:05	X	X										
-3	3	SDKL090803SPC-S	C	1			X					X		4-Sep	8:10	X	X										
	4																										
	5																										
	6																										
	7																										
	8																										
	9																										
	10																										

Sampler Relinquished: John Good	Date 9/8/03 Time 11:25	Received By:	Fax Results To John Good 505-394-2601
Relinquished by:	Date Time	Received By: (lab staff) Burgess [signature]	REMARKS:
Delivered by:	Sample Cool & Intact Yes No	Checked By:	

21

DEFS Kemnitz Discharge Line 100602

Duke Energy Field Services

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 June 10, 2003

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

Surface Owner	**State of New Mexico**		Mineral Owner	**NA**		Lease No.	**NA**	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County:
G	**32**	**16S**	**34E**	**3210**	**3180**	**W103° 34' 50.17"**	**N32° 52' 47.71"**	**Lea**

NATURE OF RELEASE

Type of Release **Natural Gas release and associated NGL's**	Volume of Release **10 bbl**	Volume Recovered **0 bbl**
Source of Release **6" Steel Pipeline**	Date and Hour of Occurrence **10/6/2002**	Date and Hour of Discovery **10/6/2002**
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? **NMOCD-Hobbs**	
By Whom? **Ronnie Gilchrist - DEFS**	Date and Hour **10/6/2002**	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse. **NA**	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

Internally Corroded pipeline, repaired by replacing pipeline section

Describe Area Affected and Cleanup Action Taken.*

~57,600-ft^2 affected, primarily overspray. 112-yd^3 of RCRA Exempt Non-hazardous contaminated soil excavated and disposed of by EPI. Remainder of contaminate soil excavated from site, attenuated on-site and returned to excavation.

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: Paul Mulkey		**OIL CONSERVATION DIVISION**	
Printed Name:	**Paul Mulkey**	Approved by District Supervisor:	
Title:	**Construction & Maintenance Supervisor**	Approval Date:	Expiration Date:
E-mail Address:	**pdmulkey@duke-energy.com**	Conditions of Approval:	☐ Attached .
Date: **1/12/04**	Phone: **505-391-5716**		

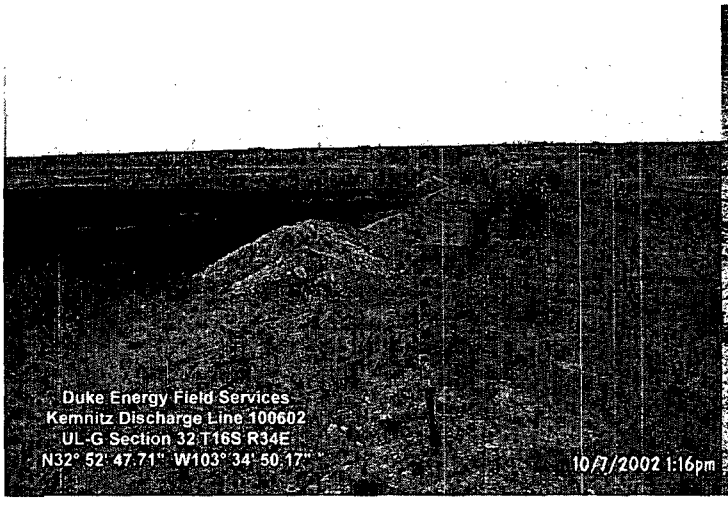
Duke Energy Field Services	Incident Date and NMOCD Notified? 10/6/2002 10/6/2002
SITE: Kemnitz Discharge Line	Assigned Site Reference # 100602
Company:	DUKE ENERGY FIELD SERVICES
Street Address:	5805 East Highway 80
Mailing Address:	11525 W. Carlsbad Hwy.
City, State, Zip:	Hobbs, NM 88240
Representative:	Paul Mulkey
Representative Telephone:	505-397-5716
Telephone:	
Fluid volume released (bbls): 10	Recovered (bbls): 0
>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:	# 100602
Source of contamination:	6" Steel Pipeline
Land Owner, i.e., BLM, ST, Fee, Other:	State of New Mexico State of New Mexico Land Office - Santa Fe
LSP Dimensions:	(GPS Site Diagram attached)
LSP Area:	~57,600 -ft^2
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude:	N32° 52' 47.71"
Longitude:	W103° 34' 50.17"
Elevation above mean sea level:	4114 -ft amsl
Feet from South Section Line:	3210
Feet from West Section Line:	3180
Location - Unit and 1/4 1/4: UL-	G SW 1/4 of NE 1/4
Location - Section:	32
Location - Township:	16S
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):	9
Depth (ft) to ground water (DG - DC = DtGW):	101

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water Body
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: 0	*Wellhead Protection Area Scor 0*	*Surface Water Score: 0*
Site Rank (1+2+3) = 0		

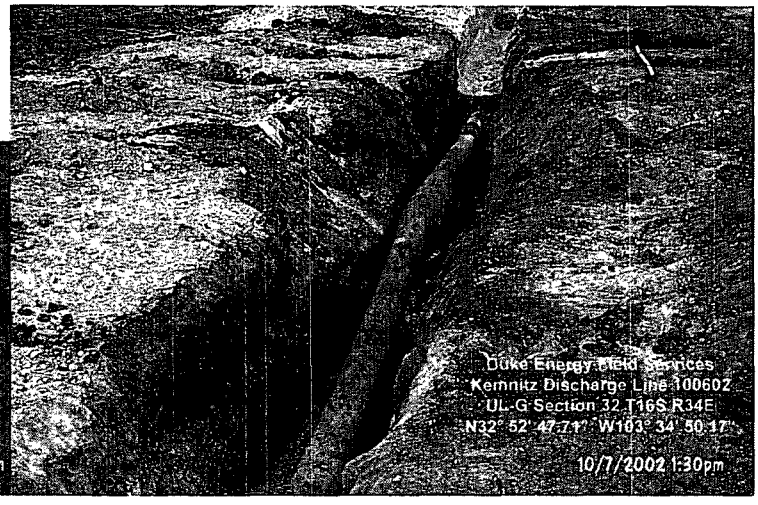
Total Site Ranking Score and Acceptable Concentrations

Parameter	20 or >	10	**0**
Benzene[1]	10 ppm	10 ppm	**10 ppm**
BTEX[1]	50 ppm	50 ppm	**50 ppm**
TPH	100 ppm	1000 ppm	**5000 ppm**

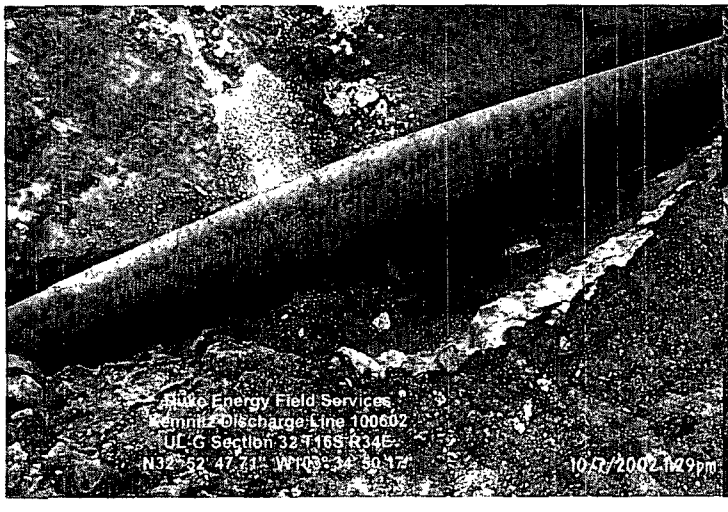
[1]100 ppm field VOC headspace measurement may be substituted for lab analysis



Initial Response: S looking N

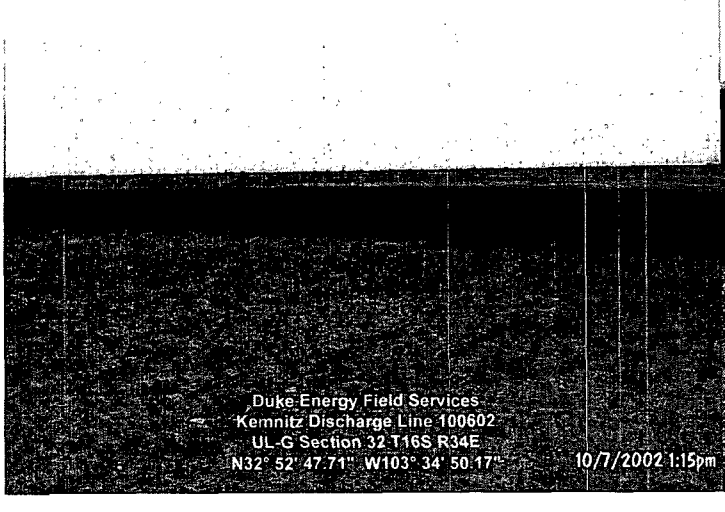


Initial Response: Point of Release

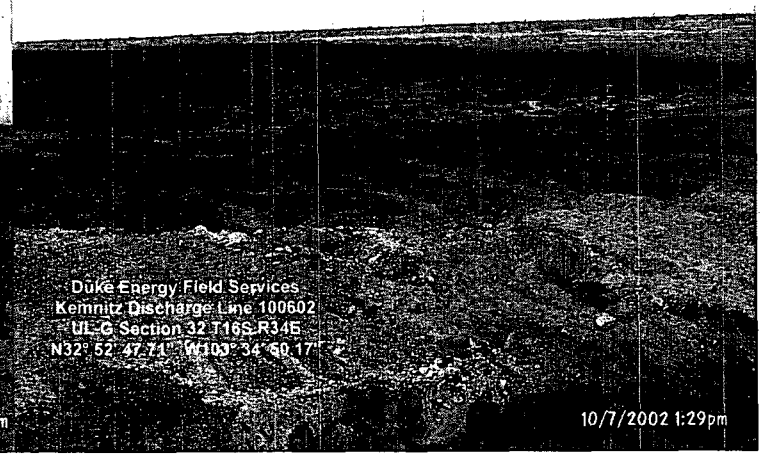


Ruptured Pipe Section

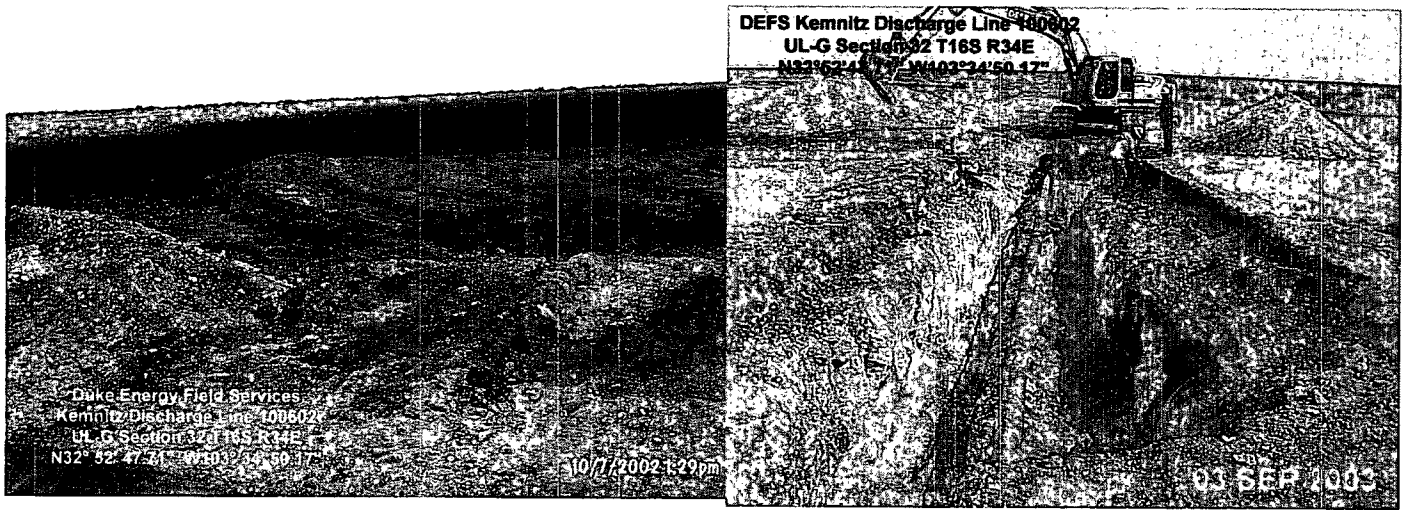
Ruptured Pipe Section Removed



Initial Response: Overspray west of POR

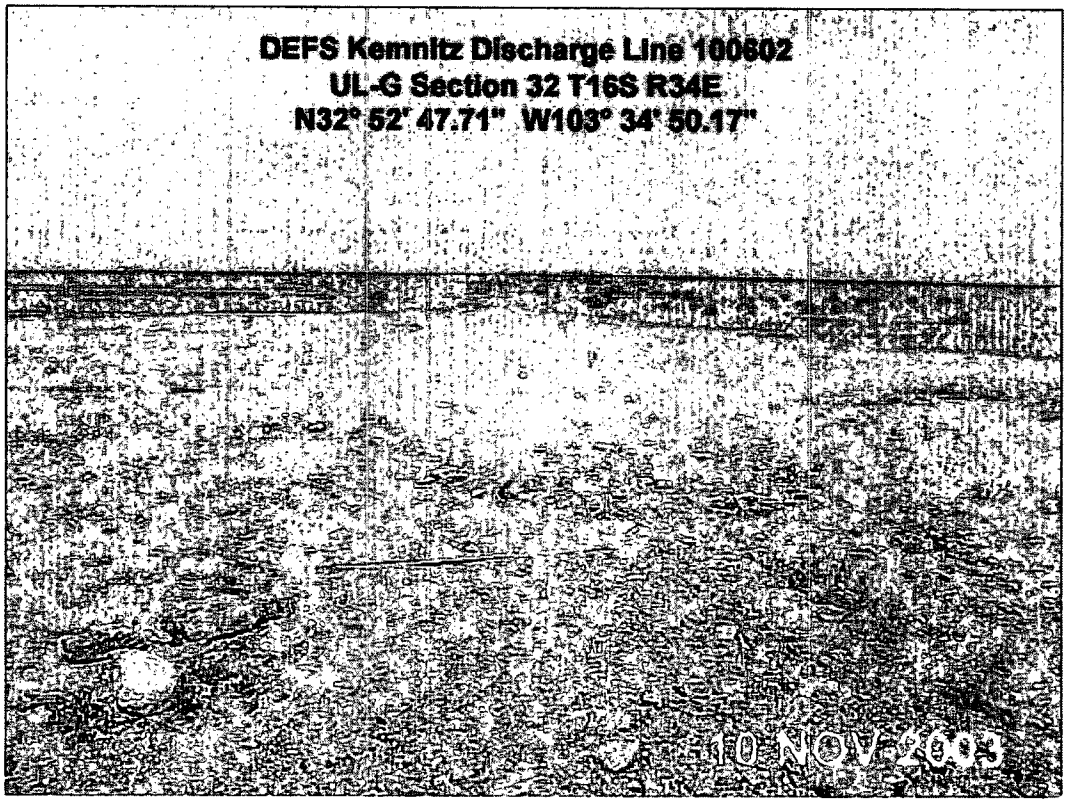


Initial Response: Overspray west of POR



Initial Response: Overspray west of POR

80' X 10" X 10" Excavation (S looking N



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