

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

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-6 Line
Facility Type: Natural Gas Gathering Pipeline

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

LOCATION OF RELEASE

Table with 9 columns: Unit Letter, Section, Township, Range, Feet from South Line, Feet from West Line, Longitude, Latitude, County. Values: M, 32, 20S, 37E, 235, 196, W103:16:53.60, N32:31:22.23, Lea

NATURE OF RELEASE

Type of Release: Natural Gas release and associated liquid components
Volume of Release: Unknown bbl
Volume Recovered: Unknown bbl
Source of Release: Steel Natural Gas Gathering Pipeline
Date and Hour of Occurrence: 10/9/2001
Date and Hour of Discovery: 10/9/01
Was Immediate Notice Given? Yes
By Whom? Stan Shaver - DEFS
Date and Hour: 10/9/01 11:00 AM
Was a Watercourse Reached? No
If a Watercourse was Impacted, Describe Fully.* NA

Describe Cause of Problem and Remedial Action Taken.* Internally Corroded pipeline, repaired with clamp

Describe Area Affected and Cleanup Action Taken.* ~2430-ft^2 surface area. RCRA Exempt Non-hazardous contaminated soil above remedial goals was excavated (5-ft depth) and disposed of by EPL.

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.

Signature: Paul Mulkey
Printed Name: Paul Mulkey
Title: Construction & Maintenance Supervisor
Date: 2/28/03
Phone: 505-397-5716
OIL CONSERVATION DIVISION
Approved by District Supervisor:
Approval Date:
Expiration Date:
Conditions of Approval: Attached

Attach Additional Sheets If Necessary

DUKE ENERGY FIELD SERVICES



1 RP-80
10-7-05

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

C-6 LINE RELEASE SITE

DEFS REF: C-6 LINE 100901

**UL-M (SW¼ OF THE SW¼) OF SECTION 32 T20S R37E
~7.0 MILES SOUTH-SOUTHWEST (187.8°) OF MONUMENT**

LEA COUNTY, NEW MEXICO

LATITUDE: N32° 31' 22.23"

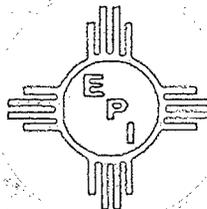
LONGITUDE: W103° 16' 53.60"

FEBRUARY 28, 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





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

STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

February 28, 2003

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

REF: Duke Energy Field Services – C-6 Line 100901 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 "C-6 Line 100901" remediation site. This report documents the vertical and horizontal extents of hydrocarbon contamination at the site, removal of contaminated soils above acceptable CoC levels and disposal of said contaminated soils at a NMOCD approved land farm. This submittal is consistent with the Initial C-141 and Remediation Plan submitted to NMOCD on October 16, 2001. Therefore, on behalf of Duke Energy Field Services, EPI 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 505-397-5716.

Please address all official correspondence regarding this release to Mr. Paul Mulkey at:

Duke Energy Field Services
11525 West Carlsbad Highway
Hobbs, New Mexico 88240

Sincerely,

John Good, Environmental Consultant

cc: Paul Mulkey, Duke Energy Field Services, Hobbs, w/enclosure
Lynn Ward, Duke Energy Field Services, Midland, w/enclosure
Sherry Miller, President, Environmental Plus, Inc.
Ben Miller, Vice President/General Manager, Environmental Plus, Inc.
Pat McCasland, EPI Technical Manager, Environmental Plus, Inc.
File

ENVIRONMENTAL PLUS, INC.

Table of Contents

Executive Summary 2

1.0 Introduction 2

2.0 Background 2

3.0 Site Description 3

 3.1 Geological Description 3

 3.2 Ecological Description 3

 3.3 Area Ground Water 3

 3.4 Area Water Wells 3

 3.5 Area Surface Water Features 3

4.0 NMOCD Site Ranking 3

5.0 Subsurface Soil Investigation 4

6.0 Ground Water Investigation 4

7.0 Remediation 5

8.0 Closure Justification 5

ATTACHMENTS 6-18

Plate 1: Site Location Map 7

Plate 2: Site Topography Map 8

Plate 3: Initial GPS Demarcation with Site Features 9

Plate 4: Water Well Locations (for “Surfer” Plot) 10

Table A - Water Well Locations, Elevations and X-Y Coordinates... 11

Plate 5 – Surfer 8.0 Water Table Elevation Plot 12

Plate 6: Soil Analytical Data and Associated Bar Charts 13

Lab Analyses Reports and Chain-of-Custody Forms 14

Site Photographs 15-16

Final NMOCD C-141 Form 17

Site Information and Metrics Form 18

Executive Summary

Environmental Plus, Inc. (EPI) was notified by Duke Energy Field Services (DEFS) on October 9, 2001 regarding a pipeline release site involving DEFS' "C-6 Line" natural gas gathering pipeline. DEFS' initial C-141 (October 16, 2001) indicates no release or recovery volumes. The leak was a result of internal pipeline corrosion. DEFS personnel repaired the steel pipeline by clamping.

Characterization and remedial work by EPI commenced on October 9, 2001 and was completed on October 24, 2001. The "C-6 Line 100901" site is located ~7-miles south-southwest (187.8°) of Monument, NM, in Unit Letter M, (SW $\frac{1}{4}$ of the SW $\frac{1}{4}$), Section 32, T20S, R37E, (N32°31'22.23" and W103°16'53.60"). The spill occurred on property owned by the State of New Mexico (leased by the Millard Deck Estate). The surface extent of the reported spill was approximately 2,430-ft² (see Plate 3, Attachments). The vertical extent of contamination did not extend below 5-ft below ground surface (bgs).

EPI excavated and disposed of 552-yd³ of contaminated soil from the site commencing on October 9, 2001. Composite bottom-hole and sidewall soil samples were submitted to Cardinal Laboratories, Hobbs, NM on October 18, 2001. Results of these analyses confirmed that TPH, BTEX, and Benzene levels were below threshold levels throughout the site.

All contaminated soil removed from the site was disposed of at EPI's NMOCD approved land farm. The excavation was backfilled with clean caliche and topsoil. The site was contoured to prevent pooling over the excavation site.

1.0 Introduction

This report addresses the site investigation and remediation of the DEFS "C-6 Line 100901" natural gas gathering line remediation site. On October 9, 2001, DEFS notified EPI regarding a natural gas and associated NGL release at this site. The initial C-141 Form submitted to NMOCD (October 16, 2001) contains no data concerning release or recovery volumes. EPI responded the same day (10-09-01) and commenced GPS delineation, photography, characterization and preliminary excavation of the contaminated soil in the immediate area of the reported leak. The site initially consisted of an area ~140-ft X ~20-ft associated with the release. The total release affected area comprised ~2,430-ft². Remediation of this release site consisted of excavation and disposal of contaminated soil at EPI's Land Farm, soil analyses, backfill and contouring of the excavation. Completion of the site remediation project was on October 24, 2001.

2.0 Background

The site is associated with the DEFS C-6 Line natural gas gathering pipeline. This release site is located in Unit Letter M, (SW $\frac{1}{4}$ of the SW $\frac{1}{4}$), Section 32, T20S, R37E, (N32°31'22.23" and W103°16'53.60"), and ~7-miles south-southwest (187.8°) of Monument, NM. The land is owned by the State of New Mexico, leased to the Millard Deck Estate. 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 October 9, 2001. The leak was the result of internal pipe corrosion. The pipe was clamped and repaired by DEFS personnel.

3.0 Site Description

3.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil." The release site is located in the Eunice Plains physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a resistant caliche surface, and almost entirely covered by red dune sand. The Eunice Plains surface generally slopes east-southeast.

3.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Quercus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

3.3 Area Ground Water

The projected depth to the unconfined ground water aquifer at this site is 99-ft-bgs. The site is located in the Eunice Plains physiographic area approximately 7-miles south-southwest of Monument, NM. Water well data obtained from the NM State Engineers Office and the New Mexico Tech Databases, was utilized to generate a "Surfer" plot of the ground water elevation within a few mile radius of the site (see Table A and Plate 5 – Attachments). Ground water gradient in this area is generally to the southeast.

3.4 Area Water Wells

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

3.5 Area Surface Water Features

No surface water bodies exist within 1000 horizontal feet of the site.

4.0 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 10 points with the soil remedial goals highlighted in the Site Ranking table presented below.

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water	
Depth to GW <50 feet: 20 points	If <1000' from water source, or; <200' from private domestic water source: 20 points	<200 horizontal feet: 20 points	
Depth to GW 50 to 99 feet: 10 points		200-1000 horizontal feet: 10 points	
Depth to GW >100 feet: 0 points	If >1000' from water source, or; >200' from private domestic water source: 0 points	>1000 horizontal feet: 0 points	
Ground Water Score = 10	Wellhead Protection Score= 0	Surface Water Score= 0	
Site Rank (1+2+3) = 10 + 0 + 0 = 10 points (for soil 0-9'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
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis			

5.0 Subsurface Soil Investigation

The subsurface soil samples were composite samples taken from the bottom and sidewalls of the excavation on October 18, 2001. Lab analyses results of this sampling event confirmed that TPH, BTEX and Benzene levels were below the Remedial Goals for this site. *Plate 6* in the Attachments is a summary table, with charts, of the results of the composite sampling performed on 18-Oct.

6.0 Ground Water Investigation

The projected depth to ground water at this site is 99-ft bgs. Excavation of the site was to a maximum depth of 5-ft. Final CoC levels of the bottom-hole and sidewalls of the excavation were

analyzed to be within the following ranges: TPH – 61 to 487 ppm; Benzene – 0 to 0.005 ppm; BTEX – 0 to 0.122 ppm.

The excavation was backfilled with clean caliche, and then contoured to match the existing road right-of-way. 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.

7.0 Remediation

Remediation of the site commenced on October 9, 2001 and continued through October 24, 2001. Site remediation consisted of excavation and disposal of 552 yd³ of RCRA Exempt contaminated soil in EPI's approved land farm located south of Eunice, NM. The excavation was backfilled with clean caliche.

The excavation was composite sampled on October 18, 2001. Results of the bottom hole and sidewall analyses (*Plate 6 – Attachments*) indicated that no further excavation was necessary to achieve remedial goals in the excavation.

8.0 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 EPI's approved land farm. 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

Plate 1: Site Location Map	7
Plate 2: Site Topography Map	8
Plate 3: Initial GPS Demarcation with Site Features	9
Plate 4: Water Well Locations (for “Surfer” Plot)	10
Table A - Water Well Locations, Elevations and X-Y Coordinates...	11
Plate 5 – Surfer 8.0 Water Table Elevation Plot	12
Plate 6: Soil Analytical Data and Associated Bar Charts	13
Lab Analyses Reports and Chain-of-Custody Forms	14
Site Photographs	15-16
Final NMOCD C-141 Form	17
Site Information and Metrics Form	18

Plate 1: Site Location Map

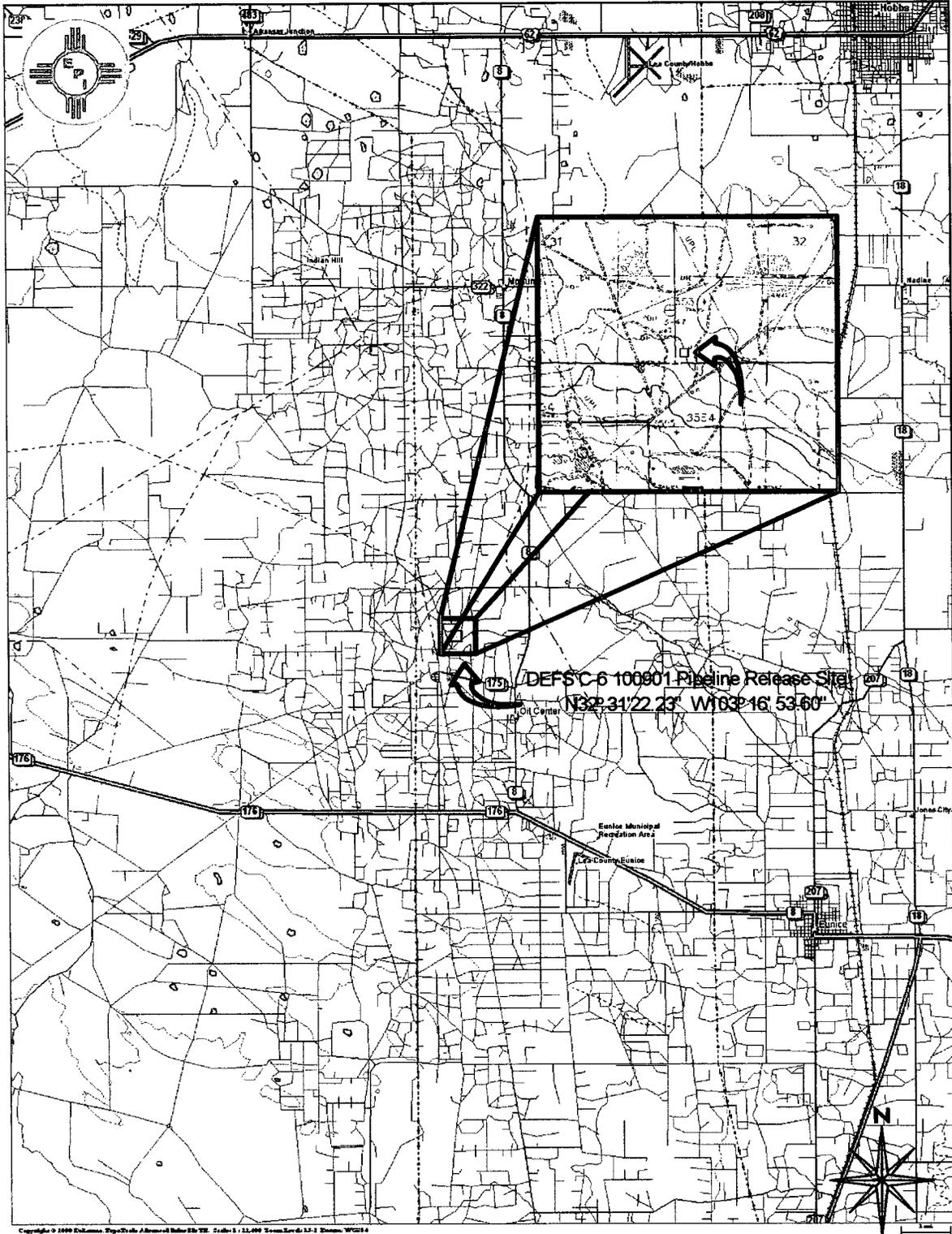


Plate 1: Release Site Location

Duke Energy Field Services - C-6 Line 100901

Lea County, NM; UL-M Section 32 T20S R37E

Drawn By: JCG Date: FEB-03 Revised:

Plate 2: Site Topography Map

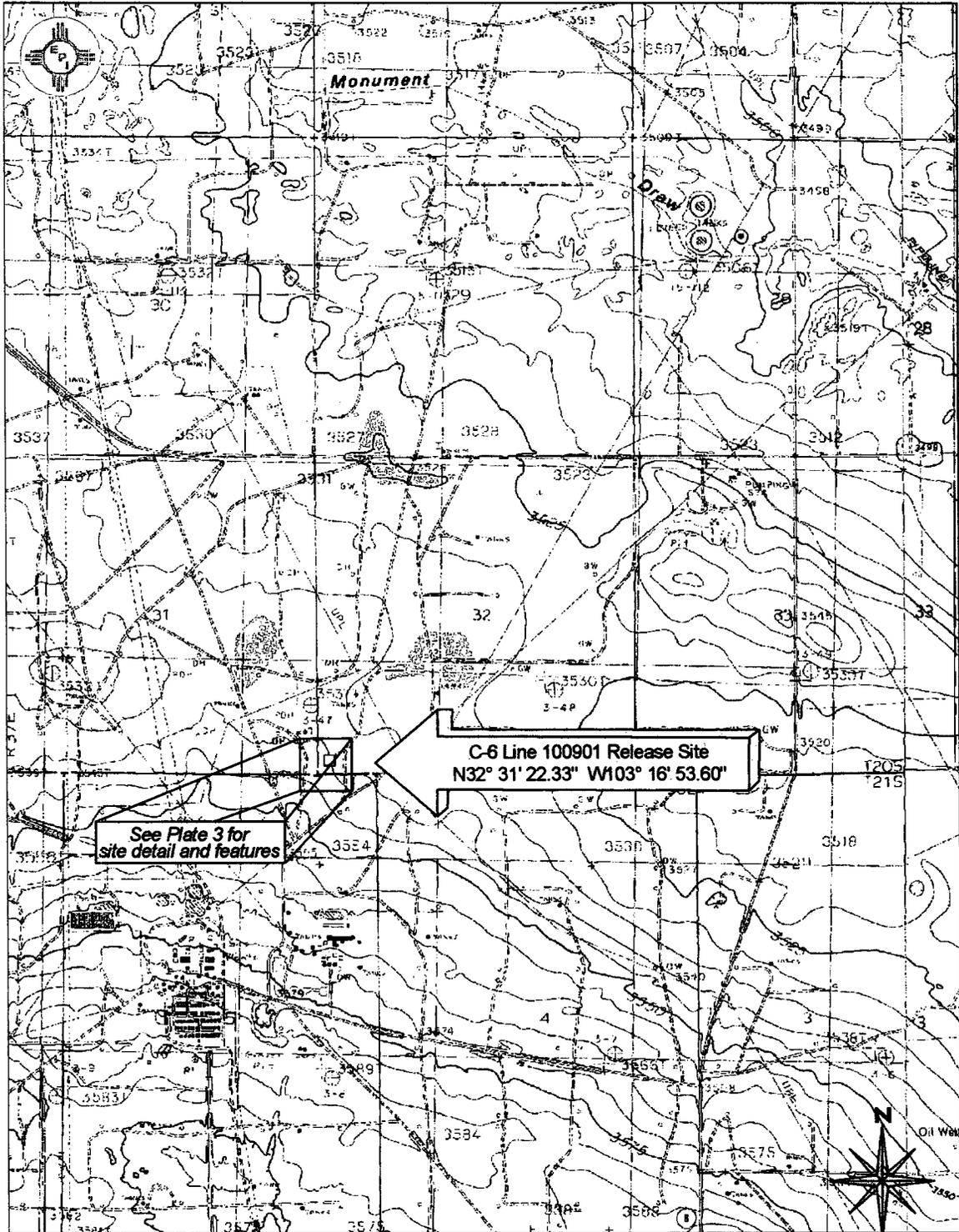
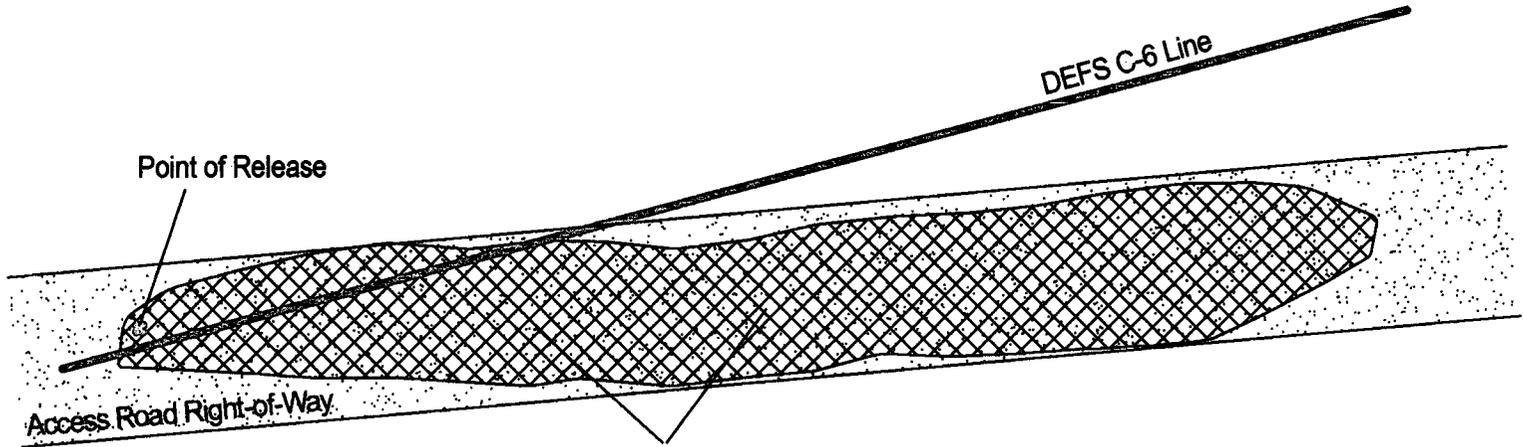


Plate 2: Site Topography and Release Location
Duke Energy Field Services - C-6 Line 100901
Lea County, NM; UL-M Section 32 T20S R37E

Drawn By: JCG Date: FEB-03 Revised:

Plate 3: Initial GPS Demarcation with Site Features

Duke Energy Field Services



Spill Release Area = 2430-ft²
N32° 31' 22.23" W103° 16' 53.60"
Elevation = 3544=ft amsl



Plate 3: Initial Release Site GPS Demarcation
Duke Energy Field Services - C-6 Line 100901
Lea County, NM; UL-M Section 32 T20S R37E

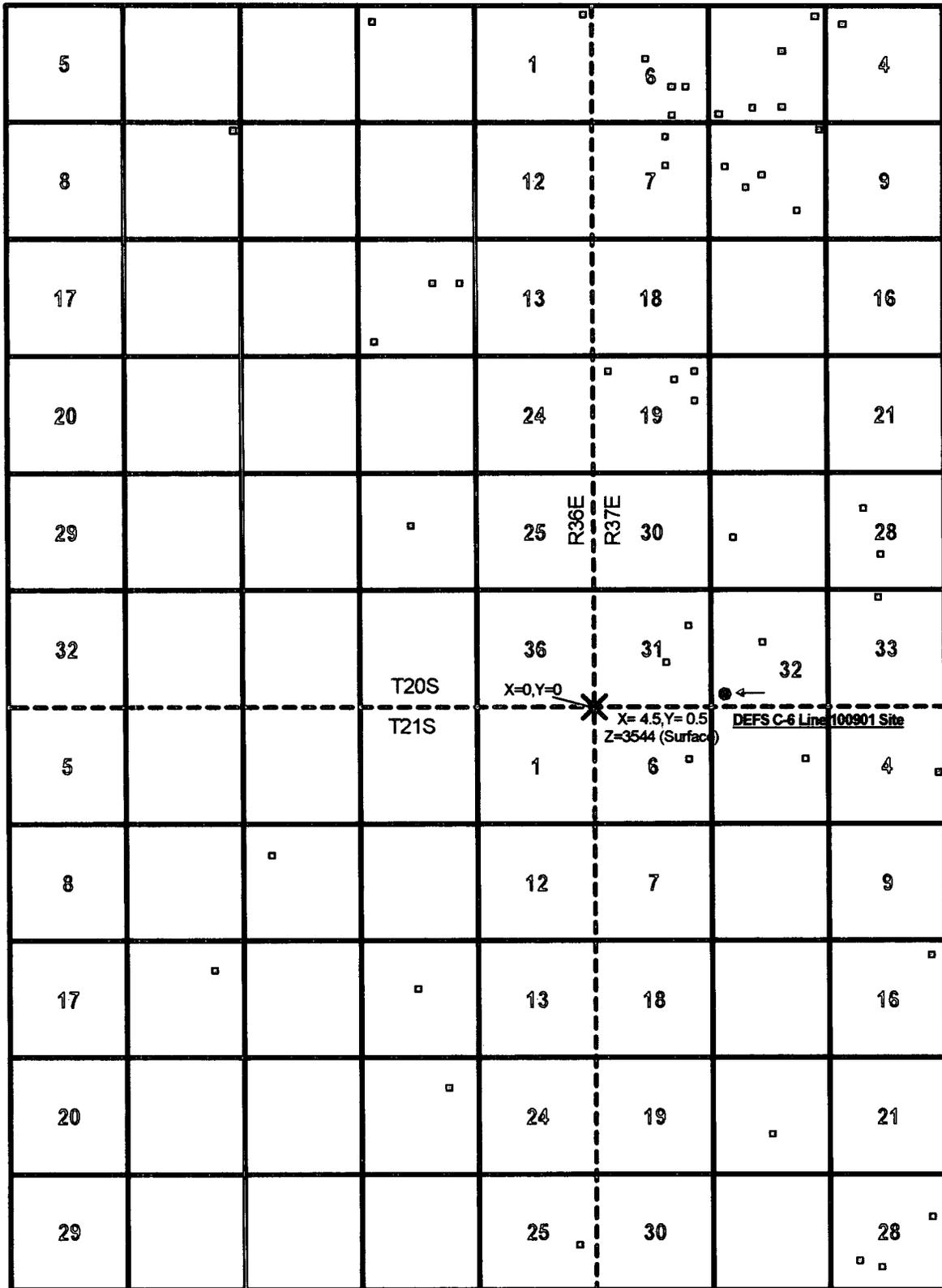
Drawn By: JCG Date: FEB-03 Revised:



Plate 4: Water Well Locations (for "Surfer" Plot)

Water Column Report: T20,21S R36,37E							2/26/2003						
Well Number	Tws	Rng	Sec	q	q	q	Well Depth	Water Depth	Water Column	Surface Elevation	Water Elevation	Surfer Coordinates	
												X	Y
10069	20S	37E	4	1	1		39	22	17	3563	3541	8.50	23.50
9779	20S	37E	5	2	2	2	50	40	10	3563	3523	7.75	23.75
2488	20S	37E	5	2	3		63	32	31	3566	3534	6.50	22.50
2497	20S	37E	5	3	3	3		35		3560	3525	4.25	20.25
2102	20S	37E	5	3	4		70	46	24	3560	3514	5.50	20.50
2278	20S	37E	5	4	3		65	37	28	3563	3526	6.50	20.50
3810	20S	37E	6	1	4	4	86	37	49	3566	3529	1.75	22.25
1145	20S	37E	6	4	1	4	75	35	40	3563	3528	2.75	21.25
4619	20S	37E	6	4	2	3	86	36	50	3563	3527	3.25	21.25
2553	20S	37E	6	4	3	4	85	40	45	3560	3520	2.75	20.25
2460	20S	37E	7	2	1		82	38	44	3556	3518	2.50	19.50
2533	20S	37E	7	2	3		82	34	48	3554	3520	2.50	18.50
2274	20S	37E	8	1	3		70	38	32	3553	3515	4.50	18.50
2483	20S	37E	8	1	4	4	84	34	50	3553	3519	5.75	18.25
2139	20S	37E	8	2	2	2	80	38	42	3560	3522	7.75	19.75
2463	20S	37E	8	3	2	1	86	30	56	3550	3520	5.25	15.75
9890	20S	37E	8	4			70	35	35	3547	3512	7.00	17.00
10117	20S	37E	13	2	1	1	130	70	60	3564	3494	22.25	16.25
5349	20S	37E	13	2	2		140	85	55	3560	3475	23.50	16.50
2451	20S	37E	19	1	1		70	35	35	3540	3505	0.50	11.50
4410	20S	37E	19	2	1	4	100	35	65	3535	3500	2.75	11.25
2450	20S	37E	19	2	2		70	35	35	3533	3498	3.50	11.50
4410	20S	37E	19	2	4		84	35	49	3530	3495	3.50	10.50
2402	20S	37E	28	1	4	1	60	40	20	3507	3467	9.25	6.75
5357	20S	37E	28	3	2	4		60		3504	3444	9.75	5.25
5375	20S	37E	29	3	1	2		44		3533	3489	4.75	5.75
5302	20S	37E	31	2	4	1		107		3546	3439	3.25	2.75
5277	20S	37E	31	4	1			144		3543	3399	2.50	1.50
5291	20S	37E	32	1	4	4		109		3537	3428	5.75	2.25
POR	20S	37E	32	3	3	3				3544		4.50	0.50
7355	20S	37E	33	1	2	2		120		3520	3400	9.75	3.75
552	21S	37E	4	4	2	2	90	75	15	3560	3485	11.75	-2.25
5212	21S	37E	5	2	4	3		37		3578	3541	7.25	-1.75
877	21S	37E	6	2	4	3	150	73	77	3586	3513	3.25	-1.75
554	21S	37E	16	2	2		80	70	10	3593	3523	11.50	-8.50
881	21S	37E	22	4	4	3	95	53	42	3566	3513	15.25	-15.75
700	21S	37E	23	2			75	65	10	3537	3472	19.00	-13.00
562	21S	37E	23	2	2	1	136	65	71	3547	3482	19.25	-12.25
736	21S	37E	27	1	3		120	76	44	3570	3494	12.50	-17.50
711	21S	37E	28	2	4		100	65	35	3580	3515	11.50	-17.50
322	21S	37E	28	3			138	73	65	3617	3544	9.00	-19.00
749	21S	37E	28	3	4	2	123	75	48	3609	3534	9.75	-19.25
726	21S	37E	33	4	2		125	100	25	3576	3476	11.50	-22.50
3814	20S	36E	1	2	2	2	60	40	20	3579	3539	-0.25	23.75
4736	20S	36E	2	1	1		92	92	0	3609	3517	-7.50	23.50
2707	20S	36E	9	2	2	2	85	38	47	3625	3587	-12.75	19.75
4507	20S	36E	14	2	3		82	53	29	3566	3513	-5.50	14.50
10135	20S	36E	14	2	4		55	20	35	3562	3542	-4.50	14.50
4506	20S	36E	14	3	3		70	50	20	3576	3526	-7.50	12.50
2420	20S	36E	18	1	2		80	34	46	3638	3604	-22.50	15.50
2584	20S	36E	26	1	4	4	400	170	230	3573	3403	-6.25	6.25
734	21S	36E	10	1			215	200	15	3605	3405	-11.00	-5.00
505	21S	36E	16	2			215	195	20	3635	3440	-13.00	-9.00
676	21S	36E	18	4	4	1	140	106	34	3663	3557	-20.75	-11.75
664	21S	36E	23	2			185	150	35	3576	3426	-5.00	-13.00
484	21S	36E	25	4	2		207	148	59	3622	3474	-0.50	-18.50

Table A – Water Well Locations, Elevations and X-Y Coordinates



**Plate 4 - Water Well Grid Locations (for Surfer 8.0 Plot of Water Table Elevations)
All Well Data is Contained in Table A**

Plate 5 – Surfer 8.0 Water Table Elevation Plot

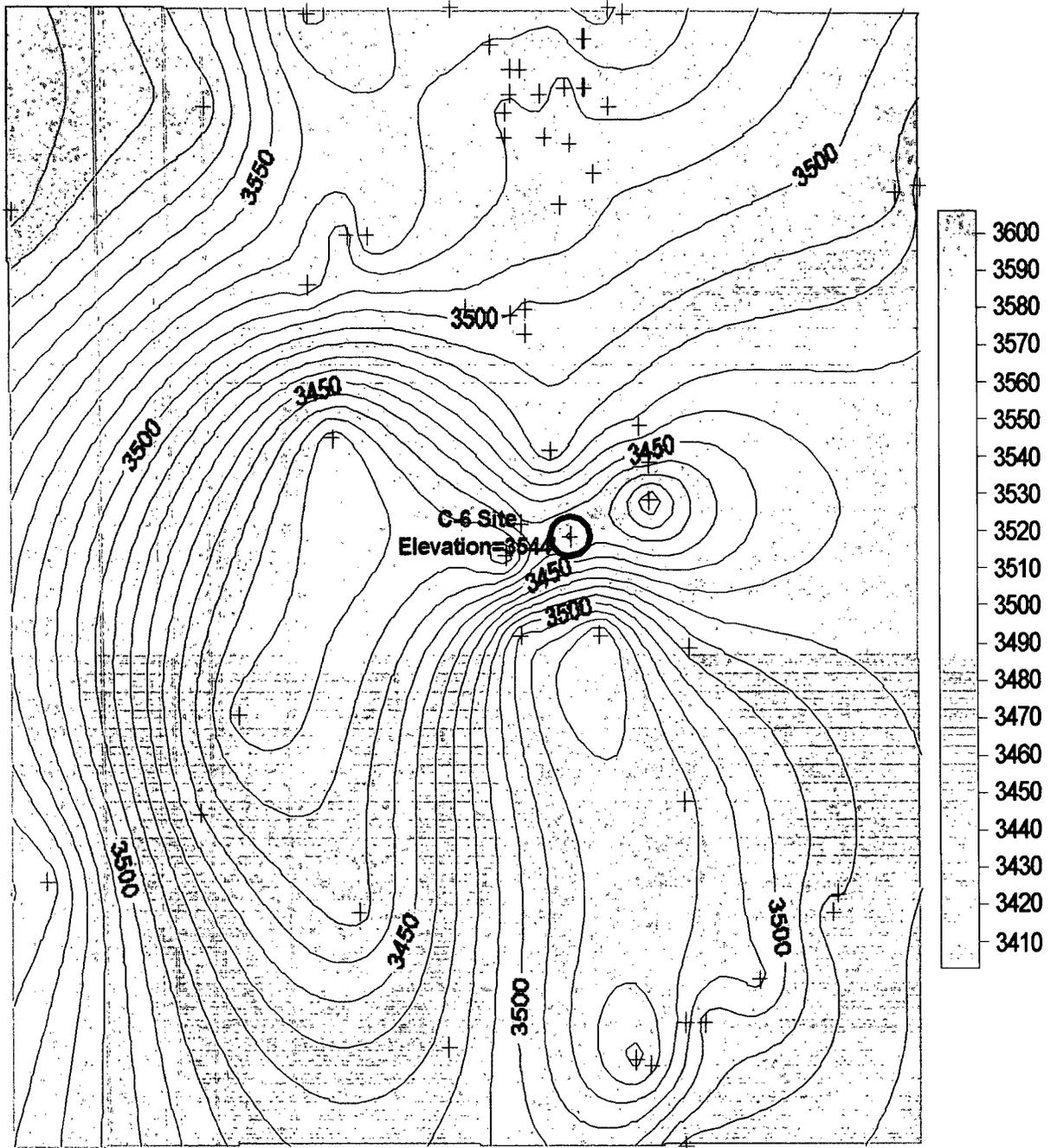


Plate 5: Water Table Elevation Plot (Surfer 8.0)

Duke Energy Field Services - C-6 Line 100901

Lea County, NM; UL-M Section 32 T20S R37E

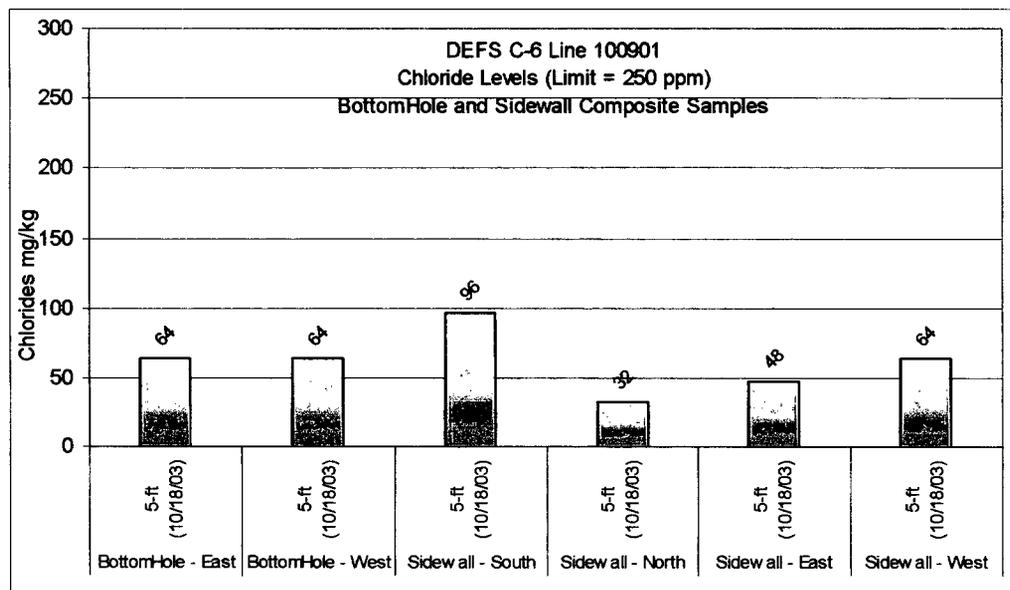
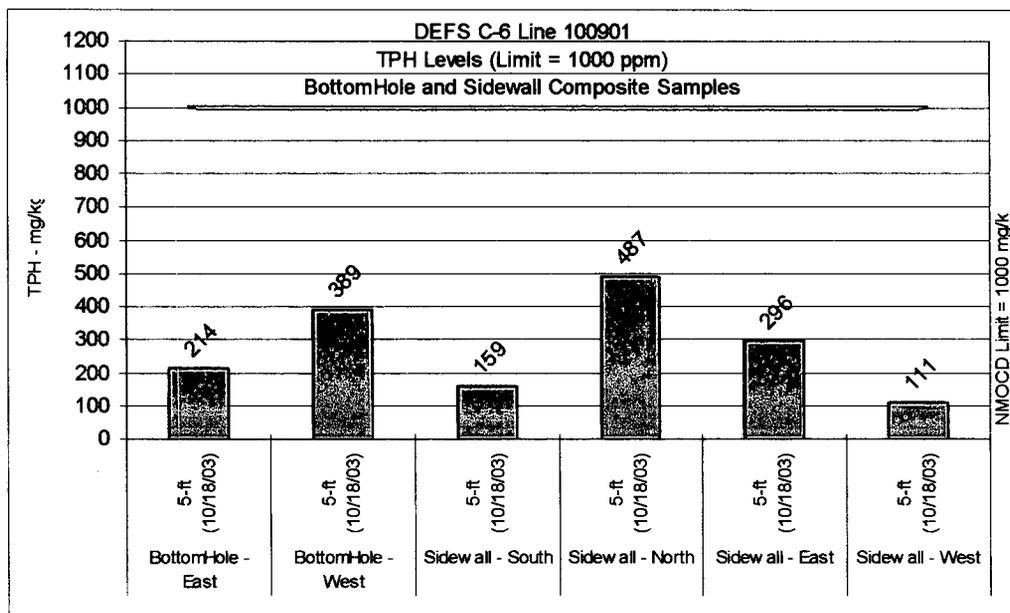
Drawn By: JCG Date: Feb-03 Revised:



Plate 6 – Soil Analytical Data and Associated Bar Charts

Duke Energy Field Services - C-6 Line 100901 - Excavation Composite Sampling Results														
Bold highlighted cells indicate values in excess of the NMOCD remedial action guideline thresholds: TPH = 1000 mg/Kg; Benzene = 10 mg/Kg; BTEX = 50 mg/Kg; Chlorides = 250 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 ²⁻ mg/Kg
18-Oct	BottomHole - East	5-ft	SDC101801EBHC		50	164	214	0.030	0.005	0.005	0.005	0.015	64.0	
18-Oct	BottomHole - West	5-ft	SDC101801WBHC		50	339	389	0.030	0.005	0.005	0.005	0.015	64.0	
18-Oct	Sidewall - South	5-ft	SDC101801SSWC	19.2	50	109	159	0.030	0.005	0.005	0.005	0.015	96.0	
18-Oct	Sidewall - North	5-ft	SDC101801NSWC	34.8	50	437	487	0.122	0.005	0.010	0.025	0.082	32.0	
18-Oct	Sidewall - East	5-ft	SDC101801ESWC	22.6	50	246	296	0.030	0.005	0.005	0.005	0.015	48.0	
18-Oct	Sidewall - West	5-ft	SDC101801WSWC	22.2	50	61	111	0.030	0.005	0.005	0.005	0.015	64.0	

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 = 50 mg/Kg) ⁴ DRO - Diesel Range Organics (Detection Limit = 50 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.



**Lab Analyses Reports
and
Chain-of-Custody Forms**



**ARDINAL
LABORATORIES**

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

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

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO:

Receiving Date: 10/18/01
Reporting Date: 10/19/01
Project Owner: DUKE ENERGY
Project Name: C-6 LINE
Project Location: NOT GIVEN

Sampling Date: 10/18/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE		10/18/01	10/18/01	10/19/01
H6223-1	SDC101801EBHC	<50	164	64
H6223-2	SDC101801WBHC	<50	339	64
H6223-3	SDC101801SSWC	<50	109	96
H6223-4	SDC101801NSWC	<50	437	32
H6223-5	SDC101801ESWC	<50	246	48
H6223-6	SDC101801WSWC	<50	60.7	64
Quality Control		736	796	1010
True Value QC		800	800	1000
% Recovery		92.1	99.5	101
Relative Percent Difference		4.2	1.8	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl'B

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


Chemist

10/19/01
Date

H6223A.XLS

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



**ARDINAL
LABORATORIES**

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

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

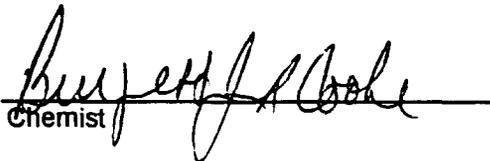
ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS. INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO:

Receiving Date: 10/18/01
Reporting Date: 10/19/01
Project Owner: DUKE ENERGY
Project Name: C-6 LINE
Project Location: NOT GIVEN

Sampling Date: 10/18/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: GP
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		10/18/01	10/18/01	10/18/01	10/18/01
H6223-1	SDC101801EBHC	<0.005	<0.005	<0.005	<0.015
H6223-2	SDC101801WBHC	<0.005	<0.005	<0.005	<0.015
H6223-3	SDC101801SSWC	<0.005	<0.005	<0.005	<0.015
H6223-4	SDC101801NSWC	<0.005	0.010	0.025	0.082
H6223-5	SDC101801ESWC	<0.005	<0.005	<0.005	<0.015
H6223-6	SDC101801WSWC	<0.005	<0.005	<0.005	<0.015
Quality Control		0.099	0.104	0.096	0.289
True Value QC		0.100	0.100	0.100	0.300
% Recovery		98.9	104	95.5	96.2
Relative Percent Difference		4.4	11.4	7.0	5.9

METHOD: EPA SW-846 8260

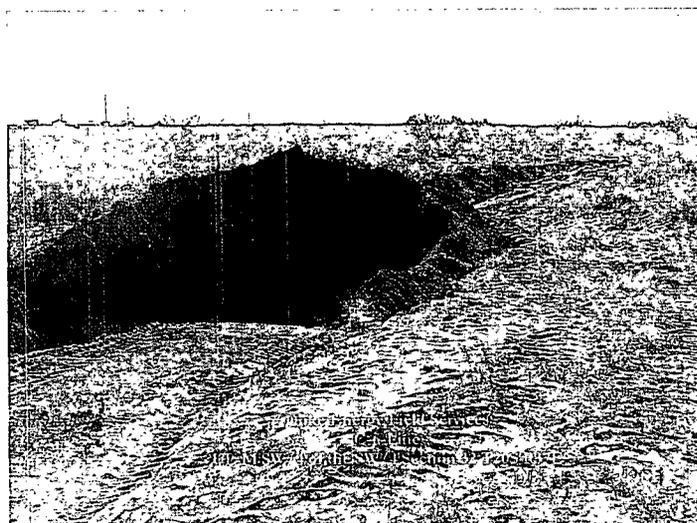
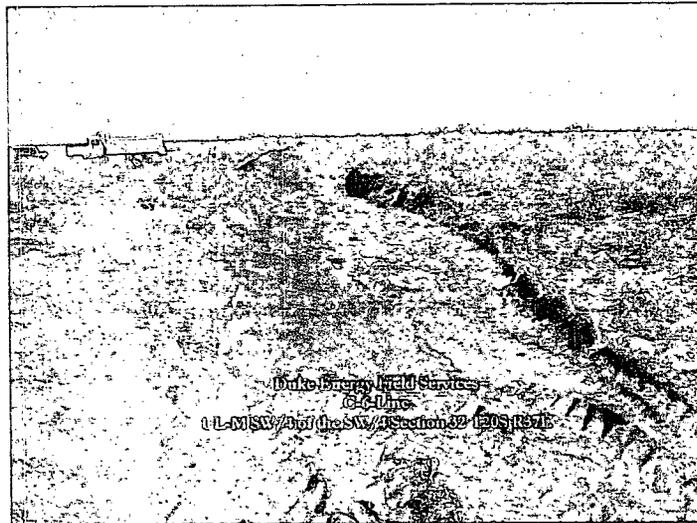
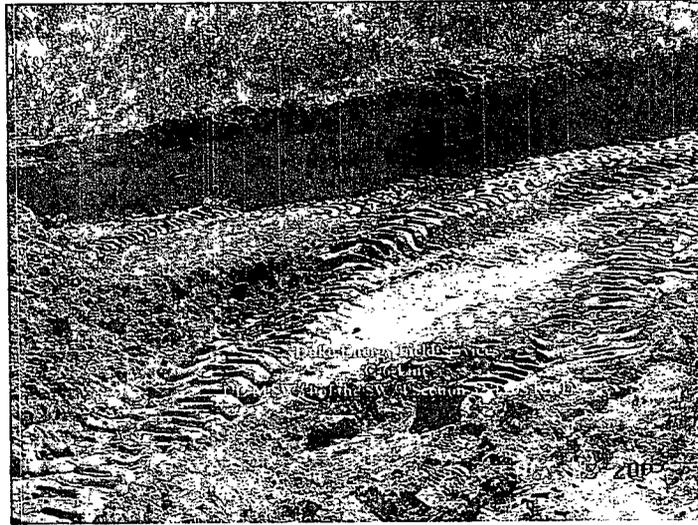

Chemist

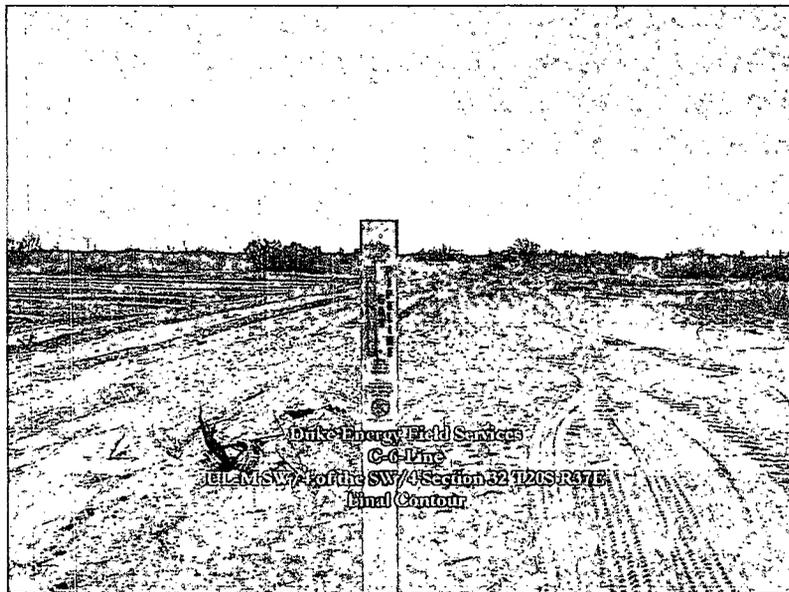
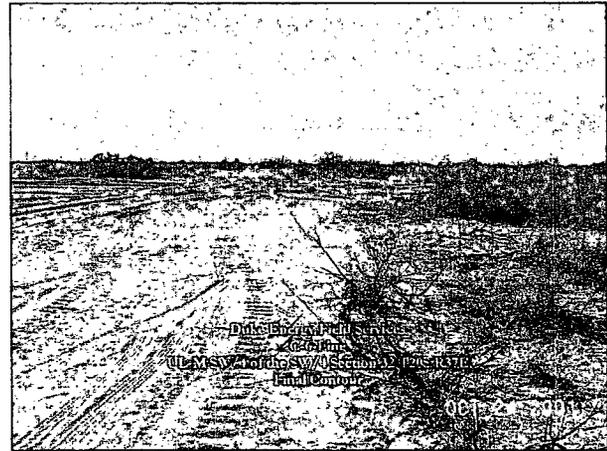
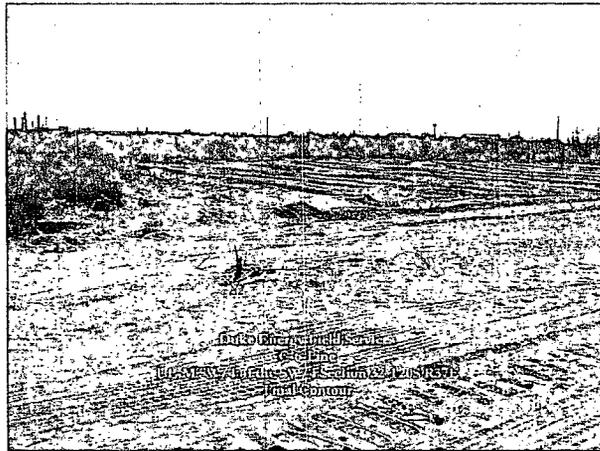
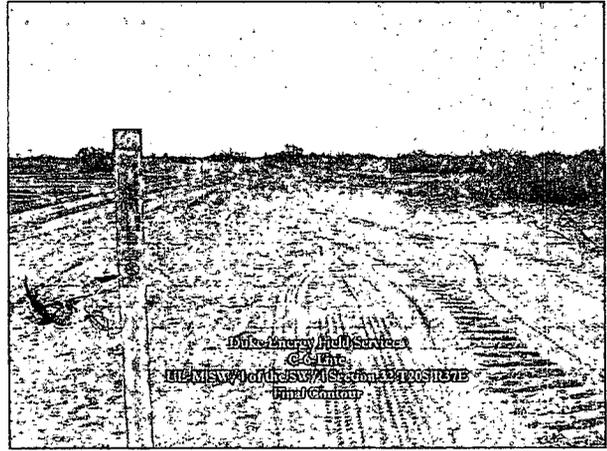
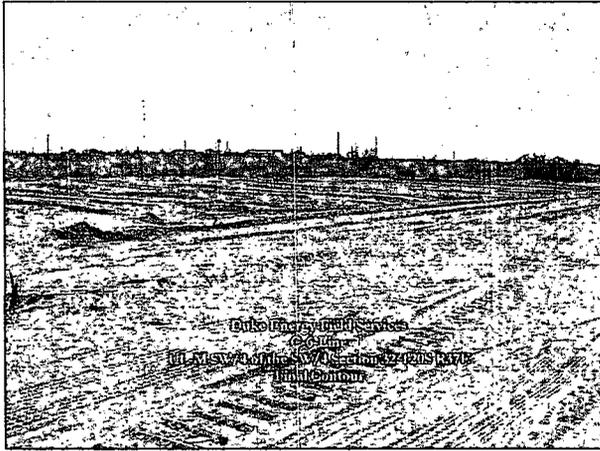
10/19/01
Date

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

H6223B.XLS

Site Photographs





		Incident Date and NMOCD Notified?	
		10/9/01	10/9/01 11:00 AM
SITE:	C-6 Line	Assigned Site Reference C-6 Line 100901	
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 (bbbls):	Unknown	Recovered (bbbls):	Unknown
>25 bbbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days.			
5-25 bbbls: Submit form C-141 within 15 days (Also applies to unauthorized releases of 50-500 mcf Natural Gas)			
Leak, Spill, or Pit (LSP) Name:	C-6 Line 100901		
Source of contamination:	Steel Natural Gas Gathering Pipeline		
Land Owner, i.e., BLM, ST, Fee, Other:	State of New Mexico Commissioner of Lands - Santa Fe, NM		
LSP Dimensions:	140' X 20' West to East flowpath within road		
LSP Area:	2,430 -ft ²		
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude:	N32:31:22.23		
Longitude:	W103:16:53.60		
Elevation above mean sea level:	3544 -ft amsl		
Feet from South Section Line:	235		
Feet from West Section Line:	196		
Location - Unit and 1/4 1/4:	UL- M	SW 1/4 of SW 1/4	
Location - Section:	32		
Location - Township:	20S		
Location - Range:	37E		
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):	99		
Depth (ft) of contamination (DC):	5		
Depth (ft) to ground water (DG - DC = DtGW):	94		
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:	10	Wellhead Protection Area Scor	0
Surface Water Score:			0
Site Rank (1+2+3) =	10		
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			