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 Booster Discharge Line	Facility Type	Natural Gas Gathering 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:
N	20	16S	34E	255	1970	W103° 35' 06.8"	N32° 54' 03.6"	Lea

NATURE OF RELEASE

Type of Release: Natural Gas release and associated NGL's	Volume of Release: 36 bbl	Volume Recovered: 30 bbl
Source of Release: 8" Steel Pipeline - 525 psi - 3.3 mcf/day	Date and Hour of Occurrence: 7/17/2003	Date and Hour of Discovery: 7/17/2003
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? Larry Johnson (NMOCD-Hobbs)	
By Whom? Ronnie Gilchrist - DEFS	Date and Hour 7/17/03 10:00 AM	
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.*

Kemnitz Booster Discharge 8" line lost structural integrity and blew out an approximate 10-ft section of the pipe. Line bypassed and deactivated.

Describe Area Affected and Cleanup Action Taken.*

1200-ft² spill area excavated to 8-ft. 30-bbl of NGL recovered from 36-bbl release. 468-yd³ of RCRA Exempt Non-hazardous contaminated soil above remedial goals was excavated and disposed of by EPI. Excavation was backfilled with clean caliche and topsoil.

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-74
10/5/05

SITE INVESTIGATION, REMEDIATION AND FINAL C-141 CLOSURE DOCUMENTATION

KEMNITZ BOOSTER DISCHARGE LINE RELEASE SITE

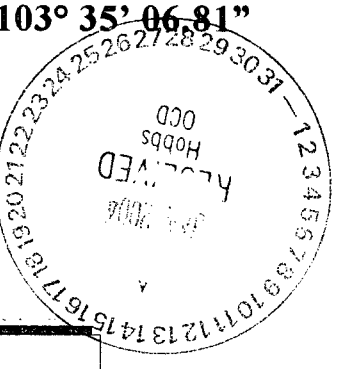
DEFS REF: KEMNITZ BOOSTER DISCHARGE 071703

UL-N (SE¼ OF THE SW¼) OF SECTION 20 T16S R34E

~14 MILES WEST-SOUTHWEST (BEARING 257.9°) OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N32° 54' 03.61 LONGITUDE: W103° 35' 06.81"



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

Duke Energy Field Services

1RP-74
10/5/05

SITE INVESTIGATION, REMEDIATION AND FINAL C-141 CLOSURE DOCUMENTATION

KEMNITZ BOOSTER DISCHARGE LINE RELEASE SITE

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UL-N (SE¼ OF THE SW¼) OF SECTION 20 T16S R34E

~14 MILES WEST-SOUTHWEST (BEARING 257.9°) OF LOVINGTON

LEA COUNTY, NEW MEXICO

LATITUDE: N32° 54' 03.61 LONGITUDE: W103° 35' 06.81"

RECEIVED
Hobbs
OCD

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

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 Booster Discharge Line 071703
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 Booster Discharge Line 071703" remediation site. This report documents the vertical and horizontal extents of hydrocarbon and inorganic constituent contamination at the site, disposal of 468-yd^3 of contaminated soil at the Artesia Aeration surface waste facility, on-site attenuation of the remaining 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 July 22, 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.

Table of Contents

Project Summary

Site Specific:

- **Company Name**: Duke Energy Field Services
- **Facility Name**: Kemnitz Booster Discharge Pipeline
- **Project Reference** Kemnitz Booster Discharge 071703
- **Company Contact**: Paul Mulkey
- **Site Location:** WGS84: N32° 54' 03.61"; W103° 35' 06.81"
- **Legal Description**: UL-N (SE¼ OF THE SW¼) OF SECTION 20 T16S R34E
- **General Description**: ~14 miles west-southwest (bearing: 257.9°) of Lovington, Lea County, New Mexico
- **Elevation**: 4,131-ft amsl **Depth to Ground Water**: ~112-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**: 36 bbl **Volume Recovered**: 30 bbl
- **Time of Occurrence**: 7/17/03 **Time of Discovery**: 7/17/03
- **Release Source**: High pressure steel NG pipeline; integrity lost due to internal corrosion.
- **Initial Surface Area Affected**: ~5785-ft^2 @ POR; ~44,800-ft^2 overspray

Remediation Specific:

- **Final Vertical extent of contamination**: 8-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 468-yd^3 of contaminated soil above NMOCD remedial goals down to 8-ft bgs in immediate area of POR; 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**: Artesia Aeration (NM-01-0030) **Volume disposed of**: 468-yd^3
- **Project Completion Date**: September 4, 2003

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "Kemnitz Booster Discharge Line 071703" natural gas discharge line remediation site. On July 17, 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 7-17-03. The initial C-141 Form submitted to NMOCD (July 22, 2003) reports the release volume (NGL) as 36-bbl with 30-bbl recovered. EPI responded the day of the notification (7-17-03) and commenced GPS surveying, photography and preliminary excavation of the site. The overall affected site consisted of a 44,800–ft^2 overspray area with a 5,785-ft^2 area directly affected by pooled NGL associated with the Point of Release (POR) *(Plate 3, Attachments)*. Remediation of this release site consisted of the initial emergency response excavation and stockpiling of the visibly contaminated soil from the visibly affected release area associated with the POR. Subsequent to the initial response and repair efforts, the contamination profile beneath the POR was delineated on August 20, 2003 by excavating test trenches to a maximum depth of 23-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, 14-ft and 23-ft depths with composite samples and lab analyses *(Plate 5, Attachments)*. Additionally, analyses of the 14-ft and 23-ft samples for chlorides and sulfates indicated that these two inorganic contaminants were of no concern at this site. The final excavation was expanded laterally to an areal extent of 1,200-ft^2 and a uniform depth of 8-ft bgs. This additional contaminated soil was placed south of the excavation *(Plate 4, Attachments)* and remediated to undetectable TPH and BTEX concentrations utilizing ambient heat and aeration. Undetectable CoC levels were confirmed by composite analyses of three areas of the stockpiled material *(Plate 5, Attachments)*. The remediated soil was returned to the excavation as backfill along with clean caliche and topsoil purchased from the NM Land Office (Permit No. CO 2406). On September 4, 2003 the excavation was backfilled to a level just below the ruptured pipeline. Adequate topsoil was stockpiled adjacent to the excavation; such that DEFS can complete the backfilling of the excavation once this section of pipeline is replaced.

The site is associated with the DEFS Kemnitz-Wolfcamp natural gas gathering and discharge pipeline system. This release site is located in Unit Letter N, (SE¼ OF THE SW¼), Section 20, T16S, R34E, N32° 54' 03.61"; W103° 35' 06.81". The release site is 14 miles west-southwest (bearing: 257.9°) 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, and 4.*

The natural gas and associated NGL release at this site was discovered and reported to NMOCD on July 17, 2003 by Ronnie Gilchrest of DEFS. The Initial NMOCD C-141 Form was submitted on July 22, 2003 by EPI. The leak was the result of internal pipe corrosion and was repaired by replacement of a section of the Kemnitz Booster discharge pipeline. EPI's construction work at the site was completed on September 4, 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 112-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 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 = 0	Wellhead Protection Score= 0	Surface Water Score= 0
Site Rank (1+2+3) = 0 + 0 + 0 = 0 points (for soil 0'-12' 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 test excavations of the release area associated with the POR to a depth of 23-ft bgs. It was determined that the NGL had penetrated the soil to a depth less than 8-ft beneath the POR. The lateral extent of contamination, determined with PID measurements of VOC concentrations, was within a 20-ft X 65-ft rectangular area parallel to the pipeline *(Plate 4, Attachments).* The clean 8-ft bottom-hole was confirmed with a 5-point composite sampling of the excavation bottom on 8-22-03 *(Plate 5, Attachments).* All laboratory analyses for this project were performed by Cardinal Laboratories, Hobbs, NM. The 14-ft and 23-ft 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 112-ft bgs. Excavation of the site was to a maximum depth of 23-ft (test trench for sampling). 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 July 17, 2003. At that time, soil grossly contaminated with NGL was excavated from the area immediate to the POR and stockpiled adjacent to the excavation. This material was ultimately disposed of at the Artesia Aeration surface waste facility near Maljamar, NM. The final construction phase of the project took place during the period August 18 to September 4, 2003.

The contaminant extents at the site were determined to be within a 1,200-ft^2 rectangular area associated with the POR to an average depth of 8-ft. The lateral extents of the excavation were determined by achieving undetectable VOC levels (utilizing PID) on the sidewalls. Based on the highly volatile nature of the Kemnitz-Wolfcamp NGL material, it was decided to attenuate the remaining excavated soil rather than dispose of it.

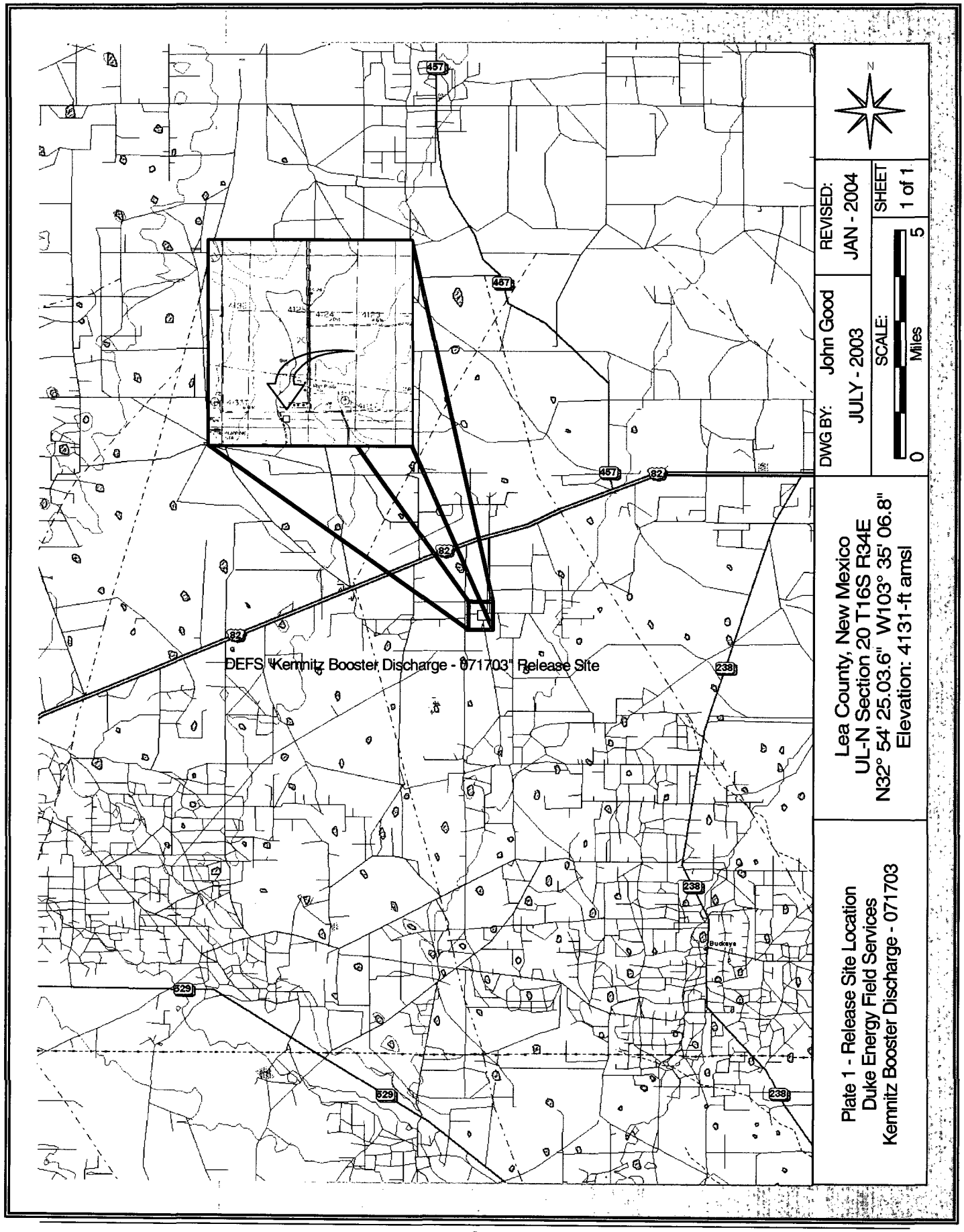
The excavated soil was spread out over an area south of the excavation (within the pipeline right-of-way). Lift height was maintained at <1-ft. Daytime temperatures during late August-2003 were in the 95°-100° range, thus the temperature of this attenuation cell was significantly elevated. The attenuation cell was moved, combined and turned over several times during the period 8-20 to 8-25. The combination of 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 8-25-03, the material was placed into a rectangular shallow pile south of the excavation *(Plate 4, Attachments)*. This pile was then divided into three equal areas (north, center and south). The three areas were then each sampled at 12 regularly spaced locations. The 12 grab samples from each of the three 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 to a level just below the pipeline, and adequate topsoil material was stockpiled adjacent to the excavation to allow backfill completion by DEFS upon replacement of the pipeline section. EPI's portion of the project was completed on 9-4-03.

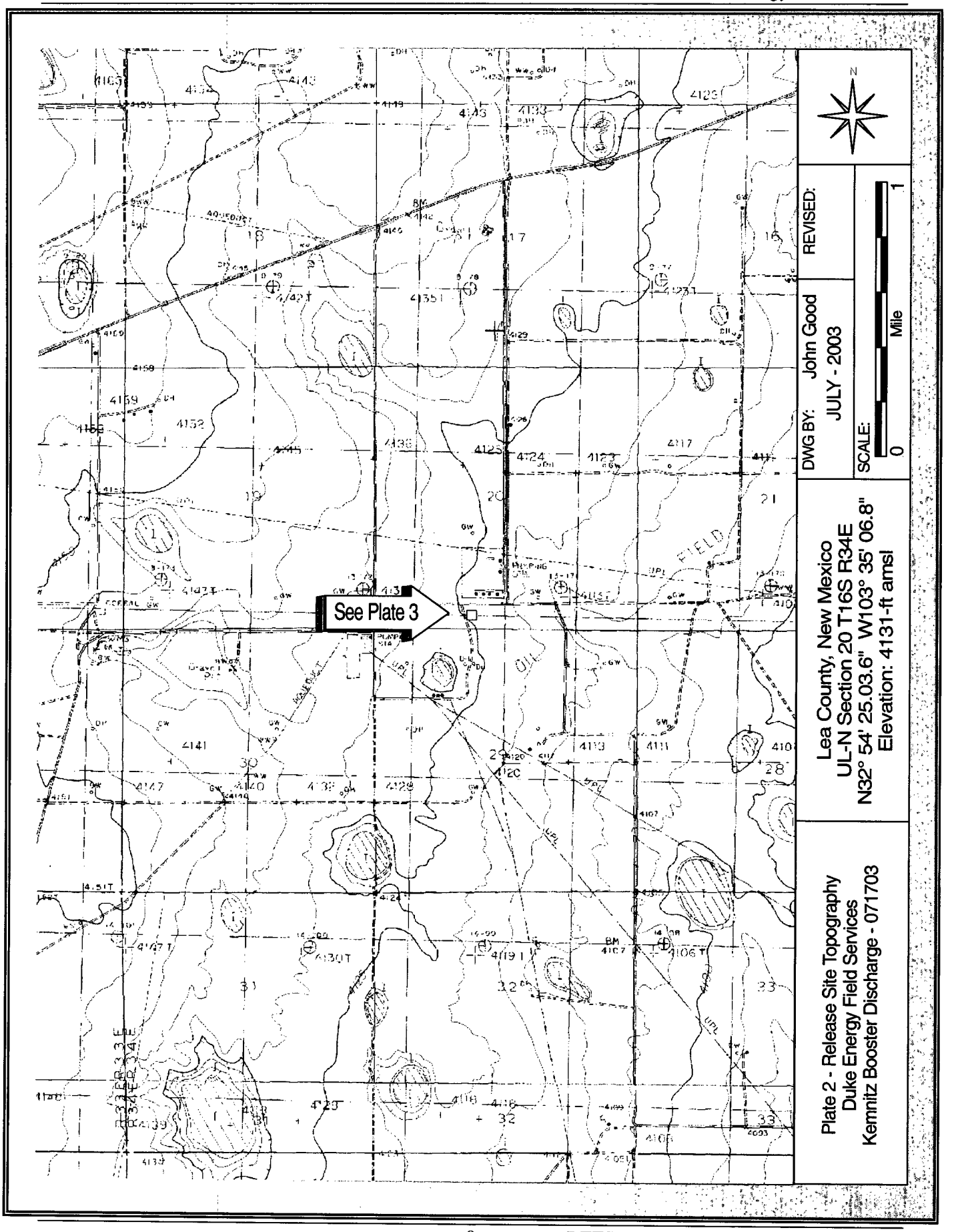
Due to the high volatility of the NGL released at the time of the pipeline rupture, damage to vegetation in the overspray area was minimal. The site was evaluated on 11-10-03 and no residual vegetative damage is discernible.

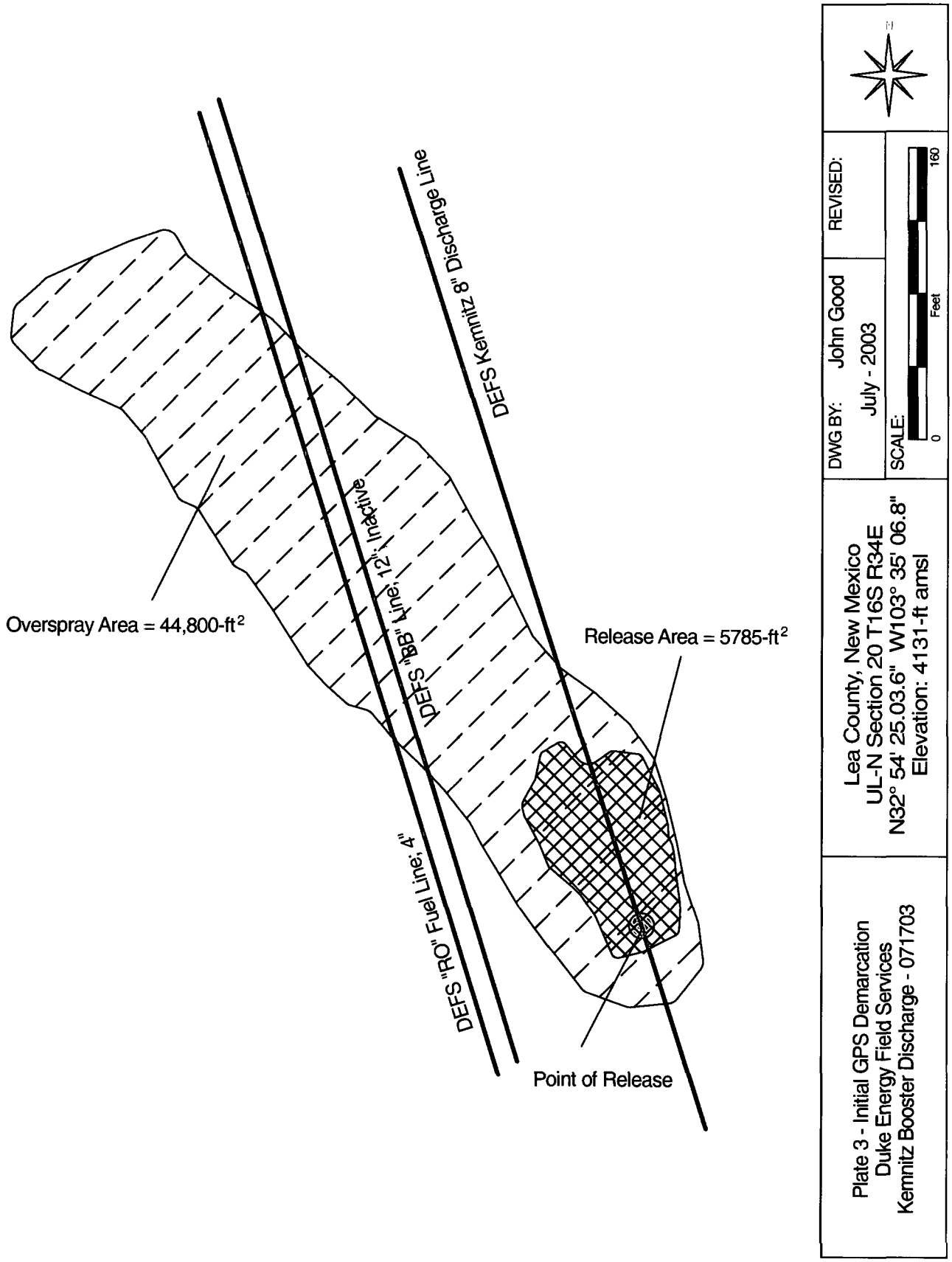
7.0 Closure Justification

This report documents successful implementation of the Remediation Plan approved by NMOCD for this release site. Soil contaminated above acceptable CoC remedial concentrations was excavated and disposed of, or attenuated onsite to remove volatile hydrocarbon contamination by means of aeration and heat. The attenuated material was returned to the excavation as backfill. 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 Booster Discharge - 071703" Release Site
457
82
238
529
Buckeye
Plate 1 - Release Site Location
Duke Energy Field Services
Kemnitz Booster Discharge - 071703
Lea County, New Mexico
UL-N Section 20 T16S R34E
N32° 54' 25.03.6" W103° 35' 06.8"
Elevation: 4131-ft amsl
DWG BY: John Good
JULY - 2003
REVISED:
JAN - 2004
SCALE:
0
5
Miles
SHEET
1 of 1
N


See Plate 3
N
Plate 2 - Release Site Topography
Duke Energy Field Services
Kemnitz Booster Discharge - 071703
Lea County, New Mexico
UL-N Section 20 T16S R34E
N32° 54' 25.03.6" W103° 35' 06.8"
Elevation: 4131-ft amsl
DWG BY: John Good
JULY - 2003
REVISED:
SCALE:
0
1
Mile


Overspray Area = 44,800-ft²
Release Area = 5785-ft²
DEFS Kemnitz 8" Discharge Line
DEFS "BB" Line; 12"; Inactive
DEFS "RO" Fuel Line; 4"
Point of Release
Plate 3 - Initial GPS Demarcation
Duke Energy Field Services
Kemnitz Booster Discharge - 071703
Lea County, New Mexico
UL-N Section 20 T16S R34E
N32° 54' 25.03.6" W103° 35' 06.8"
Elevation: 4131-ft amsl
DWG BY: John Good
July - 2003
REVISED:
SCALE:
0
160
Feet
N

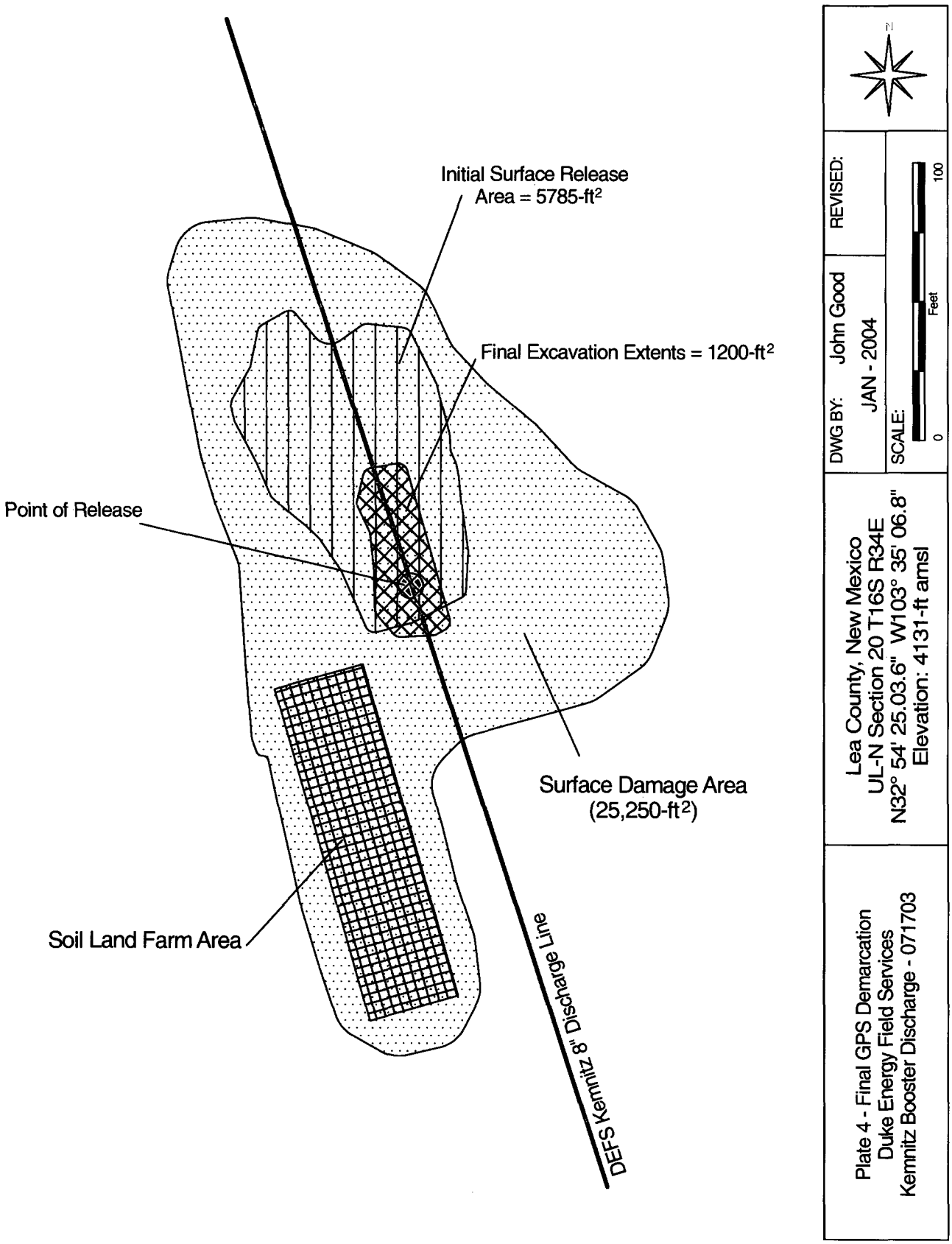

Initial Surface Release
Area = 5785-ft²
Final Excavation Extents = 1200-ft²
Point of Release
Surface Damage Area
(25,250-ft²)
Soil Land Farm Area
DEFS Kemnitz 8" Discharge Line
N
DWG BY: John Good
JAN - 2004
REVISED:
SCALE:
0
100
Feet
Lea County, New Mexico
UL-N Section 20 T16S R34E
N32° 54' 25.03.6" W103° 35' 06.8"
Elevation: 4131-ft amsl
Plate 4 - Final GPS Demarcation
Duke Energy Field Services
Kemnitz Booster Discharge - 071703

Plate 5: Soil Analytical Data Table

Duke Energy Field Services - Kemnitz Booster Discharge 071703 - Excavation Sampling Results														
Bold highlighted cells indicate values in excess of the NMOCD remedial action guideline thresholds: TPH = 5000 mg/Kg; Benzene = 10 mg/Kg; BTEX = 50 mg/Kg; Cl = 250 + background														
Sample Date	Excavation Sampling Area	Depth (ft - bgs[1])	SAMPLE ID#	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	pH
20-Aug	BottomHole	14-ft	SDKBD082103POR-14	10	10	20	0.032	0.005	0.007	0.005	0.015	32	12.6	
20-Aug	BottomHole	23-ft	SDKBD082103POR-23	10	10	20	0.031	0.005	0.006	0.005	0.015	48	27.2	
22-Aug	BottomHole	8-ft	SDKBD082203BH-8	10	10	20	0.030	0.005	0.005	0.005	0.015			
22-Aug	Spoils Pile		SDKBD082503SP-C1	10	10	20	0.030	0.005	0.005	0.005	0.015			
22-Aug	Spoils Pile		SDKBD082503SP-C2	10	10	20	0.030	0.005	0.005	0.005	0.015			
22-Aug	Spoils Pile		SDKBD082503SP-C3	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 CoC's (Detection Limits = 0.005 mg/Kg; 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 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

		Bill To	ANALYSIS REQUEST
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 Booster Discharge Line		
Project Reference	Kemnitz Booster Discharge 071703		
EPI Sampler Name	John Good		

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: CRUDE OIL	MATRIX: SLUDGE	MATRIX: OTHER:	PRESERV.: ACID/BASE	PRESERV.: ICE/COOL	PRESERV.: OTHER	SAMPLING: DATE	SAMPLING: TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>
H7933 - 1	SDKBD082103POR-14	G	1			X					X		20-Aug	9:00	X	X	X	X			
H7933 - 2	SDKBD082103POR-23	C	1			X					X		20-Aug	11:00	X	X	X	X			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Sampler Relinquished: John Good	Date: 8/21/03 Time:	Received By:	Fax Results To John Good 505-394-2601
Relinquished by:	Date: 8/21/2003 Time: 3:10 PM	Received By: (lab staff) Dayla Hatler	REMARKS:
Delivered by:	Sample Cool & Intact: Yes / No	Checked By:	

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: 08/21/03
Reporting Date: 08/22/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ BOOSTER DISCHARGE LINE
Project Location: KEMNITZ BOOSTER DISCHARGE 071703

Sampling Date: 08/21/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
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:		08/21/03	08/21/03	08/21/03	08/21/03	08/21/03	08/21/03
H7933-1	SDKBD082103POR-14	<10.0	<10.0	<0.005	0.007	<0.005	<0.015
H7933-2	SDKBD082103POR-23	<10.0	<10.0	<0.005	0.006	<0.005	<0.015
Quality Control		795	800	0.106	0.097	0.096	0.287
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		99.3	100	106	96.9	96.4	95.6
Relative Percent Difference		0.4	5.0	14.0	8.1	8.1	6.4

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

Burgess J. A. Cooke, Ph. D.

8/22/03
Date

H7933.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

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E MARLAND • HOBBS, NM 88240

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Receiving Date: 08/21/03
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Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ BOOSTER DISCHARGE LINE
Project Location: KEMNITZ BOOSTER DISCHARGE 071703

Sampling Date: 08/21/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: AH

LAB NUMBER	SAMPLE ID	SO_4 (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		08/22/03	08/22/03
H7933-1	SDKBD082103POR-14	12.6	32
H7933-2	SDKBD082103POR-23	27.2	48
Quality Control		53.65	1050
True Value QC		50.00	1000
% Recovery		107	105
Relative Percent Difference		1.5	5.0
METHODS: EPA 600/4-79-020		375.4	325.3

Amy Hill
Chemist

8/22/03
Date

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H7933

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 Booster Discharge Line
Project Reference	Kemnitz Booster Discharge 071703
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 >>>
H7945-1	SDKBD082203POR-6 BH-8	G	1			X					X		22-Aug	16:00	X	X					
-2	SDKBD082503SP-C1	C	1			X					X		25-Aug	8:00	X	X					
-3	SDKBD082503SP-C2	C	1			X					X		25-Aug	8:05	X	X					
-4	SDKBD082503SP-C3	C	1			X					X		25-Aug	8:10	X	X					
5																					
6																					
7																					
8																					
9																					
10																					

Sampler Relinquished: John Good	Date / Time	Received By:	Fax Results To John Good 505-394-2601
Relinquished by:	Date 8/25/03 Time 11:20AM	Received By: (lab staff)	REMARKS: ASAP requested
Delivered by:	Sample Cool & Intact: Yes / No	Checked By:	

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: 08/25/03
Reporting Date: 08/26/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: KEMNITZ BOOSTER DISCHARGE LINE
Project Location: NOT GIVEN

Sampling Date: 08/22 & 08/25/03
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:		08/25/03	08/25/03	08/25/03	08/25/03	08/25/03	08/25/03
H7945-1	SDKBD082203BH-8	<10.0	<10.0	<0.005	<0.010	<0.005	<0.015
H7945-2	SDKBD082503SP-C1	<10.0	<10.0	<0.005	<0.010	<0.005	<0.015
H7945-3	SDKBD082503SP-C2	<10.0	<10.0	<0.005	<0.010	<0.005	<0.015
H7945-4	SDKBD082503SP-C3	<10.0	<10.0	<0.005	<0.010	<0.005	<0.015
Quality Control		767	825	0.110	0.103	0.104	0.308
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		95.8	103	110	103	104	103
Relative Percent Difference		6.5	6.7	7.8	2.4	2.9	2.5

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

Burgess J. A. Cooke, Ph. D.

8/26/03
Date

H7945.XLS

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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 Booster Discharge Line	Facility Type	Natural Gas Gathering 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:
N	20	16S	34E	255	1970	W103° 35' 06.8"	N32° 54' 03.6"	Lea

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Natural Gas release and associated NGL's	36 bbl	30 bbl

Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
8" Steel Pipeline - 525 psi - 3.3 mcf/day	7/17/2003	7/17/2003

Was Immediate Notice Given?	If YES, To Whom?
☑ Yes ☐ No ☐ Not Required	Larry Johnson (NMOCD-Hobbs)
By Whom? Ronnie Gilchrist - DEFS	Date and Hour 7/17/03 10:00 AM
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.*

Kemnitz Booster Discharge 8" line lost structural integrity and blew out an approximate 10-ft section of the pipe. Line bypassed and deactivated.

Describe Area Affected and Cleanup Action Taken.*

1200-ft^2 spill area excavated to 8-ft. 30-bbl of NGL recovered from 36-bbl release. 468-yd^3 of RCRA Exempt Non-hazardous contaminated soil above remedial goals was excavated and disposed of by EPI. Excavation was backfilled with clean caliche and topsoil.

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	

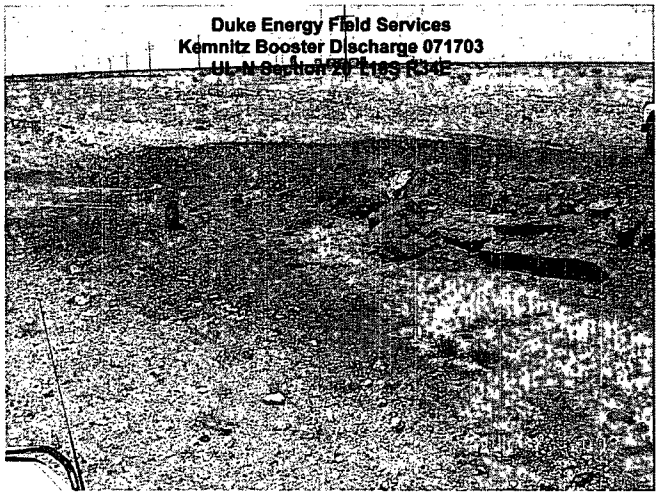
Duke Energy Field Services	Incident Date and NMOCD Notified? 7/17/03 7/17/03 10:00 AM
SITE: Kemnitz Booster Discharge	Assigned Site Reference # 071703
Company:	DUKE ENERGY FIELD SERVICES
Street Address:	5805 East Highway 80
Mailing Address:	PO Box 5493
City, State, Zip:	Denver, CO 80217
Representative:	Steve Weathers
Representative Telephone:	(303) 605-1718
Telephone:	
Fluid volume released (bbls): 36	Recovered (bbls): 30
>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:	# 071703
Source of contamination:	8" Steel Pipeline - 525 psi - 3.3 mcf/day
Land Owner, i.e., BLM, ST, Fee, Other:	State of New Mexico State Land Office - Santa Fe, NM
LSP Dimensions:	120' x 75' (GPS Site Diagram attached)
LSP Area:	5,785 $-ft^2$
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude:	N32° 54' 03.6"
Longitude:	W103° 35' 06.8"
Elevation above mean sea level:	4131 -ft amsl
Feet from South Section Line:	255
Feet from West Section Line:	1970
Location - Unit and 1/4 1/4: UL-	N SE 1/4 of SW 1/4
Location - Section:	20
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):	112
Depth (ft) of contamination (DC):	8
Depth (ft) to ground water (DG - DC = DtGW):	104

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

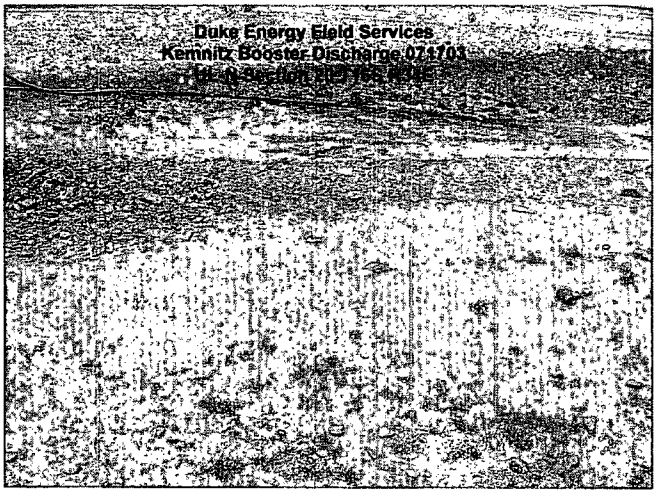
Parameter	20 or >	10	**0**
Benzene[1]	10 ppm	10 ppm	**10 ppm**
BTEX[1]	50 ppm	50 ppm	**50 ppm**
TPH	100 ppm	1000 ppm	**5000 ppm**

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

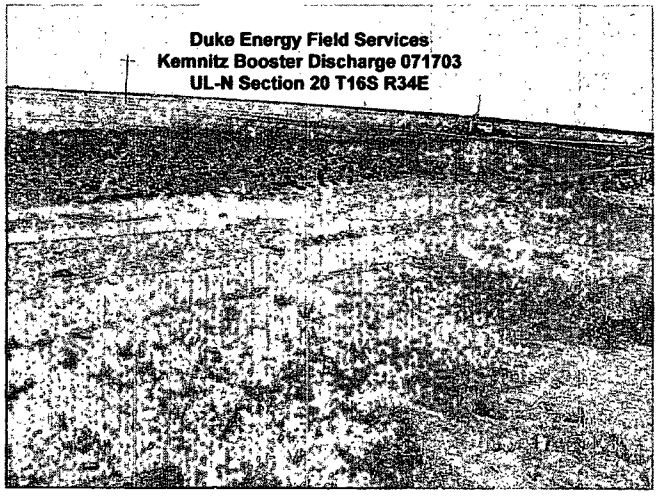


Initial Response: Point of Release

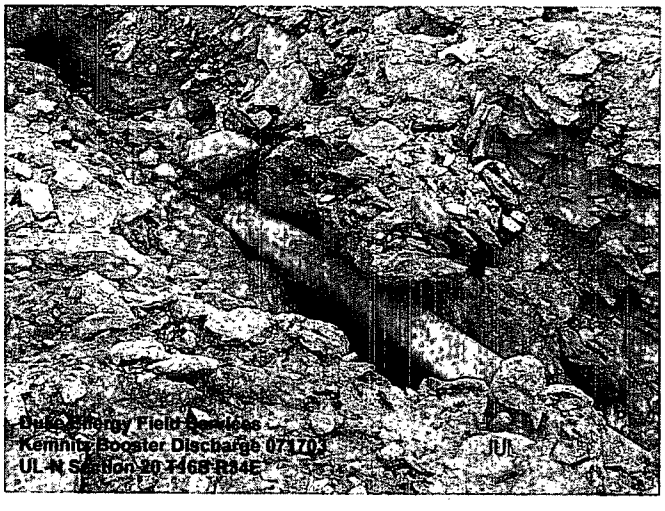
Initial Response: Point of Release



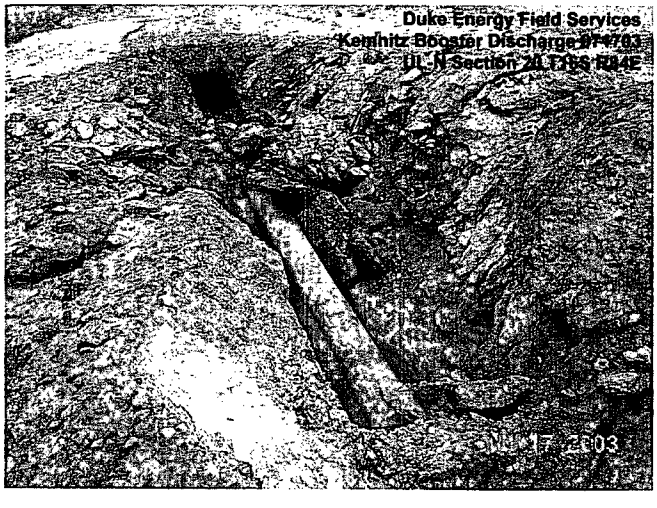
Initial Response: Overspray to NW



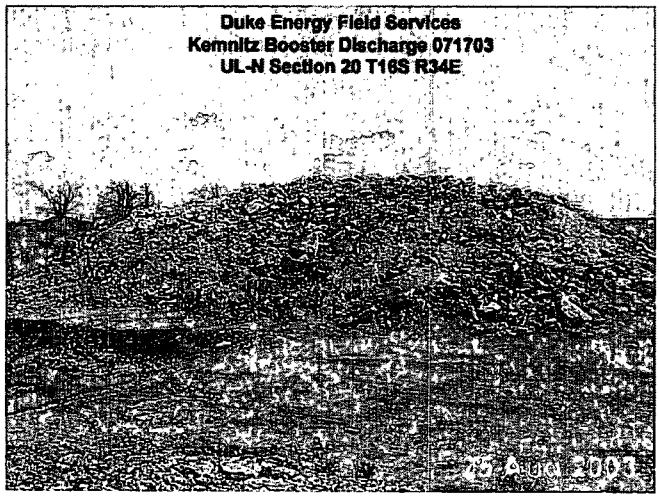
Initial Response: Overspray to NW



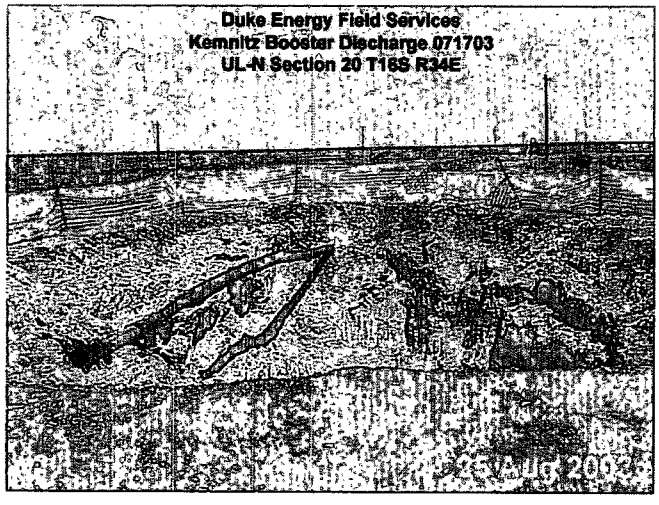
Initial Response: ruptured pipe



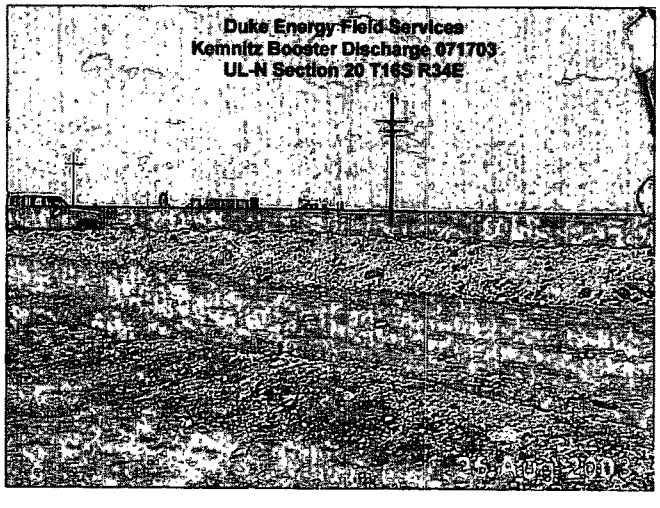
Initial Response: ruptured pipe



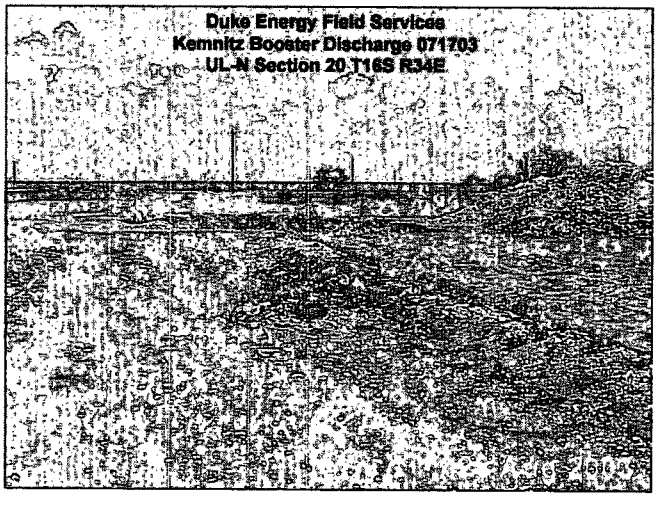
Clean caliche stockpiled for backfill



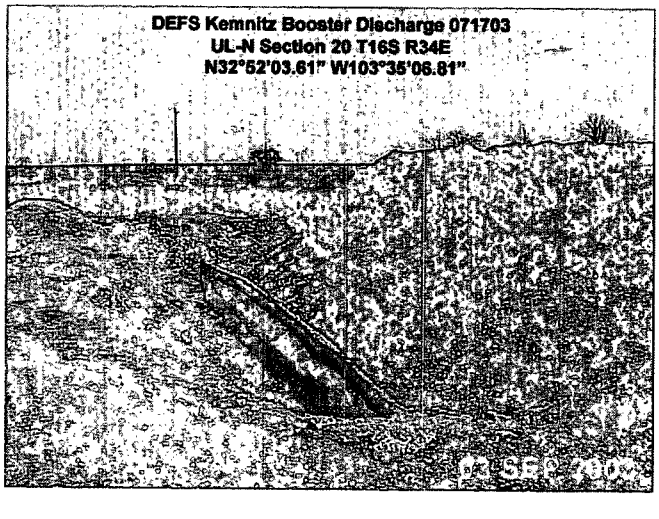
Excavation; S looking N

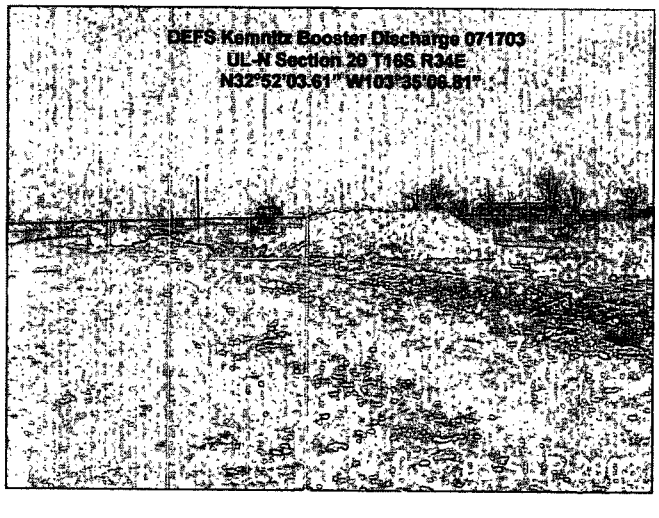


Attenuation pile on south side of excavation



Site looking S to N





Site ready for pipe section replacement; stockpiled topsoil on east side of pipeline