

DUKE ENERGY FIELD SERVICES



IRP-53
9/27/05

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

A-LINE 031502 RELEASE SITE

DEFS REF: A-LINE 031502

UL-F (SE¼ OF THE NW¼) OF SECTION 08 T21S R36E

~1.5 MILE WEST OF OIL CENTER

LEA COUNTY, NEW MEXICO

LATITUDE: 32°29'47.82"N

LONGITUDE: 103°17'15.03"W

OCTOBER 31, 2002

PREPARED BY: JCG

Environmental Plus, Inc.

2100 Avenue O

P.O. Box 1558

Eunice, NM 88231

Phone: (505)394-3481

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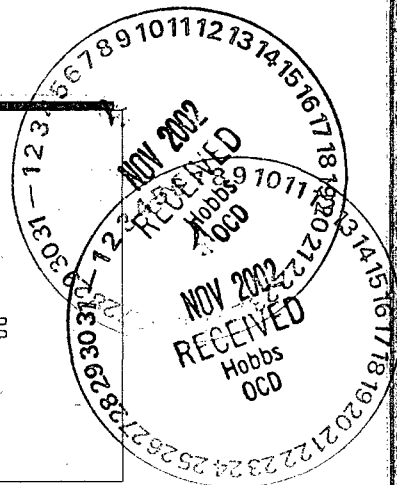
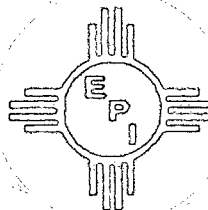


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Executive Summary

Environmental Plus, Inc. (EPI) was notified by Duke Energy Field Services (DEFS) on 15-Mar-02 regarding a pipeline release site involving DEFS' "A-Line" natural gas gathering pipeline. DEFS' initial C-141 (20-Mar-02) indicates a natural gas liquid (NGL) release of 40 bbl, with 30 bbl recovered. The leak was a result of internal pipeline corrosion. Repairs were made on the steel pipeline by DEFS personnel by clamping.

Characterization and remedial work at the site was done by EPI during the period 15-Mar-02 through 11-Apr-02. The "A-Line 031502" site is located 1.5-mile west of Oil Center, NM, in UL-F, Section 08 T21S R36E. The spill occurred on property owned by the Mr. Billy Sartan, 223 N. Moore, Sulphur Spring, TX 75482. The surface extent of the visibly affected spill area was approximately 10,600 ft² (see Plate 3, attachments). The vertical extent of contamination ranged from 2-ft along the northern portion of the access road down to 10-ft in the area associated with the Point of Release (POR).

EPI excavated and disposed of 1064-yd³ of contaminated soil from the site commencing on 15-Mar-02. Composite bottom-hole and sidewall soil samples were submitted to Cardinal Laboratories, Hobbs, NM on 21-Mar-02, 26-Mar-02, 02-Apr-02 and 04-Apr-02. Results of these analyses confirmed that TPH, BTEX, and Benzene levels were below threshold levels throughout the site, and that chloride levels were within acceptable limits (~250 mg/kg) so as to not pose a threat to any ground water present. Ground water was conservatively estimated to be >150-ft bgs.

All contaminated soil removed from the site was disposed of at EPI's land farm. The excavation was backfilled and contoured to prevent pooling. The surface damaged areas beyond road or pipeline rights-of-way will be evaluated for new growth in Spring-2003 and reseeded with natural grasses if deemed necessary at that time.

1.0 Introduction

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) "A-Line 031502" natural gas gathering line remediation site. EPI was notified on March 15, 2002 by DEFS regarding a natural gas and associated NGL release at this site. The initial C-141 Form submitted to NMOCDD (20-Mar-02) reports the release volume (NGL) as 40 bbl with 30 bbl recovered. EPI responded that day and commenced GPS delineation, characterization and preliminary excavation of the contaminated soil in the immediate area of the release. The site ultimately consisted of a shallow (2-3-ft) excavation area of ~10,600-ft² (an 85-ft X 85-ft area near the POR and a narrow ~265-ft northerly flow path along the pipeline access road – See Plate 3). A small area (~1200-ft²) in the immediate vicinity of the POR was excavated to a depth of 10-ft bgs to attain soil chloride levels at or below the desired remedial goal of 250 mg/kg. Remedial activities at the site consisted of excavation, soil analyses, backfilling and contouring. Remediation of the site was completed on 11-Apr-02, exclusive of possible re-seeding in Spring-2003.

2.0 Background

The site is associated with the DEFS – A-Line natural gas gathering pipeline terminating at DEFS' Eunice Plant. This release site is located in Unit Letter F, (SE¼ of the NW¼), Section 08, T21S, R36E, (32°29'47.82"N and 103°17'15.03"W), and approximately 1.5 miles west of Oil Center, NM. The property is owned by Billy Sartan, residing in Sulphur Spring, TX. A location map, a topographical map of the site and a detailed GPS site map are included as Attachments 1, 2 and 3.

The natural gas and associated NGL release at this site was discovered on 15-Mar-02. 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 Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface and is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas.

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 unconfined ground water aquifer at this site is conservatively estimated to be >150-ft bgs. The site is located in the Eunice Plain physiographic area approximately 1.5-mile west of Oil Center, NM. Water Column Reports obtained from the Office of the NM State Engineer and NM Tech University (below) indicate water depths in the range 106-247-ft bgs in Range 36E and Township 21S (Average = 191-ft bgs). Ground water gradient in this area is generally to the southeast.

WATER COLUMN REPORT 8/9/02 - NM State Engineer & NM Tech*									
Well	Tws	Rng	Sec	Q	Q	Q	Well Depth	Water Depth	Water Column
CP734	21S	36E	16	1			215	200	15
CP505	21S	36E	16	2			215	195	20
CP676	21S	36E	18	4	4	1	140	106	34
CP664	21S	36E	23	2			185	150	35
CP484	21S	36E	25	4	2		207	148	59
#4737*	21S	36E	29	4	1		305	247	58
#4715*	21S	36E	29	3	1		244	231	13
#4719*	21S	36E	29	4	2		380	241	139
#4584*	21S	36E	33	2	3		242	205	37
Average depth to water =								191	
Quarters (Q) are 1=NW 2=NE 3=SW 4=SE; biggest to smallest									

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), were 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 Matrix 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 0-50'bgs)		
Total Site Ranking Score and Acceptable Remedial Goal Concentrations		
Parameter	20+ (soil 100 – 150' bgs)	0 (soil 0 – 50' bgs)
Benzene¹	10 ppm	10 ppm
BTEX¹	50 ppm	50 ppm
TPH	100 ppm	5000 ppm
¹ 100 ppm field VOC headspace measurement may be substituted for lab analysis		

5.0 Subsurface Soil Investigation

The first subsurface soil analyses were conducted on composite samples taken from the bottom (5-ft) and the sidewalls of the more deeply contaminated area associated with the POR. The analyses results of this initial sampling event (March 21,26, 2002) indicated that chloride contamination of the soil in the area adjacent to the POR was the only concern at depths beyond 5-ft bgs, and that the lateral extents of this central excavation would have to be extended to achieve composite sidewall chloride levels below the remedial goal of 250 mg/kg.

The centralized POR excavation was expanded vertically down to 10-ft, and the lateral extents were increased in all directions. Composite samples were again collected and submitted for analysis on April 2, 2002. Results of this sampling event indicated that the only area of the excavation still exhibiting high chloride levels was the east sidewall. The east-side of the excavation was further extended, sampled on April 4, 2002, and achieved a chloride level of 80 mg/kg.

Laboratory analytical reports, a summary table of all analytical results and graphical representations of the analytical data are provided in the Attachments.

6.0 Ground Water Investigation

Ground water depth is conservatively estimated to be >150-ft bgs at the site. The site was excavated to a maximum depth of 10-feet. CoC levels of the 5-ft bottom-hole and sidewalls of the excavation were analyzed to be within the following ranges: TPH – 0 to 340 ppm; Benzene – 0 to 0.005 ppm; BTEX – 0 to 0.232 ppm; Chlorides – 288 ppm to

832 ppm. Composite samples taken from the 10-ft level were not evaluated for hydrocarbons due to the low levels encountered at the 5-ft level. Chloride levels at the 10-ft level (bottom-hole and sidewall) ranged from 80 ppm to 256 ppm. The excavation was backfilled with clean backfill material. There will be no need for further ground water investigation at this site.

7.0 Remediation

Remediation of the site commenced on 15-Mar-02 and continued through 11-Apr-02. Remediation consisted of excavation and disposal of ~1064 yd³ of contaminated soil. Approximately 600-yd³ was excavated and disposed of from the visibly affected surface area in the release area and along the north flow path. Depth of soil removal was shallow and variable from 2-ft to 5-ft. Approximately 450-yd³ was excavated and disposed of from the area immediately associated with the POR (~1220-ft² to a depth of 10-ft). All contaminated soil removed from the site was disposed of in EPI's approved land farm.

The depth and lateral extent of the POR excavated area was determined by composite bottom-hole and sidewall sampling and certified laboratory analysis. Attenuation levels consistent with NMOCD remedial goals were attained at the site for TPH, BTEX, Benzene and Chlorides (*see Section 5.0 – Subsurface Soil Investigation*). The site was backfilled and properly contoured to prevent pooling of rainwater on the excavation surface. The surface damaged area will be evaluated for new growth in Spring-2003 and reseeded with natural grasses if deemed necessary at that time.

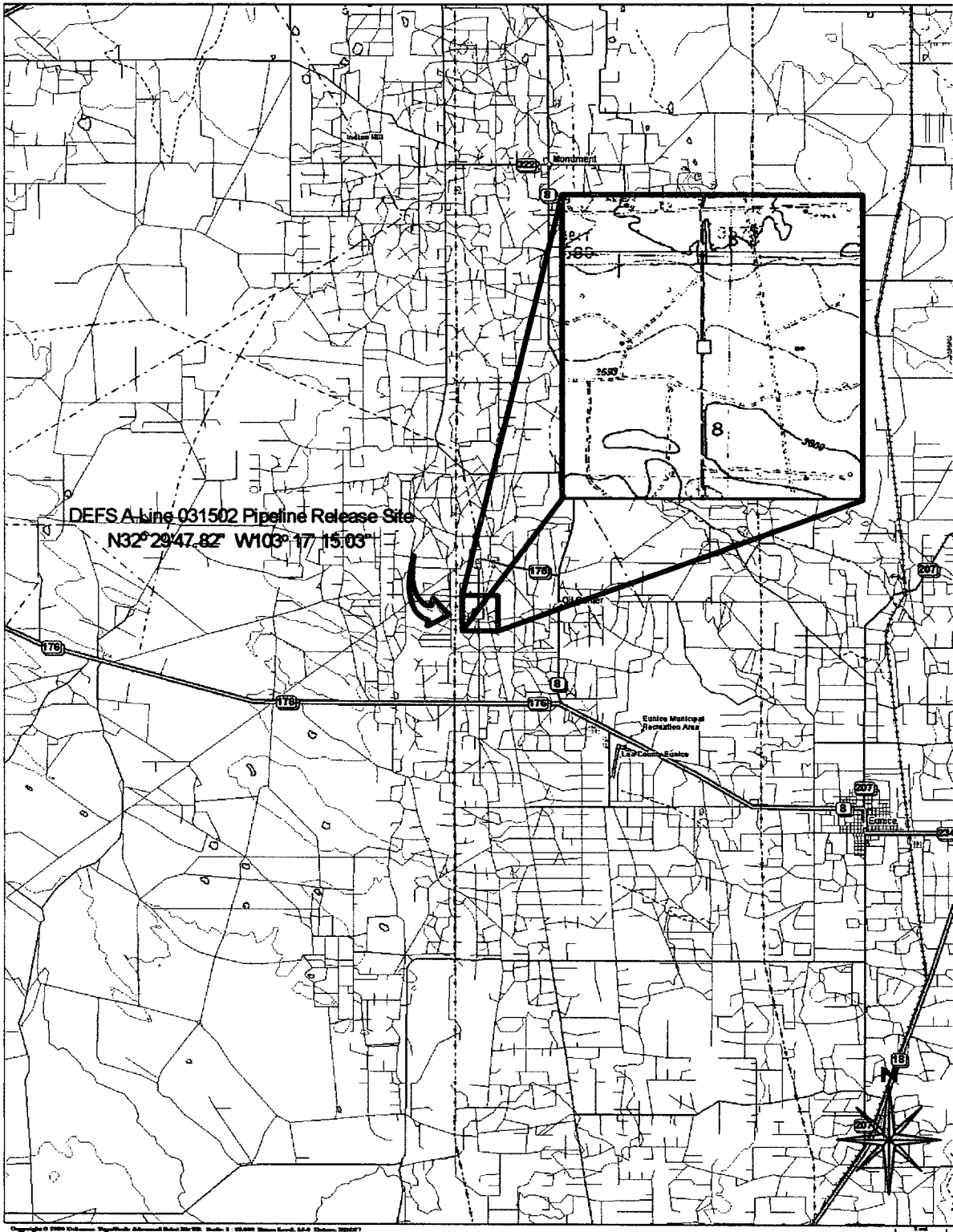
8.0 Closure Justification

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 top-soil material, and was 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.

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Plate 1: Site Location Map



Copyright © 2000 DeLorme. Topographic Map of New Mexico. Scale: 1:50,000. Series: 1000. 10000 Series. 10000 Series. 10000 Series.



Plate 1: Release Site Location
Duke Energy Field Services - A-Line 031502
Lea County, NM; UL-F Section 08 T21S R36E

Plate 2: Site Topographical Map

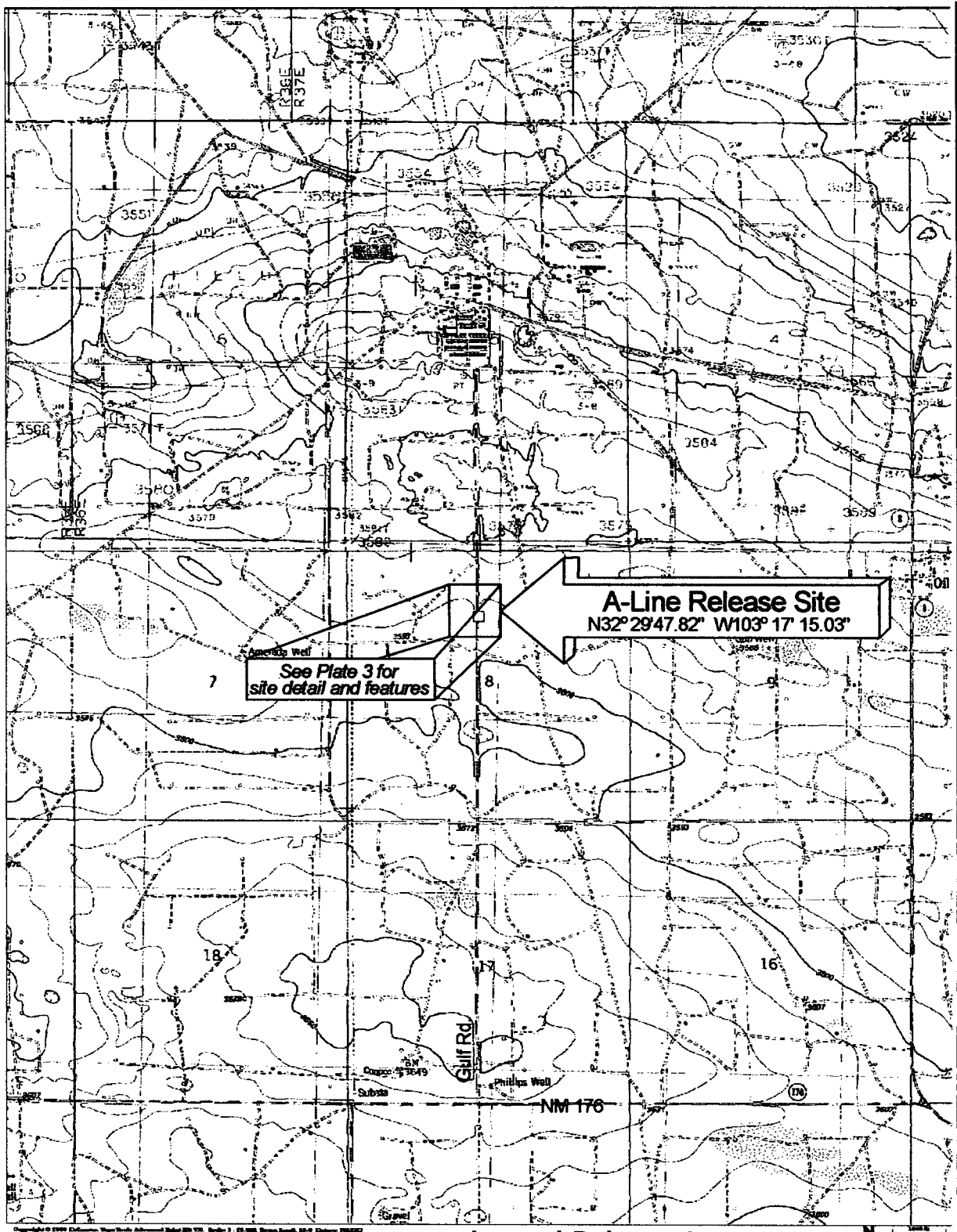


Plate 2: Site Topography and Release Location

Duke Energy Field Services - A-Line 031502

Lea County, NM; UL-F Section 08 T21S R36E

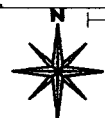


Plate 3: Site Features (GPS Demarcation)

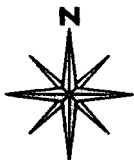
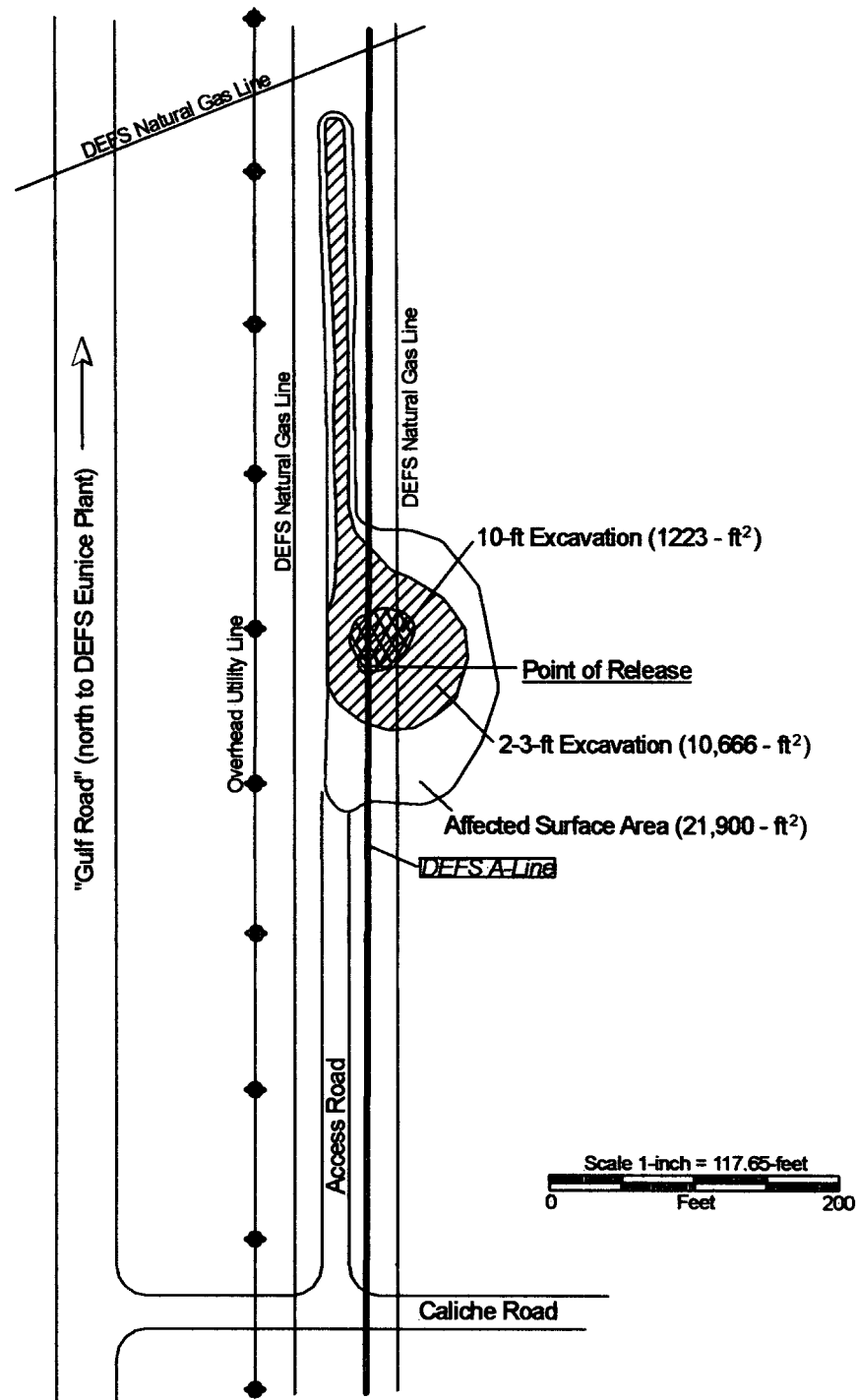


Plate 3: Release Site GPS Demarcation
 Duke Energy Field Services - A-Line 031502
 Lea County, NM; UL-F Section 08 T21S R36E

Drawn By: JCG Date: Oct-02 Revised:



Duke Energy Field Services - A-Line 031502 - Excavation Composite 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; CI = 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	CI ⁷ mg/Kg
21-Mar	Bottom-Hole	5-ft	SDAL32102BH		10	14	24	0.030	0.005	0.005	0.005	0.015	288.0
26-Mar													
2-Apr		10-ft	SDAL4202BH										256.0
4-Apr													
21-Mar	SideWall - South	5-ft	SDAL32102SSW		10	340	350	0.232	0.005	0.058	0.031	0.138	400.0
26-Mar													
2-Apr		10-ft	SDAL4202SSW										160.0
4-Apr													
21-Mar	SideWall - East	5-ft	SDAL32102ESW		10	10	20	0.030	0.005	0.005	0.005	0.015	368.0
26-Mar													
2-Apr		10-ft	SDAL4202ESW										20794.0
4-Apr		10-ft	SDAL4402ESW										80.0
21-Mar	SideWall - West	5-ft	SDAL32102WSW		10	10	20	0.030	0.005	0.005	0.005	0.015	112.0
26-Mar													
2-Apr		10-ft	SDAL4202WSW										832.0
4-Apr		10-ft	SDAL4402WSW										96.0
21-Mar	SideWall - North												
26-Mar		5-ft	SDAL32602NSW		10	10	20	0.030	0.005	0.005	0.005	0.015	304.0
2-Apr		10-ft	SDAL4202NSW										144.0
4-Apr													

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)

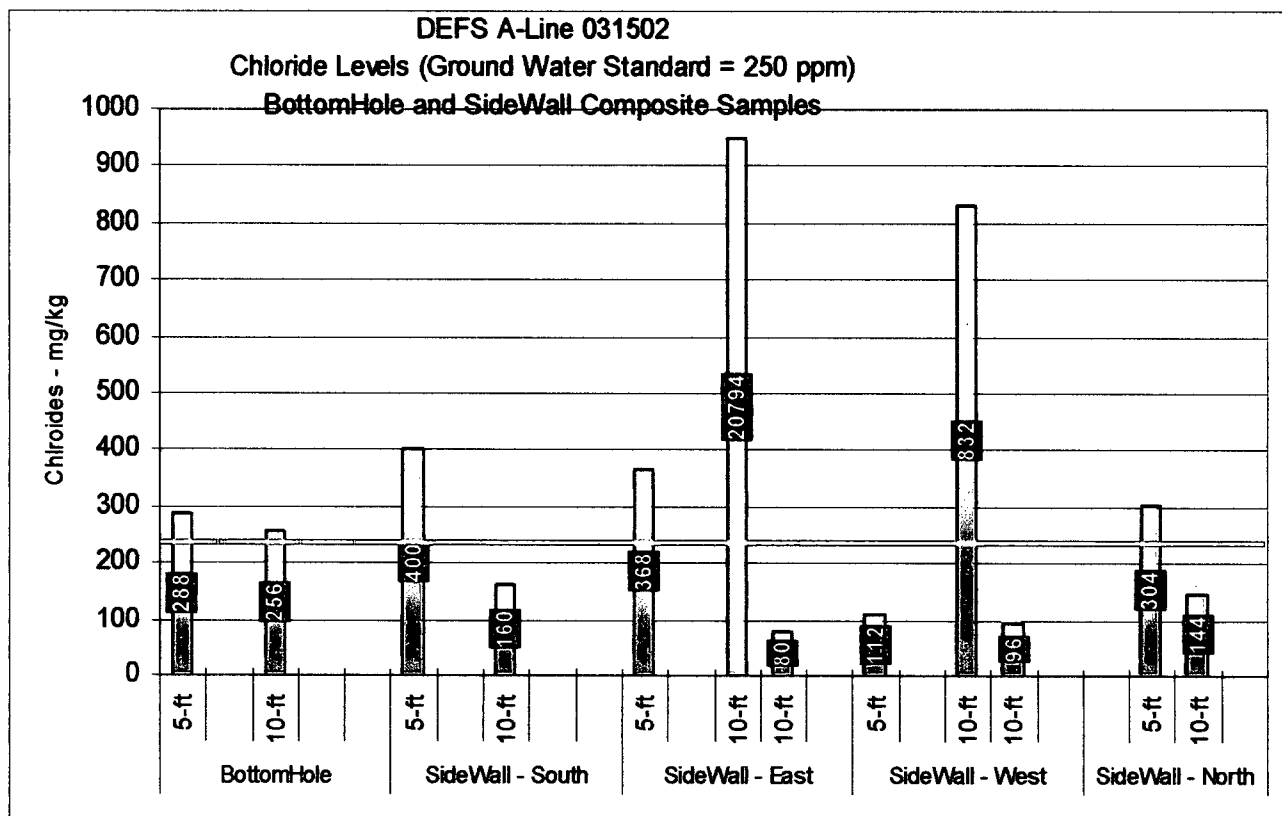
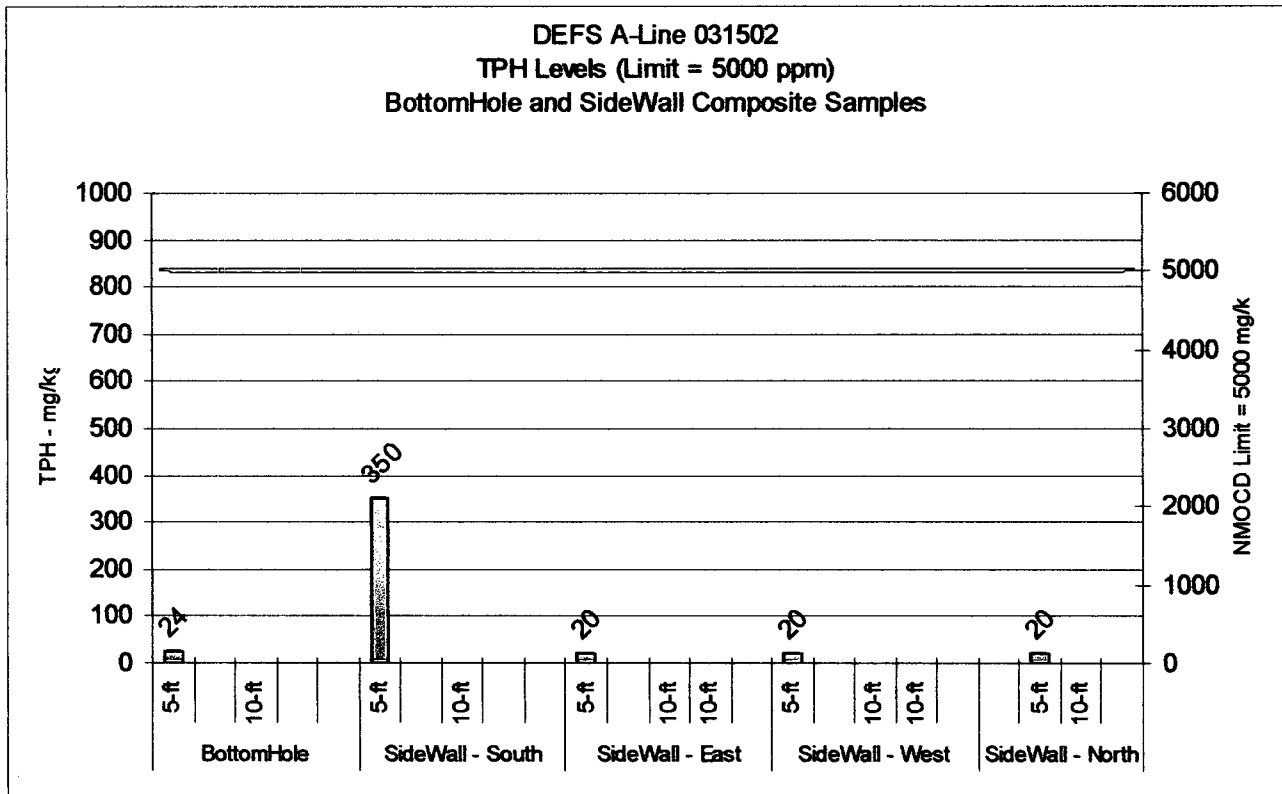
⁶ BTEX = Sum of CoC's (Detection Limits = 0.005 mg/Kg, 0.015 mg/Kg) Note: Reported detection limits are considered "de minimus" values and are included in the TPH and BTEX summations.

Summary Table - Soil Analytical Data

Duke Energy Field Services

OK
A

Bar Charts: Composite TPH and Chloride Analysis



Lab Analysis Reports and Chain-of-Custody Forms

All analyses performed by Cardinal Laboratories,
Hobbs, New Mexico



ARDINAL LABORATORIES

PHONE (915) 873-7001 • 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: (505) 394-2601

Receiving Date: 03/21/02
Reporting Date: 03/22/02
Project Owner: DUKE
Project Name: DUKE A LINE
Project Location: OIL CENTER

Sampling Date: 03/21/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC/HM

LAB NUMBER	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/Kg)	DRO (>C ₁₀ -C ₂₈) (mg/Kg)	Cl* (mg/Kg)
		03/21/02	03/21/02	03/22/02
H6610-1	SDAL32102SSW	<10.0	340	400
H6610-2	SDAL32102ESW	<10.0	<10.0	368
H6610-3	SDAL32102WSW	<10.0	<10.0	112
H6610-4	SDAL32102BH	<10.0	13.6	288
Quality Control		776	743	980
True Value QC		800	800	1000
% Recovery		97.0	92.9	98.0
Relative Percent Difference		3.7	3.9	6.0

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

Date

H6610A.XLS
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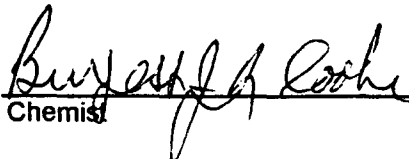
ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

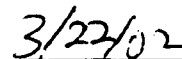
Receiving Date: 03/21/02
Reporting Date: 03/22/02
Project Owner: DUKE
Project Name: DUKE A LINE
Project Location: OIL CENTER

Sampling Date: 03/21/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		03/21/02	03/21/02	03/21/02	03/21/02
H6610-1	SDAL32102SSW	<0.005	0.058	0.031	0.138
H6610-2	SDAL32102ESW	<0.005	<0.005	<0.005	<0.015
H6610-3	SDAL32102WSW	<0.005	<0.005	<0.005	<0.015
H6610-4	SDAL32102BH	<0.005	<0.005	<0.005	<0.015
Quality Control		0.109	0.104	0.105	0.304
True Value QC		0.100	0.100	0.100	0.300
% Recovery		109	104	105	101
Relative Percent Difference		7.6	2.8	2.3	3.0

METHOD: EPA SW-846 8260


Chemist


Date

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H6610B.XLS

505-393-2326 Fax 505-393-2476

Sampler Relinquished:	Date: <u>12/2</u>	Received By:	Fax Results To Pat McCasland 505-394-2601 REMARKS:
<u>Cash Miller</u>	Time: <u>4:05</u>		
Relinquished by:	Date:	Received By: (lab staff)	
	Time:	<u>Burges / Cash</u>	
Delivered by Sampler	Sample Cool & Intact <u>Yes</u> No	Checked By:	



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

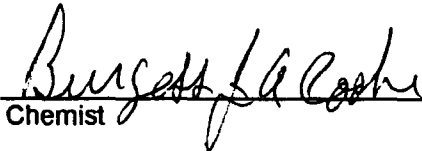
ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: PAT McCASLAND
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (505) 394-2601

Receiving Date: 03/26/02
Reporting Date: 03/27/02
Project Owner: DUKE ENERGY
Project Name: DUKE A-LINE
Project Location: NOT GIVEN

Sampling Date: 03/26/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		03/26/02	03/26/02	03/26/02	03/26/02
H6621-1	SDAL32602NSW	<0.005	<0.005	<0.005	<0.015
Quality Control		0.098	0.095	0.099	0.286
True Value QC		0.100	0.100	0.100	0.300
% Recovery		98.3	94.9	99.4	95.2
Relative Percent Difference		6.9	8.2	0.7	0.5

METHOD: EPA SW-846 8260


Chemist

3/27/02
Date

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H6621B.XLS



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: (505) 394-2601

Receiving Date: 03/26/02
Reporting Date: 03/27/02
Project Owner: DUKE ENERGY
Project Name: DUKE A-LINE
Project Location: NOT GIVEN

Sampling Date: 03/26/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
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		03/26/02	03/26/02	03/26/02
H6621-1	SDAL32602NSW	<10.0	<10.0	304
Quality Control		785	758	1030
True Value QC		800	800	1000
% Recovery		98.1	94.7	103
Relative Percent Difference		3.3	9.2	5.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl^{*}: Std. Methods 4500-Cl^{*}B

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

Burgett A. Cochrane
Chemist

3/27/02
Date

2111 Beechwood, Abilene, TX 79603
915-673-7001 Fax 915-673-7020

101 East Marland, Hobbs, NM 88240
505-393-2326 Fax 505-393-2476

Sampler Relinquished:		Date 3/26/02	Received By:	Fax Results To Pat McCasland 505-394-2601 REMARKS:
Brett CIAT		Time 11:15 AM		
Relinquished by:	Date	Received By: (lab staff)		
	Time	Burgess J. Cook		
Delivered by Sampler	Sample Cool & Intact Yes No		Checked By:	



ARDINAL LABORATORIES

PHONE (915) 873-7001 • 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: (505) 394-2601

Receiving Date: 04/02/02
Reporting Date: 04/03/02
Project Owner: DUKE
Project Name: A-LINE
Project Location: NOT GIVEN

Analysis Date: 04/03/02
Sampling Date: 04/02/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/Kg)
H6646-1*	SDAL4202NSW	144
H6646-2*	SDAL4202SSW	160
H6646-3	SDAL4202WSW	832
H6646-4	SDAL4202ESW	20794
H6646-5	SDAL4202BH	256
Quality Control		1040
True Value QC		1000
% Recovery		104
Relative Percent Difference		1.0

METHOD: Standard Methods	4500-ClB
--------------------------	----------

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

*Matrix interference (color) observed.

Amy Hill
Chemist

4-3-02
Date

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Cardinal Laboratories Inc.

2111 Beechwood, Abilene, TX 79603

915-673-7001 Fax 915-673-7020

101 East Marland, Hobbs, NM 88240

505-393-2326 Fax 505-393-2476

[illegible]

Sampler Relinquished:	Date 4-2-02	Received By:	Fax Results To Pat McCasland 505-394-2601 REMARKS:
<i>Bob Miller</i>	Time 3:17		
Relinquished by:	Date 4/2/02	Received By: (lab staff)	
	Time 3:25	<i>Amy Hill</i>	
Delivered by Sampler	Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Checked By:	



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: (505) 394-2601


Receiving Date: 04/04/02
Reporting Date: 04/05/02
Project Owner: DUKE
Project Name: A-LINE
Project Location: NOT GIVEN

Analysis Date: 04/05/02
Sampling Date: 04/04/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/Kg)
H6648-1	SDAL4402ESW	80
H6648-2	SDAL4402WSW	96
Quality Control		1040
True Value QC		1000
% Recovery		104
Relative Percent Difference		1.0

METHOD: Standard Methods	4500-ClB
--------------------------	----------

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


Chemist

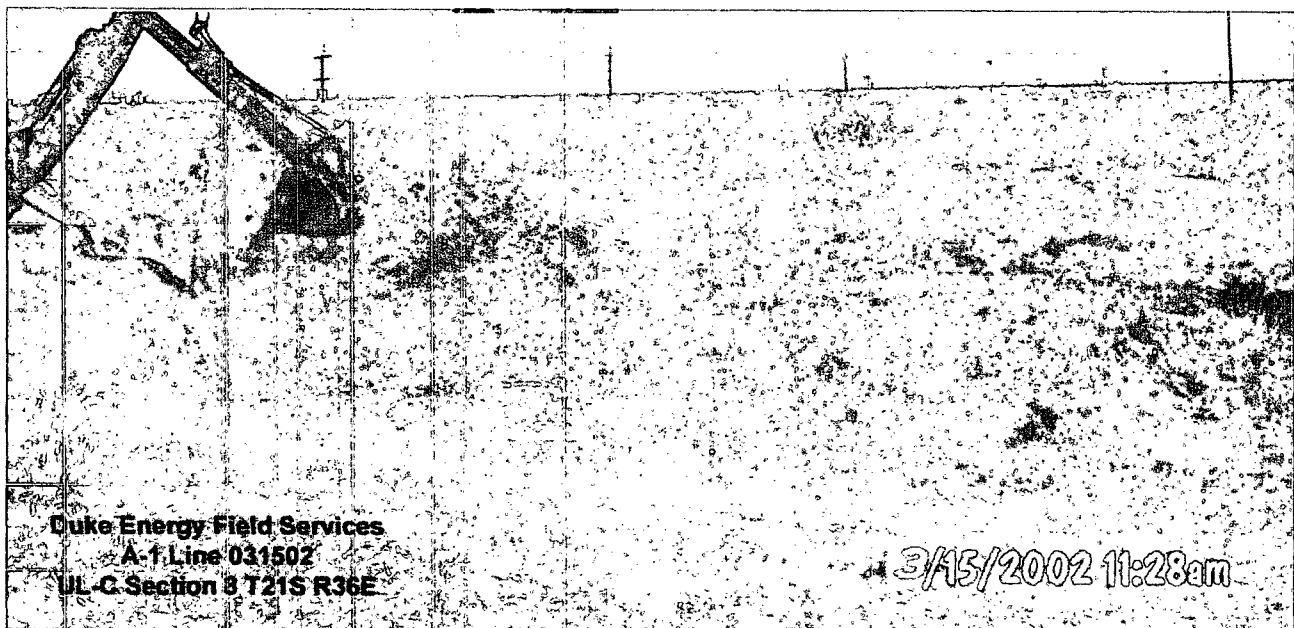
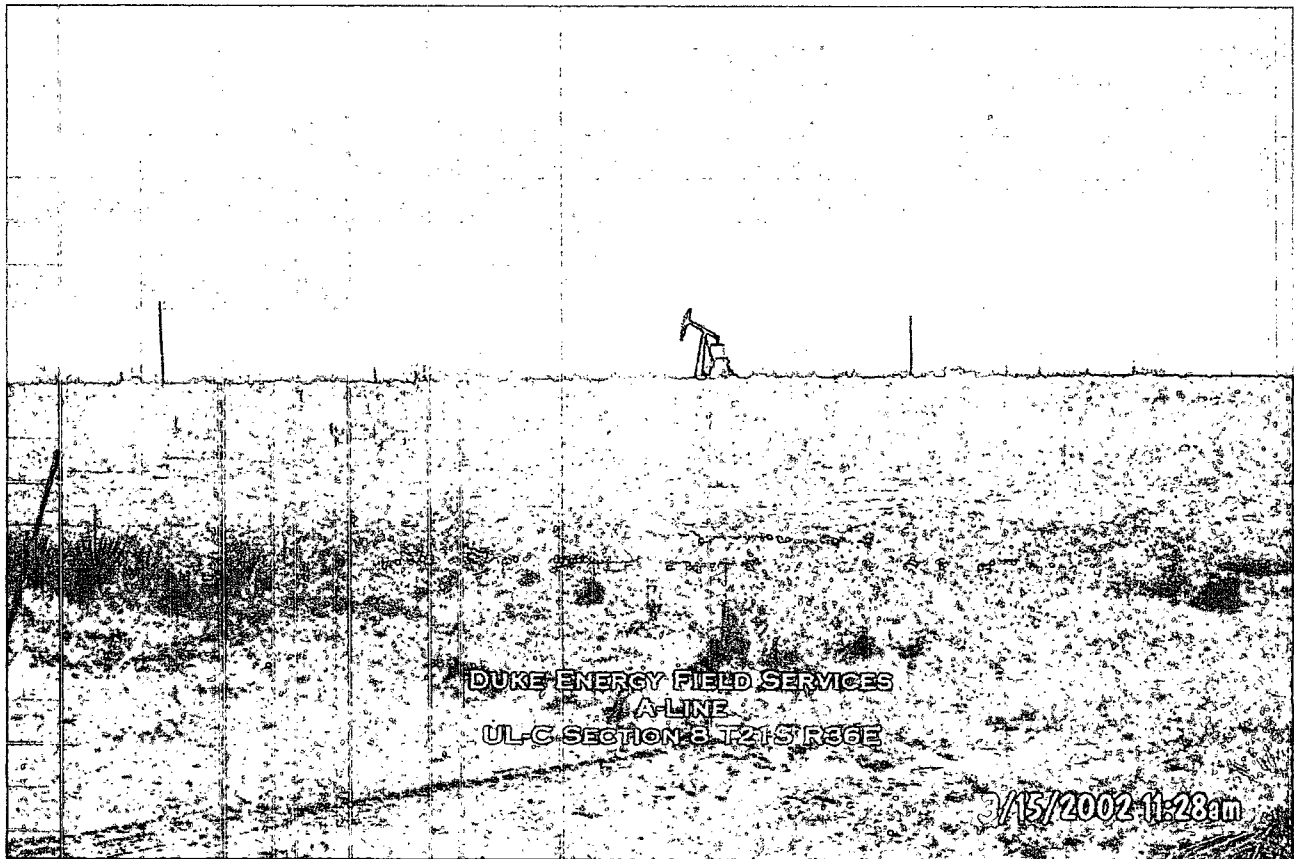
04/05/2002
Date

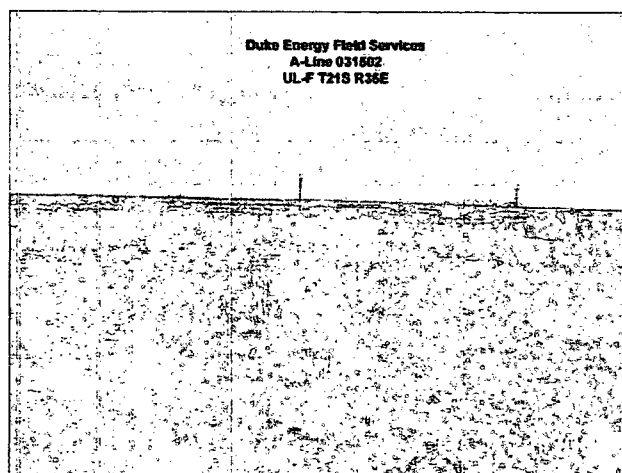
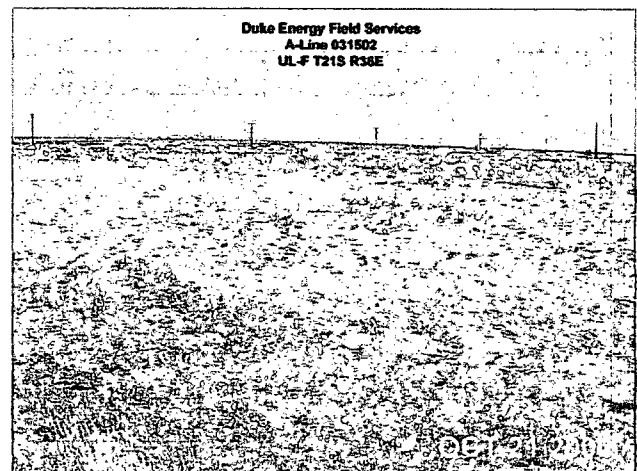
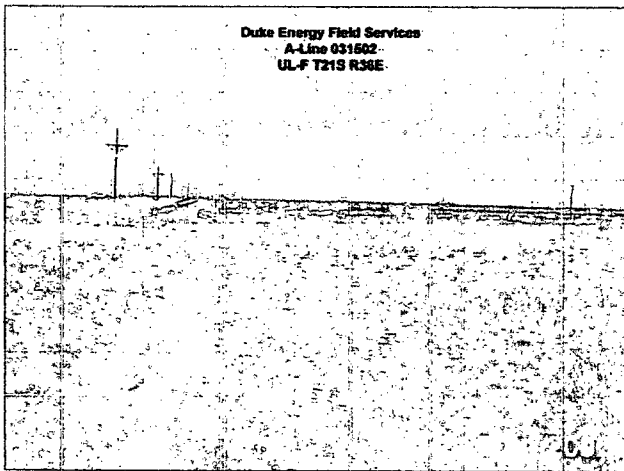
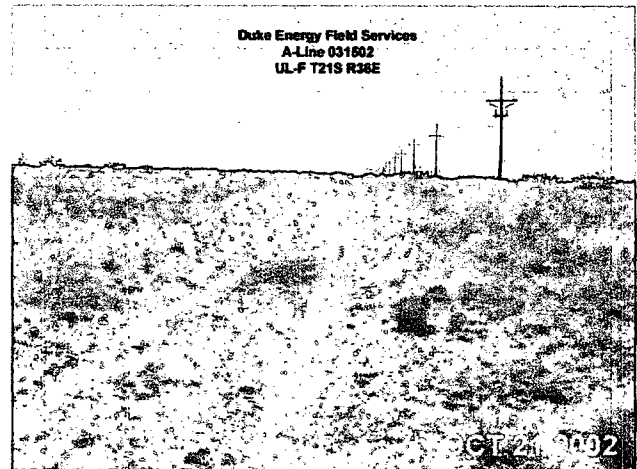
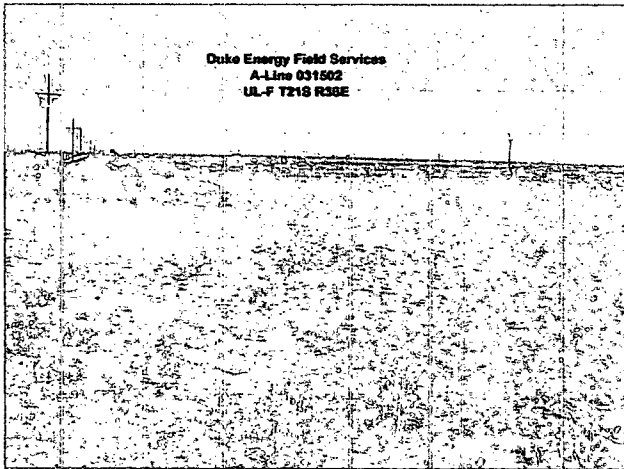
H6648
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[illegible]

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Site Photographs





Final NMOCD C-141 Form**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 West Carlsbad Hwy Hobbs, NM 88240	Telephone No. 505-397-5716
Facility Name A-Line	Facility Type Natural Gas Pipeline

Surface Owner Billy Sartan	Mineral Owner	Lease No.
--------------------------------------	---------------	-----------

LOCATION OF RELEASE


Unit Letter F	Section 8	Township 21S	Range 36E	Feet from South Line 3875	Feet from West Line 2466	Longitude W103:17:15.03	Latitude N32:29:47.82	County: Lea
-------------------------	---------------------	------------------------	---------------------	--	---------------------------------------	-----------------------------------	---------------------------------	-----------------------

NATURE OF RELEASE

Type of Release Natural Gas and associated liquid components	Volume of Release 40 bbl	Volume Recovered 30 bbl
Source of Release Steel Natural Gas Pipeline	Date and Hour of Occurrence 3/15/02 10:00 AM	Date and Hour of Discovery 3/15/02 11:00AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson - Hobbs NMOCD	
By Whom? Stan Shaver	Date and Hour 3/15/02 1:00 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.*
NADescribe Cause of Problem and Remedial Action Taken.*
Corroded pipeline, repaired with clampDescribe Area Affected and Cleanup Action Taken.*
~10,600-ft² surface area ultimately affected by shallow excavation. RCRA Exempt Non-hazardous contaminated soil above remedial goals was excavated and disposed of by EPI. (Closure documentation 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: 	OIL CONSERVATION DIVISION	
Printed Name: Paul Mulkey	Approved by District Supervisor:	
Title: Construction & Maintenance Supervisor	Approval Date:	Expiration Date:
Date: 10/31/02 Phone: 505-397-5716	Conditions of Approval: <input type="checkbox"/> Attached	

Attach Additional Sheets If Necessary

Site Information and Metrics Form

		Incident Date and NMOCD Notified?	
		3/15/02 11:00AM	3/15/02 1:00 PM
SITE: A-Line		Assigned Site Reference #: A-Line 031502	
Company: Duke Energy Field Services			
Street Address: 11525 West Carlsbad Hwy			
Mailing Address: 11525 West Carlsbad Hwy			
City, State, Zip: Hobbs, NM 88240			
Representative: Paul Mulkey			
Representative Telephone: 505-397-5716			
Telephone:			
Fluid volume released (bbls): 40 bbl		Recovered (bbls): 30 bbl	
>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: A-Line 031502			
Source of contamination: Steel Natural Gas Pipeline			
Land Owner, i.e., BLM, ST, Fee, Other: Billy Sartan 223 N. Moore, Sulphur Spring, TX 75482			
LSP Dimensions: 85-ft X 85-ft with narrow flowpath extending north 270-ft (see Plate 3)			
LSP Area: ~ 10,600 ft-sq			
Location of Reference Point (RP):			
Location distance and direction from RP:			
Latitude: N32:29:47.82			
Longitude: W103:17:15.03			
Elevation above mean sea level: 3595-ft amsl			
Feet from South Section Line: 3875			
Feet from West Section Line: 2466			
Location - Unit or 1/4 1/4: UL- F SE 1/4 of NW 1/4			
Location - Section: 8			
Location - Township: 21S			
Location - Range: 36E			
Surface water body within 1000' radius of Site: None			
Surface water body within 1000' radius of Site:			
Domestic water wells within 1000' radius of Site: None			
Domestic water wells within 1000' radius of Site:			
Agricultural water wells within 1000' radius of Site: None			
Agricultural water wells within 1000' radius of Site:			
Public water supply wells within 1000' radius of Site: None			
Public water supply wells within 1000' radius of Site:			
Depth (ft) from land surface to ground water (DG): 154			
Depth (ft) of contamination (DC): 10			
Depth (ft) to ground water (DG - DC = DtGW): 144			
1. Ground Water		2. Wellhead Protection Area	
If Depth to GW <50 feet: 20 points		If <1000' from water source, or, <200' from private domestic water source: 20 points	
If Depth to GW 50 to 99 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	
Ground water Score: 0		Wellhead Protection Area Score: 0	
Site Rank (1+2+3) = 0		Surface Water Score: 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

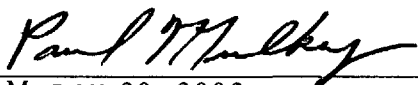
¹100 ppm field VOC headspace measurement may be substituted for lab analysis

Certificate of Waste Status (RCRA Exempt)**ENVIRONMENTAL PLUS, INC.****Environmental Services & Land Farm**

PERMIT # NM-01-0013

Certificate of Waste Status**"Exempt Waste"**COMPANY: DUKE ENERGY FIELD SERVICESORIGIN: UL OR ¼¼: F SECTION: 08 TOWNSHIP: 21S RANGE: 36ESOURCE DESCRIPTION (PIPELINE, LEASE, BATTERY, FLOWLINE, ETC.) PIPELINEA-LINE NATURAL GAS PIPELINE

"AS A CONDITION OF ACCEPTANCE FOR DISPOSAL,
 I HEREBY CERTIFY THAT THIS WASTE IS AN **EXEMPT** WASTE
 AS DEFINED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) JULY 1988
 REGULATORY DETERMINATION AND TO MY KNOWLEDGE, THIS WASTE BEEN
 CHARACTERIZED AS "NON-HAZARDOUS" PURSUANT TO THE PROVISIONS OF EPA 40 CFR
 PART 261 SUBPART C AND HAS NOT BEEN COMINGLED WITH AN EPA 40 CFR PART 261
 SUBPART D "LISTED WASTE."

I,	PAUL MULKEY	, THE UNDERSIGNED AGENT
FOR	DUKE ENERGY FIELD SERVICES	, HEREBY CERTIFY THAT,
BASED ON PERSONAL KNOWLEDGE, THE ABOVE STATEMENT IS TRUE AND CORRECT.		
NAME	PAUL MULKEY	
TITLE	MAINTENANCE & CONSTRUCTION SUPERVISOR	
ADDRESS	11525 WEST CARLSBAD HIGHWAY	
	HOBBS, NEW MEXICO 88240	
SIGNATURE		
DATE	MARCH 20, 2002	

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

Sta

11/8/02

Energy Mine

NEED OK

Oil

LETTER

122

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

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Address 11525 West Carlsbad Hwy Hobbs, NM 88240	Telephone No. 505-397-5716
Facility Name A-Line	Facility Type Natural Gas Pipeline

Surface Owner Billy Sartan	Mineral Owner	Lease No.
--------------------------------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from South Line	Feet from West Line	Longitude	Latitude	County
F	8	21S	36E	3875	2466	W103:17:15.03	N32:29:47.82	Lea

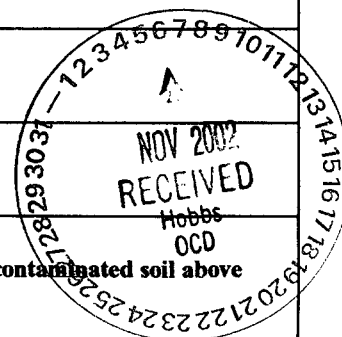
NATURE OF RELEASE

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Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson - Hobbs NMOCD	
By Whom? Stan Shaver	Date and Hour 3/15/02 1:00 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* Corroded pipeline, repaired with clamp		
Describe Area Affected and Cleanup Action Taken.* ~10,600-ft² surface area ultimately affected by shallow excavation. RCRA Exempt Non-hazardous contaminated soil above remedial goals was excavated and disposed of by EPL. (Closure documentation 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: <i>Paul Mulkey</i>	OIL CONSERVATION DIVISION	
Printed Name: Paul Mulkey		
Title: Construction & Maintenance Supervisor	Approved by District Supervisor:	
Date: 10/31/02 Phone: 505-397-5716	Approval Date:	Expiration Date:
Conditions of Approval:		<input type="checkbox"/> Attached

Attach Additional Sheets If Necessary





ENVIRONMENTAL PLUS, INC. *Micro-Blaze Micro-Blaze Oxi™*
STATE APPROVED LAND FARM AND ENVIRONMENTAL SERVICES

October 31, 2002

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 – A-Line 031502 Final C-141 and Closure Documentation

Dear Mr. Johnson:

Environmental Plus, Inc. (EPI), on behalf of Duke Energy Field Services submits for your consideration and approval the Final C-141 and Closure Documentation for the “A-Line 031502” 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 the disposal of said contaminated soils at EPI’s approved land farm consistent with the Initial C-141 and Remediation Plan submitted to NMOCD on March 20, 2002. EPI, on behalf of Duke Energy Field Services, 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 505-397-5716.

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
Sherry Miller, EPI President
Ben Miller, EPI Vice President and General Manager
Pat McCasland, EPI Technical Manager
File



ENVIRONMENTAL PLUS, INC.

ENVIRONMENTAL PLUS, INC.

Environmental Services & Land Farm

PERMIT # NM-01-0013

Certificate of Waste Status

"Exempt Waste"

COMPANY: DUKE ENERGY FIELD SERVICES

ORIGIN: UL OR ¼¼: F SECTION: 08 TOWNSHIP: 21S RANGE: 36E

SOURCE DESCRIPTION (PIPELINE, LEASE, BATTERY, FLOWLINE, ETC.) PIPELINE

A-LINE NATURAL GAS PIPELINE

"AS A CONDITION OF ACCEPTANCE FOR DISPOSAL,
I HEREBY CERTIFY THAT THIS WASTE IS AN **EXEMPT WASTE**
AS DEFINED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) JULY 1988
REGULATORY DETERMINATION AND TO MY KNOWLEDGE, THIS WASTE BEEN
CHARACTERIZED AS "NON-HAZARDOUS" PURSUANT TO THE PROVISIONS OF EPA 40 CFR
PART 261 SUBPART C AND HAS NOT BEEN COMINGLED WITH AN EPA 40 CFR PART 261
SUBPART D "LISTED WASTE."

I, PAUL MULKEY, THE UNDERSIGNED AGENT
FOR DUKE ENERGY FIELD SERVICES, HEREBY CERTIFY THAT,
BASED ON PERSONAL KNOWLEDGE, THE ABOVE STATEMENT IS TRUE AND CORRECT.

NAME PAUL MULKEY
TITLE MAINTENANCE & CONSTRUCTION SUPERVISOR
ADDRESS 11525 WEST CARLSBAD HIGHWAY
HOBBS, NEW MEXICO 88240

SIGNATURE
DATE

Paul Mulkey
MARCH 20, 2002

