Duke Energy®
Field Services

DUKE ENERGY FIELD SERVICES
370 17th Street
Suite 900
Denver, CO 80202

303 595 3331

October 8, 2003

Mr. Larry Johnson
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

RE: Spill Site Closure Reports
Duke Energy Field Services, LP
Lea County, NM

Mr. Johnson:

Enclosed please find for your review, one copy of the following closure reports summarizing remedial activities associated with the clean ups.

- C-23-9
- C-Extension-1
- G-28 Loop-2 112002

Based on the information provided in the above referenced closure reports, DEFS would like to request no further action for this spill sites.

If you have any questions regarding the information provided in the closure reports, please give me a call at 303-605-1718.

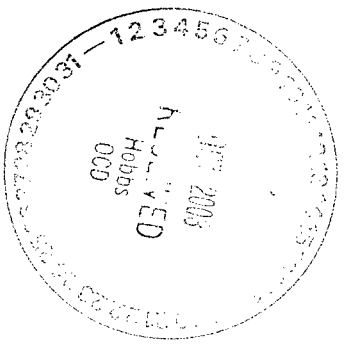
Sincerely

Duke Energy Field Services, LP

Stephen Weathers
Sr. Environmental Specialist

cc: Lynn Ward, DEFS Midland
Environmental Files

Enclosures



DUKE ENERGY FIELD SERVICES

IRP-82
10.11.05

Duke Energy Field Services

SITE INVESTIGATION, REMEDIATION, AND FINAL C-141 CLOSURE DOCUMENTATION

C-23-9 RELEASE SITE

DEFS REF: C-23-9 012403

UL-A (NE¼ OF THE NE¼) OF SECTION 26 T20S R36E

~12.2 MILES WEST-NORTHWEST (BEARING 310°) OF EUNICE

LEA COUNTY, NEW MEXICO

LATITUDE: N32°33'01.45 LONGITUDE: W103°19'07.91"

SEPTEMBER 16, 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

Table of Contents

Project Summary

Site Specific:

- **Company Name**: Duke Energy Field Services
- **Facility Name**: C-23-9 Natural Gas Gathering Pipeline
- **Project Reference** C-23-9 012403
- **Company Contact**: Paul Mulkey
- **Site Location:** WGS84: N32°33'01.45; W103°19'07.91"
- **Legal Description**: Unit Letter A, (NE¼ of the NE¼), Section 26, T20S, R36E
- **General Description**: approximately 12.2 miles west-northwest (bearing 310°) from the intersection of State Roads 8 and 207 in, Eunice, Lea County, New Mexico **Elevation**: 3,560-ft amsl **Depth to Ground Water**: ~150-ft
- **Land Ownership**: Tuffy Cooper
- **EPI Personnel**: Technical Manager – Pat McCasland
  Project Consultant – John Good
  Site Foreman – Morris Burkett

Release Specific:

- **Product Released:** Natural Gas & NGL
- **Volume Released**: ~130 bbl **Volume Recovered**: 100 bbl
- **Time of Occurrence:** 1/24/03 **Time of Discovery**: 1/24/03
- **Release Source**: 10" steel NG pipeline; integrity lost due to internal corrosion; repaired by clamping with ultimate replacement of section with poly.
- **Initial Surface Area Affected**: ~2,400-ft^2 release area(s) + 11,350-ft^2 overspray

Remediation Specific:

- **Final Vertical extent of contamination**: 10-ft bgs; Remaining depth to ground water: ~140-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 < 40-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 contaminated soil above NMOCD remedial goals; b) analytical confirmation of bottom-hole and sidewall contaminant levels; c) backfill with clean caliche and topsoil.
- **Disposal Facility**: South Monument SWF **Volume disposed of**: 2484-yd^3
- **Project Completion Date**: March 7,2003
- **Additional Commentary**: None

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "C-23-9 012403" natural gas gathering line remediation site. On January 24, 2003, Environmental Plus, Inc. (EPI) was notified by DEFS regarding a newly discovered natural gas and associated natural gas liquid (NGL) release at this site. The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on January 27, 2003 reports the release volume of NGL as 130 bbl with 100 bbl recovered. EPI responded the day of the notification and commenced GPS delineation, photography, flow path containment and characterization of the site. The site initially consisted of a ~1,235-ft^2 area with pooled NGL at the Point of Release with an associated 11,350-ft^2 overspray area. Subsequent to the commencement of excavation operations at this site, a second historical release was located approximately 300-ft northwest on the same C-23-9 pipeline. These separate sites were designated #1 and #2 within the same project reference *(see Plate 3, Attachments)*. Remediation of these release sites consisted of excavation and disposal of 2484-yd^3 of contaminated soil at the South Monument approved surface waste facility, soil analyses, backfilling and contouring of the excavation. Remediation of the site was completed on March 7, 2003.

The site is associated with the DEFS C-23-9 10" natural gas gathering pipeline. This release site is located in Unit Letter A, (NE¼ of the NE¼), Section 26, T20S, R36E, N32°33'01.45" and W103°19'07.91". The site is located ~12.2-miles west-northwest (310.°) of Eunice, NM. The property is owned by Mr. Tuffy Cooper. A site location map, site topographical map and a detailed GPS site diagram are included in the Attachments as *Plates 1, 2 and 3*.

The natural gas and associated NGL release at this site was discovered and reported on January 24, 2003. The Initial NMOCD C-141 Form was submitted on January 27, 2003. The leak was the result of internal pipe corrosion. The pipeline was temporarily clamped and eventually replaced by DEFS personnel.

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 Laguna Valley physiographic subdivision, described by Nicholson & Clebsch as an area "covered almost entirely by dune sand which is stable or semi-stable over most of the area, but which locally drifts. The surface is very irregular and has no drainage features except at the edges of several playas. The sand is generally underlain by Recent Alluvium but in several places the sand forms topographic highs where it is underlain by a caliche surface. The thickness of the sand cover ranges from a few inches to a probable maximum of 20-feet".

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 ~150-ft bgs based on water depth data obtained from the NM State Engineers Office data base and information provided by the land owner. 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 0-50'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 initial excavation (Site-1) was extended to a depth of 10-ft bgs within the area displaying visual or VOC indications of contamination. On January 31, 2003, a composite bottom-hole soil sample was obtained and analyzed for hydrocarbons and chlorides. At the time the sample was taken, it was noted that the sidewalls of the southern portion of the excavation remained contaminated down to approximately 8-ft, although the bottom of that sidewall appeared clean. The analyses results of the 1-31-03 composite sample indicated that the 10-ft bottom of the excavation was essentially free of hydrocarbon contaminant (29 ppm TPH) and had a chloride level of 128 ppm. The excavation was extended in a southerly direction until the sidewall(s) appeared free of contamination. The bottom-hole (10-ft) and all sidewalls of the Excavation #1 were sampled on February 17, 2003. Lab analyses indicated that this first excavation (#1) was free of contamination.

The #2 site, 300-ft northeast of #1, was excavated to 10-ft bgs and sampled (composite bottom-hole and sidewall) on February 19, 3003. Lab analyses of these soil samples indicated that the excavation (#2) was free of contamination. *(Plate 4, Attachments, contains a data table and charts of laboratory results for this project. BTEX and Benzene were never above detection level, thus no charting for these constituents is presented).*

5.0 Ground Water Investigation

The projected depth to ground water at this site is 150-ft bgs. Excavation of the site was to a maximum depth of 10-ft. Final CoC levels of the bottom-hole of the excavation were confirmed to be significantly below remedial goal levels for TPH, Benzene and BTEX. Chlorides and sulfates were well below their respective upper allowable concentrations (250-ppm and 600-ppm).

The excavation was backfilled with clean caliche and topsoil obtained from the property owner. Based on the removal the Constituents of Concern and adequate depth to ground water, there will be no need for further ground water investigation at this site.

6.0 Remediation Process

Remediation of the site commenced on January 24, 2003 and continued through March 7, 2003. Remedial activities at the site consisted of excavation and disposal of 2,484-yd^3 of NGL contaminated soil from the site. All contaminated soil removed from the site was disposed of in the NMOCD approved South Monument Surface Waste Facility located east of the remediation site. Both excavations were backfilled up to approximately 3-feet below surface level with clean caliche purchased from the property owner. The remainder of the excavation was backfilled with clean topsoil purchased from the property owner to provide an adequate root zone.

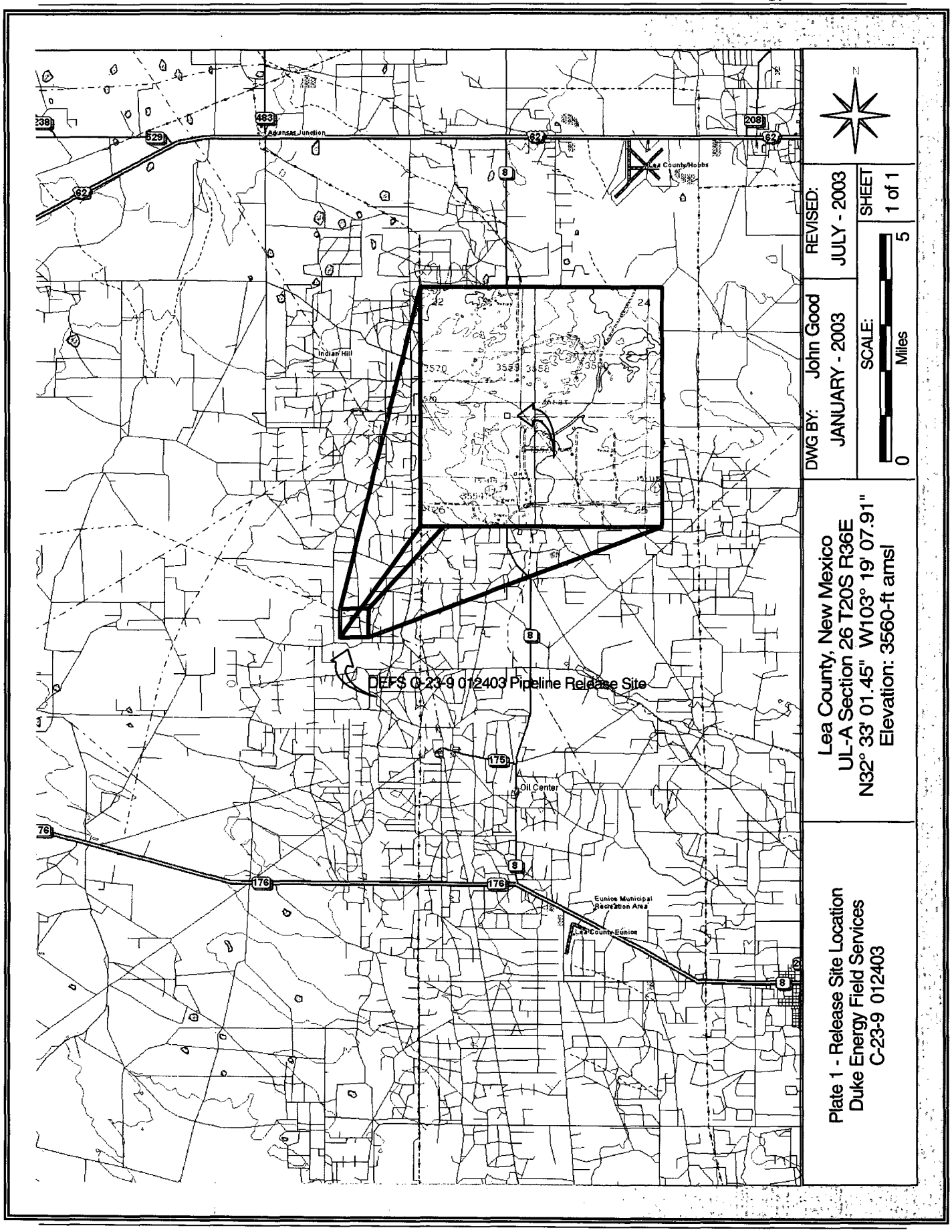
The excavations *(#1 and #2 - Plate 3, Attachments)* were composite sampled on February 17-19. Results of the analyses *(Plates 4, Attachments)* indicate that remedial goals have been achieved in all areas of the excavations (#1 and #2).

The product overspray area associated with Excavation #1 *(Plate 3 – Attachments)* will be evaluated periodically for the necessity of re-seeding and/or erosion control.

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 removed from the location. Disposal of RCRA exempt contaminated soils was at the NMOCD approve South Monument Surface Waste Facility. The excavation was backfilled with clean caliche and topsoil and properly contoured to provide adequate drainage. 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


Arkansas Junction
Lea County/Hobbs
Indian Hill
DEFS C-23-9 012403 Pipeline Release Site
Oil Center
Eunice Municipal Recreation Area
Lea County-Eunice
Plate 1 - Release Site Location
Duke Energy Field Services
C-23-9 012403
Lea County, New Mexico
UL-A Section 26 T20S R36E
N32° 33' 01.45" W103° 19' 07.91"
Elevation: 3560-ft amsl
DWG BY: John Good
JANUARY - 2003
REVISED:
JULY - 2003
SCALE:
0
5
Miles
SHEET
1 of 1
N

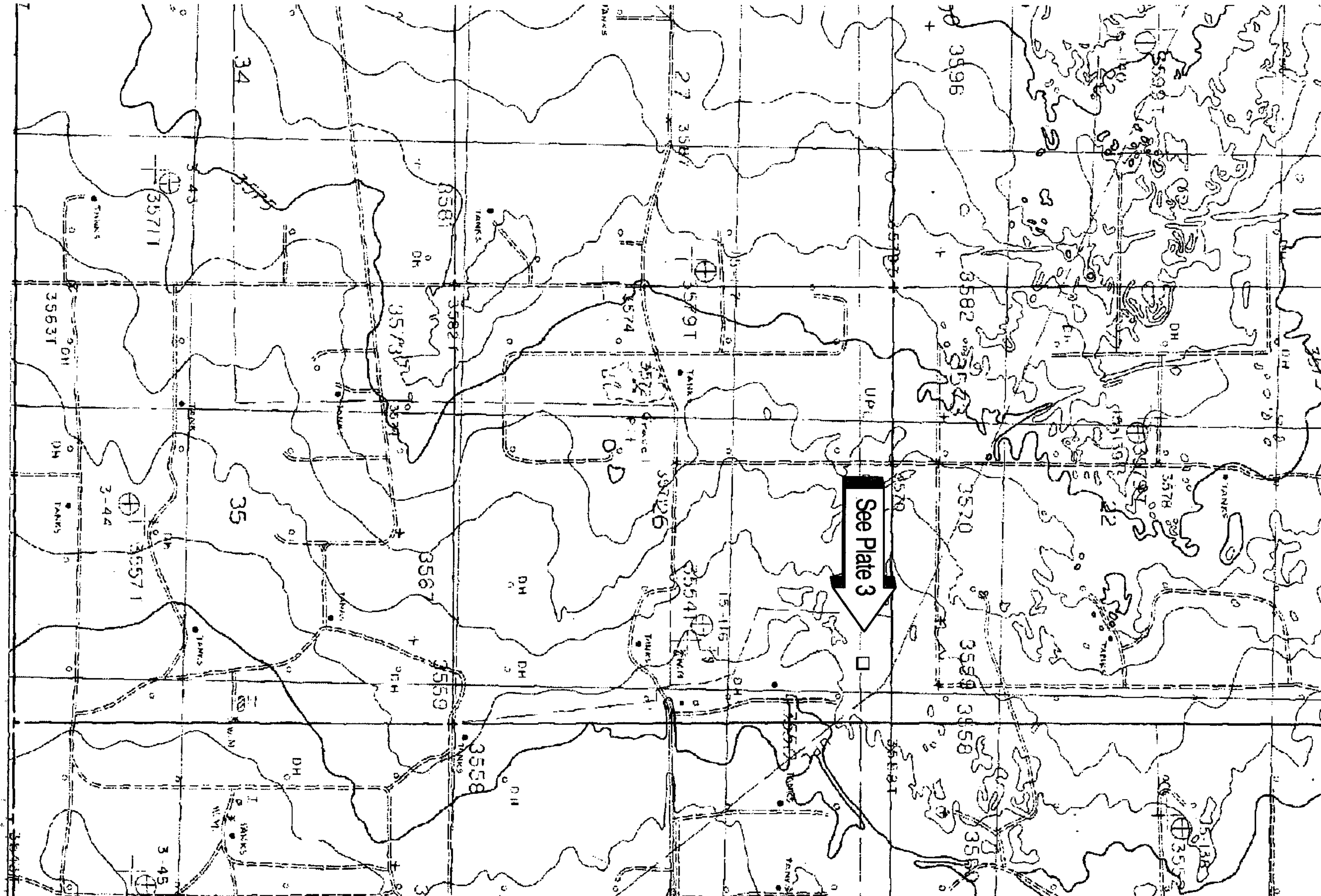


Plate 1 - Release Site Topography
Duke Energy Field Services
C-23-9 012403

Lea County, New Mexico
UL-A Section 26 T20S R36E
N32° 33' 01.45" W103° 19' 07.91"
Elevation: 3560-ft amsl

DWG BY: John Good	REVISED:
JANUARY - 2003	JULY - 2003

SCALE: 0 Mile 1

SHEET 1 of 1

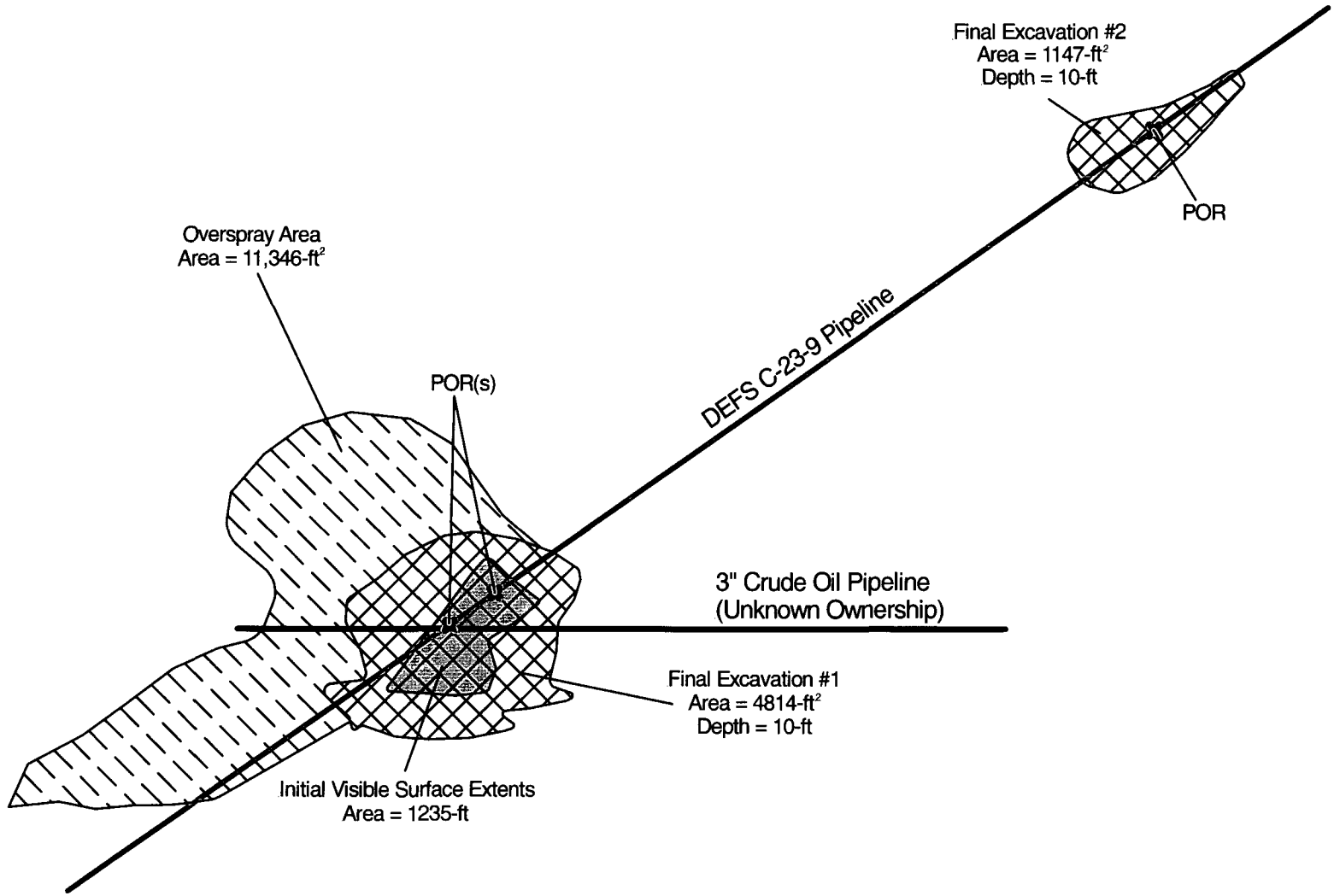


Plate 3 - Release Site GPS Demarcations Duke Energy Field Services C-23-9 012403	Lea County, New Mexico UL-A Section 26 T20S R36E N32° 33' 01.45" W103° 19' 07.91" Elevation: 3560-ft amsl	DWG BY: John Good FEBRUARY - 2003	REVISED: JULY - 2003	N
		SCALE: 0 Feet 100	SHEET 1 of 1	

Plate 4: Soil Analytical Data Table and Charts

Duke Energy Field Services - C-23-9 012403 - Excavations 1 & 2 Sampling Results

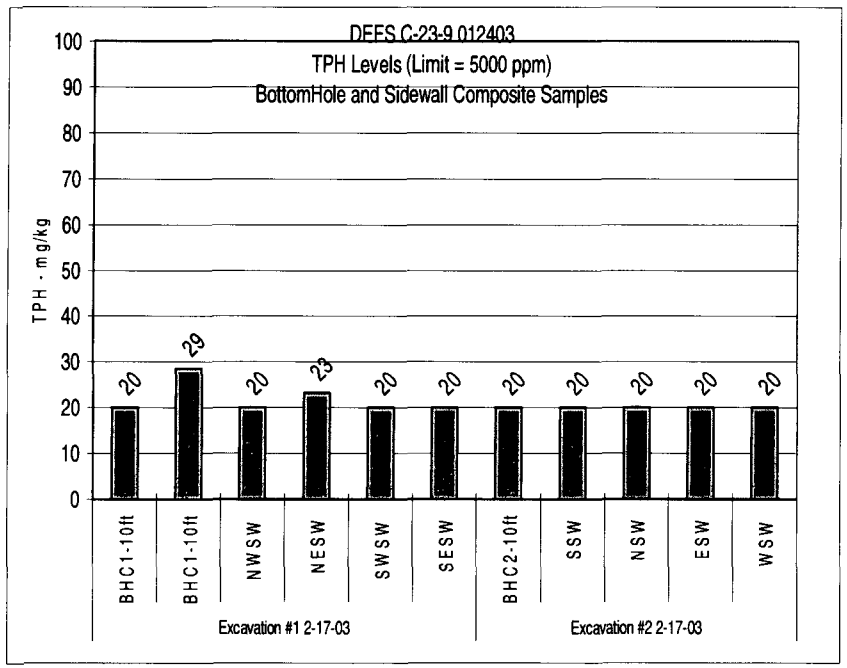
Bold highlighted cells indicate values in excess of the NMOCD remedial action guideline thresholds: TPH = 5000 mg/Kg; Benzene = 10 mg/Kg; BTEX = 50 mg/Kg; Cl = 250 mg/Kg; SO4 = 600 mg/Kg

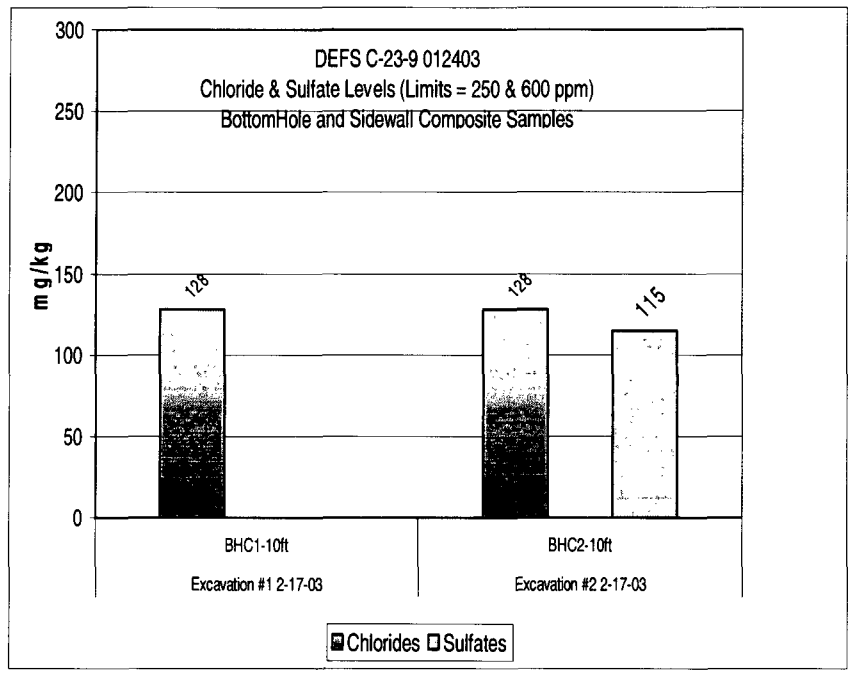
Sample Date	Excavation Sampling Area	Depth (ft - bgs[1])	SAMPLE ID#	VOC[2] ppm	GRO[3] mg/Kg	DRO[4] mg/Kg	TPH[5] mg/Kg	BTEX[6] mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Total Xylenes mg/Kg	Cl^- mg/Kg	$SO_4^=$ mg/Kg
31-Jan	BottomHole #1	10-ft	SDC23913103BHC-10		10	10	20	0.030	0.005	0.005	0.005	0.015	128.0	
17-Feb	BottomHole #1	10-ft	SDC23921703BHC-POR		10	10	20	0.030	0.005	0.005	0.005	0.015		
17-Feb	BottomHole #1	10-ft	SDC23921703BHC-SE		10	19	29	0.030	0.005	0.005	0.005	0.015		
17-Feb	Sidewall - NW #1	5-10-ft	SDC23921703NWSW		10	10	20	0.030	0.005	0.005	0.005	0.015		
17-Feb	Sidewall - NE #1	5-10-ft	SDC23921703NESW		10	13	23	0.030	0.005	0.005	0.005	0.015		
17-Feb	Sidewall - SW #1	5-10-ft	SDC23921703SWSW		10	10	20	0.030	0.005	0.005	0.005	0.015		
17-Feb	Sidewall - SE #1	5-10-ft	SDC23921703SESW		10	10	20	0.030	0.005	0.005	0.005	0.015		
19-Feb	BottomHole #2	10-ft	SDC23921903BHC		10	10	20	0.030	0.005	0.005	0.005	0.015	128.0	115.0
19-Feb	Sidewall - S #2	5-10-ft	SDC23921903SSW		10	10	20	0.030	0.005	0.005	0.005	0.015		
19-Feb	Sidewall - N #2	5-10-ft	SDC23921903NSW		10	10	20	0.030	0.005	0.005	0.005	0.015		
19-Feb	Sidewall - E #2	5-10-ft	SDC23921903ESW		10	10	20	0.030	0.005	0.005	0.005	0.015		
19-Feb	Sidewall - W #2	5-10-ft	SDC23921903WSW		10	10	20	0.030	0.005	0.005	0.005	0.015		

[1] bgs = below ground surface [2] VOC = Volatile Organic Constituents; (note: 100 ppm Isobutylene calibration gas = 101 ppm)

[3] GRO - Gasoline Range Organics (Detection Limit = 10 mg/Kg) [4] DRO - Diesel Range Organics (Detection Limit = 10 mg/Kg) [5] TPH - Total Petroleum Hydrocarbon (GRO+DRO)

[6] 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 Analyses

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/03/03
Reporting Date: 02/05/03
Project Number: DUKE ENERGY FIELD SERVICES
Project Name: C-23-9 012403
Project Location: C-23-9 012403

Sampling Date: 01/31/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
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:	02/04/03	02/04/03	02/04/03	02/04/03	02/04/03	02/04/03
H7454-1 SDC23913103BHC-10	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control	813	812	0.107	0.107	0.110	0.317
True Value QC	800	800	0.100	0.100	0.100	0.300
% Recovery	102	101	107	107	110	106
Relative Percent Difference	2.8	3.2	4.9	9.0	7.7	5.8

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

Burgess J. A. Cooke, Ph. D.

2/5/03
Date

H7454.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/03/03
Reporting Date: 02/04/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: C-23-9 012403
Project Location: C-23-9 012403

Sampling Date: 01/31/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl (mg/Kg)	SO_4 (mg/Kg)
ANALYSIS DATE		02/04/03	02/04/03
H7454-1	SDC23913103BHC-10	128	<1*
Quality Control		1000	50.20
True Value QC		1000	50.00
% Recovery		100.0	
Relative Percent Difference		0	

METHODS:	600/4-79-020	4500-ClB*	375.4

*Standard Methods
Note: Analyses performed on 1:4 w:v aqueous extracts.
* Matrix interference (color) observed.

Amy Hill
Chemist

2-4-03
Date

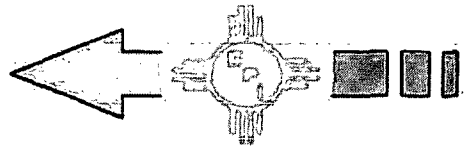
Card na Laboratories nc.

10 East Marland, Hobbs NM 88240 — Beechwood, Abilene TX 9603

505-393-2326 Fax 505-393-2476 — 915-673-7001 Fax 915-673-7020

Company Name	Environmental Plus, Inc.
Project Manager	John Good
Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
Phone#/Fax#	505-394-3481 / 505-394-2601
Project #/Owner	Duke Energy Field Services
Project Name	C-23-9 012403
Project Location	C-23-9 012403
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^{-})	pH
1	SDC23913103BHC-10	C	1			X					X		31-Jan	14:40	X	X	X	X	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler Relinquished:	Date: 1/31/03 Time: 4:00	Received By:	Fax Results To John Good 505-394-2601
Relinquished By:	Date: 2/3/03 Time: 4:37	Received By: (lab staff)	REMARKS:
Delivered by:	Sample Cool & Intact: Yes / No	Checked By:	

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/17/03
Reporting Date: 02/18/03
Project Owner: DUKE ENERGY FIELD SERVICE
Project Name: DEFS C-23-9 012403
Project Location: UL-A SECTION 26 T20S R36E

Sampling Date: 02/17/02
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:		02/17/03	02/17/03	02/17/03	02/17/03	02/17/03	02/17/03
H7480-1	SDC23921703BHC-POR	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7480-2	SDC23921703BHC-SE	<10.0	18.6	<0.005	<0.005	<0.005	<0.015
H7480-3	SDC23921703NWSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7480-4	SDC23921703NESW	<10.0	13.2	<0.005	<0.005	<0.005	<0.015
H7480-5	SDC23921703SWSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H7480-6	SDC23921703SESW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		882	817	0.109	0.102	0.102	0.290
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		100	102	109	102	102	96.5
Relative Percent Difference		1.5	3.6	4.2	1.2	0.8	2.3

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

Burgess J. A. Cooke, Ph. D.

2/18/03
Date

H7480.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.
Project Manager	John Good
Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
Phone/Fax	[505] 394-3481 / [505] 394-2601
Project #/Owner	Duke Energy Field Services
Project Name (Inv. REF)	DEFS-C-23-9-012403
Project Location	UL-A Section 26 T20S R36E
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
H 7480 — 1	SDC23921703BHC-POR	C	1			X					X		17-Feb	9:00	X	X			
2	SDC23921703BHC-SE	C	1			X					X		17-Feb	9:10	X	X			
3	SDC23921703NWSW	C	1			X					X		17-Feb	9:20	X	X			
4	SDC23921703NESW	C	1			X					X		17-Feb	9:30	X	X			
5	SDC23921703SWSW	C	1			X					X		17-Feb	9:40	X	X			
6	SDC23921703SESW	C	1			X					X		17-Feb	9:50	X	X			
7																			
8																			
9																			
10																			

Sampler Relinquished: [signature] Date 2-17-03 Time 10:15 Received By:

Relinquished by: Date Time Received By: (lab staff) [signature]

Delivered by: Sample Cool & Intact (Yes) No Checked By:

Fax Results To John Good 505-394-2601

REMARKS:

DEFS C-23-9 012403

Duke Energy Field Services

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/19/03
Reporting Date: 02/20/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: DEFS C-23-9 012403
Project Location: UL-A SEC28 T20S R36E

Sampling Date: 02/19/03
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:		02/20/03	02/20/03	02/20/03	02/20/03	02/20/03	02/20/03
H7488-1	SDC23921903BHC	<10.0	<10.0	<0.005	<0.005	<0.005	<0.105
H7488-2	SDC23921903SSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.105
H7488-3	SDC23921903NSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.105
H7488-4	SDC23921903ESW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.105
H7488-5	SDC23921903WSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.105
Quality Control		808	835	0.105	0.105	0.105	0.360
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		101	104	105	105	105	100
		3.9	2.8	3.7	2.9	3.2	3.6

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

Burgess J.A. Cooke

Burgess J.A. Cooke. Ph. D

2/20/03
Date

H7488B.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 02/19/03
Reporting Date: 02/20/03
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: DEFS C-23-9 012403
Project Location: UL-A SEC26 T20S R36E

Sampling Date: 02/19/03
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl (mg/Kg)	SO_4 (mg/Kg)	pH (s.u.)
ANALYSIS DATE		02/20/03	02/20/03	02/20/03
H7486-1	SDC23921903BHC	128	115	6.62
Quality Control		1000	50.20	6.97
True Value QC		1000	50.00	7.00
% Recovery		100	100	99.6
Relative Percent Difference		3.0	0.7	0
METHODS: 600/4-79-020		4500-ClB*	375.4	150.1

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

Amy Hill
Chemist

2-20-03
Date

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.
Project Manager	John Good
Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
Phone/Fax	[505] 394-3481 / [505] 394-2601
Project #/Owner	Duke Energy Field Services
Project Name (Invc. REF)	DEFS-C-23-9-012403
Project Location	UL-A Section 28 T20S R36E
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
H7482 — 1	SDC23921903BHC	C	1			X					X		19-Feb	1:00	X	X	X	X	X
— 2	SDC23921903SSW	C	1			X					X		19-Feb	1:10	X	X			
— 3	SDC23921903NSW	C	1			X					X		19-Feb	1:20	X	X			
— 4	SDC23921903ESW	C	1			X					X		19-Feb	1:30	X	X			
— 5	SDC23921903WSW	C	1			X					X		19-Feb	1:40	X	X			
6																			
7																			
8																			
9																			
10																			

Sampler Relinquished: John Good
Date: 2-19-03
Time: 4:15
Received By:

Relinquished by:
Date:
Time:
Received By: (lab staff) Burgess A Cooke

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

Fax Results To John Good 505-394-2601

REMARKS: EXCAVATION #2 FINAL COMPOSITE SAMPLES

DEFS C-23-9 012403

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.	**505-397-5716**
Facility Name	**C-23-9 Pipeline**	Facility Type	**Natural Gas Gathering Pipeline**

Surface Owner	**Tuffy Cooper**	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:
A	**26**	**20S**	**36E**	**4532**	**4931**	**W103° 19' 07.91"**	**N32° 33' 01.45"**	**Lea**

NATURE OF RELEASE

Type of Release **Natural Gas release and associated NGL's**	Volume of Release **130+ bbl**	Volume Recovered **100 bbl**
Source of Release **10" Steel Pipeline**	Date and Hour of Occurrence **1/24/2003**	Date and Hour of Discovery **1/24/03**
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? **Larry Johnson; NMOCD-Hobbs**	
By Whom? **Stan Shaver - DEFS**	Date and Hour **1/24/03 2:30 PM**	
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 clamping leak; ultimately replaced with poly.

Describe Area Affected and Cleanup Action Taken.*

~2400-ft^2 surface spill area(s) affected (Sites 1 and 2) + ~11,350-ft^2 overspray (site 1). 2484-yd^3 of RCRA Exempt Non-hazardous contaminated soil excavated and disposed of by EPI. Backfilled with clean caliche and topsoil. (GPS Diagram Plate 3 attached)

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 Superintendent**	Approval Date:	Expiration Date:
E-mail Address:	**pdmulkey@duke-energy.com**	Conditions of Approval:	☐ Attached.
Date: **9/16/03**	Phone: **505-397-5716**		

Duke Energy Field Services	Incident Date and NMOCD Notified? 1/24/03 1/24/03 2:30 PM

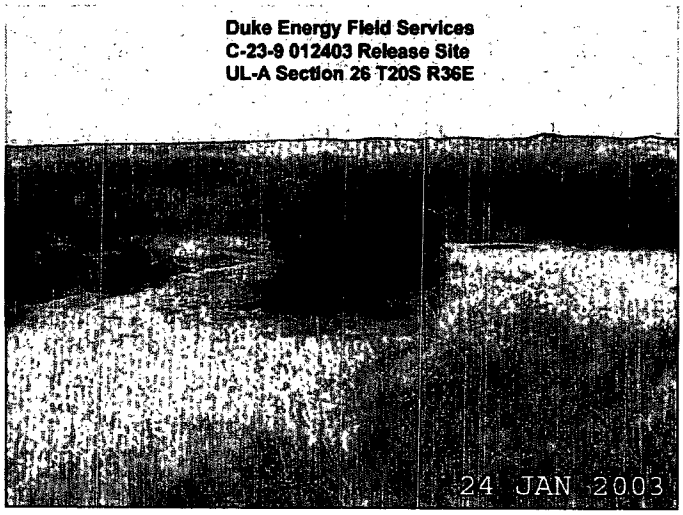
SITE: C-23-9 Pipeline		Assigned Site Reference # 012403	
Company:	DUKE ENERGY FIELD SERVICES		
Street Address:	5805 East Highway 80		
Mailing Address:	11525 W. Carlsbad Hwy.		
City, State, Zip:	Hobbs, NM 88240		
Representative:	Paul Mulkey		
Representative Telephone:	505-397-5716		
Telephone:			
Fluid volume released (bbls):	130+	Recovered (bbls):	100
>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:	# 012403		
Source of contamination:	10" Steel Pipeline		
Land Owner, i.e., BLM, ST, Fee, Other:	Tuffy Cooper		
LSP Dimensions:	2 releases (GPS Site Diagram attached)		
LSP Area:	~2400	$-ft^2$	
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude:	N32° 33' 01.45"		
Longitude:	W103° 19' 07.91"		
Elevation above mean sea level:	3560	-ft amsl	
Feet from South Section Line:	4532		
Feet from West Section Line:	4931		
Location - Unit and 1/4 1/4:	UL- A	NE 1/4 of NE 1/4	
Location - Section:	26		
Location - Township:	20S		
Location - Range:	36E		
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):	150		
Depth (ft) of contamination (DC):	10		
Depth (ft) to ground water (DG - DC = DtGW):	140		

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		

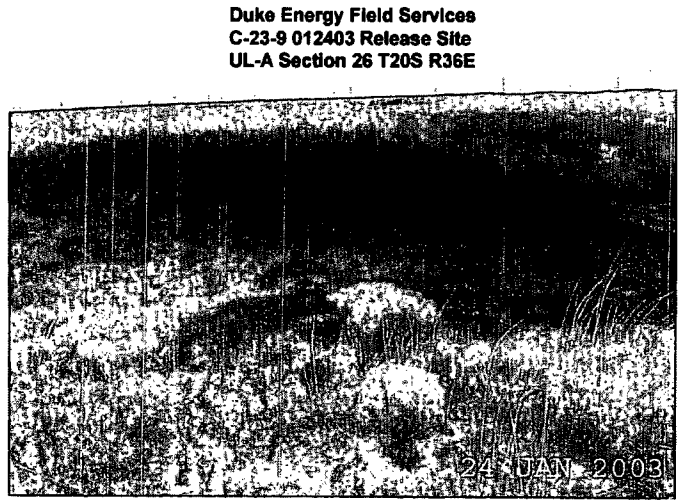
Total Site Ranking Score and Acceptable Concentrations

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

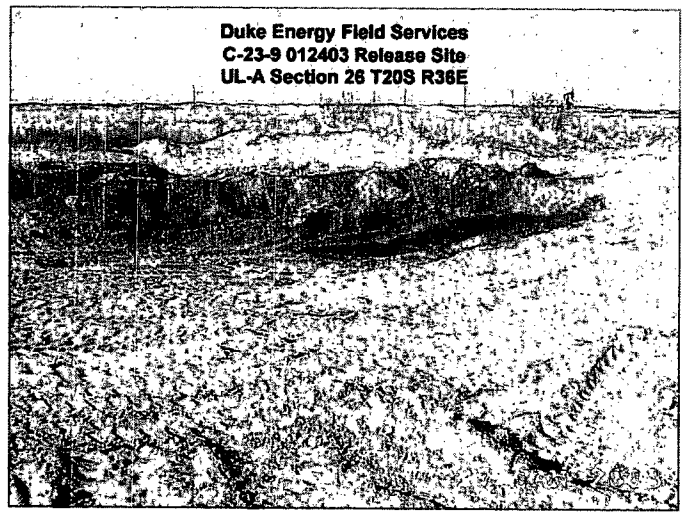


Site #1 Initial Response



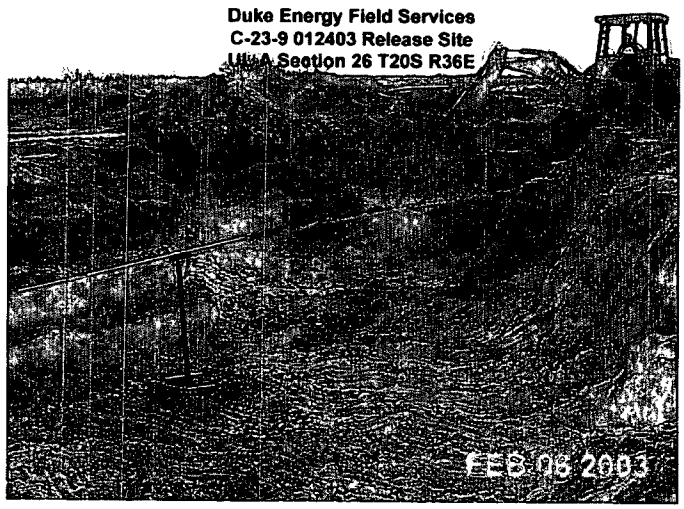
Site #1 Initial Response w/ overspray

Site #1 Initial Response

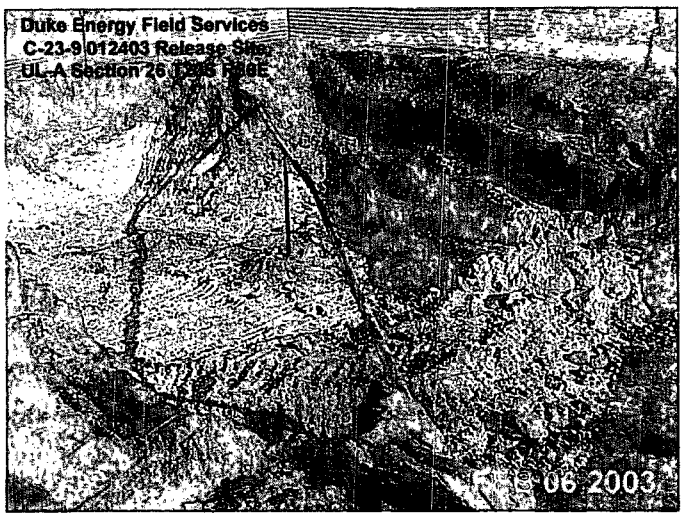


Day 3: Site #1 POR; angle from north

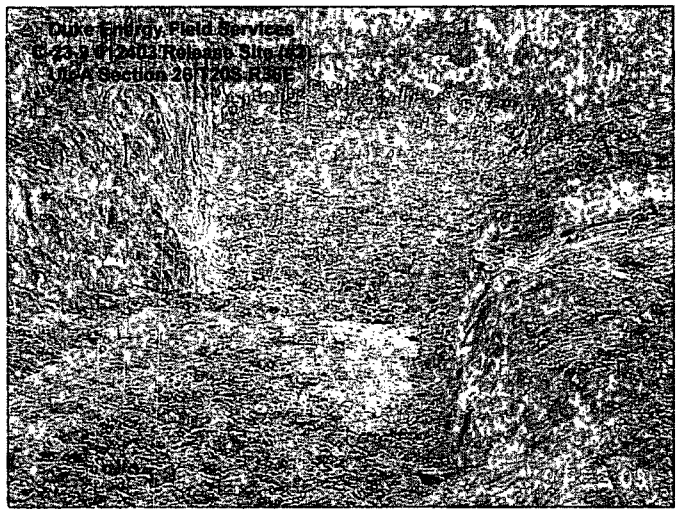
Day 3: Site #1 POR; angle from west



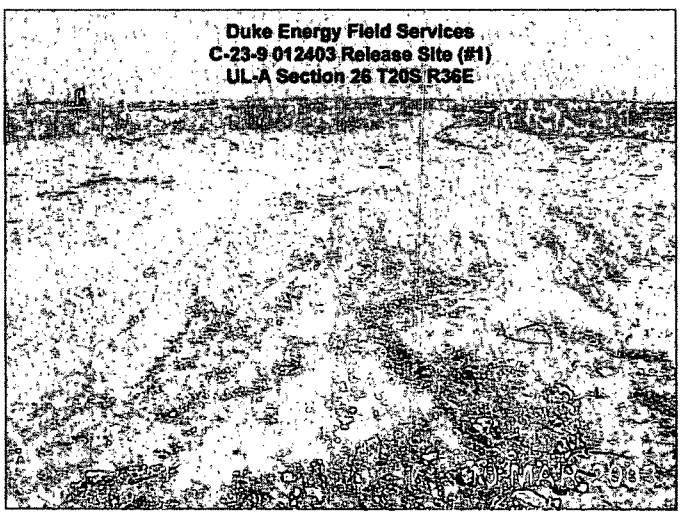
Day 14: Site #1 10-ft excavation



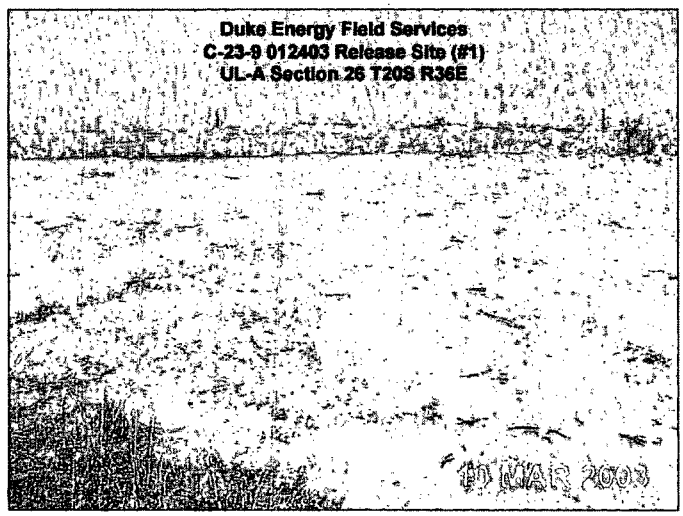
Day 14: Site #1 10-ft excavation



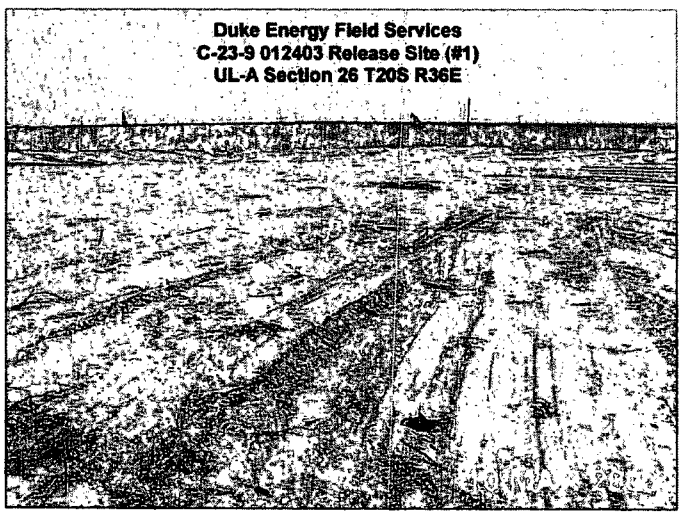
Day 27: Site #2 10-ft excavation



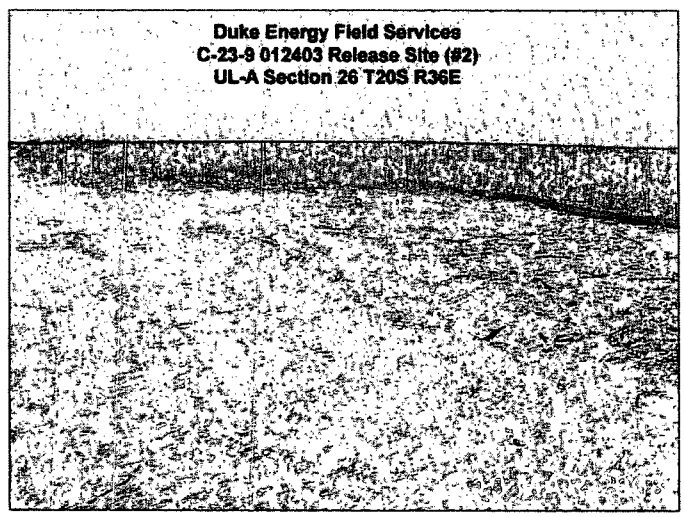
Site #1 Closed; west to east



Site #1 Closed; NE to SW



Site #1 Closed; east to west



Site #2 Closed; east to west