Duke Energy Field Services

DUKE ENERGY FIELD SERVICES
Midland Regional Office
10 Desta Drive, Suite 400-West
Midland, TX 79705

432 620 4000

July 6, 2005

Mr. Larry Johnson
New Mexico Oil Conservation Division
District I
1625 N. French Dr.
Hobbs, NM 88240

RE: Closure Request
C-Line Header and J-4-2-7-4 Line
Dates of Occurrence: June 28, 2004 and June 21, 2004 respectively

Dear Mr. Johnson;

Duke Energy Field Services, LP (DEFS) respectfully submits the attached reports and request closure letters for releases identified as the "C-Line Header (June 28, 2004) and the J-4-2-7-4 (June 21, 2004).

The C-Line Header release occurred in Unit B, Section 32, Township 17S, Range 33E. Based on the New Mexico State Engineers Office website database, the depth to groundwater was greater than 100 feet below ground surface. Recommended Remedial Action Levels are 5,000 mg/Kg TPH, 10 mg/Kg Benzene, and 50 mg/Kg Total BTEX. The remedial action levels were achieved on July 12, 2004.

The J-4-2-7-4 release occurred in Unit M, Section 8, Township 19S, Range 35E. Based on the New Mexico State Engineers Office website database, the depth to groundwater was approximately 45 feet below ground surface. Recommended Remedial Action Levels are 100 mg/Kg TPH, 10 mg/Kg Benzene, and 50 mg/Kg Total BTEX. The remedial action levels were achieved on August 9, 2004.

Based on the closure report documentation, DEFS respectfully requests that both sites be issued letters of "No further actions required".

If you have any questions, please feel free to contact either me at 432/620-4207.

Sincerely,
Duke Energy Field Services, LP

Lynn Ward
Sr. Environmental Specialist
Southern Division

Cc: R. Gilchrest (w/o enclosures)
File: Gathering Line 2.1.1.1

Duke Energy Field Services

Surface Facility
PLWJ
05193508911
7.12.05
ADMIN APP
APPLICATION #
PLWJ 0519351425
R-21

SITE INVESTIGATION, REMEDIATION AND FINAL C-141 CLOSURE DOCUMENTATION

C-LINE HEADER RELEASE SITE

DEFS REF: 130005

UL-B (NW¼ OF THE NE¼) OF SECTION 32 T17S R33E

~6.25 MILES SOUTHEAST OF MALJAMAR,

LEA COUNTY, NEW MEXICO

LATITUDE: N 32° 47' 44.42" LONGITUDE: W 103° 40' 56.35"

JUNE 2005

PREPARED BY:

Environmental Plus, Inc.

2100 Avenue O

P.O. Box 1558

Eunice, NM 88231

Phone: (505)394-3481

FAX: (505)394-2601

Duke Energy Field Services
A New Kind of Energy

Distribution List

Name	Title	Company or Agency	Mailing Address	e-mail
Larry Johnson	Environmental Engineer	NMOCD	1625 North French Drive Hobbs, NM 88240	LWJohnson@state.nm.us
Steve Weathers	Environmental Manager	Duke Energy Field Services, LP	370 17th Street, Suite 900 Denver, CO 80202	SWWeathers@Duke-Energy.com
Lynn Ward	Environmental Specialist-Western Division	Duke Energy Field Services, LP	10 Desta Drive, Suite 400-W Midland, TX 79705	lcward@Duke-Energy.com
Mark R. Owens	Construction Maintenance Supervisor	Duke Energy Field Services, LP	1625 West Marland Hobbs, NM 88240	mrowens@duke-energy.com
File		EPI	P. O. Box 1558 Eunice, NM 88231	iolness@hotmail.com

NMOCD - New Mexico Oil Conservation Division
EPI - Environmental Plus, Inc.

Standard of Care

Closure Report

C-Line Header Release Site

The information provided in this report was collected consistent with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993), the NMOCD Unlined Surface Impoundment Closure Guidelines (February 1993), and the Environmental Plus, Inc. (EPI) Standard Operating Procedures and Quality Assurance/Quality Control Plan. The conclusions are based on field observations and laboratory analytical reports as presented in the report. Recommendations follow NMOCD guidance and represent the professional opinions of EPI staff. These opinions were arrived at with currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered EPI professional with a background in engineering, environmental, and/or the natural sciences.

This report was prepared by:

Jason Stegemoller, M.S.
Environmental Scientist

July 1, 2005
Date

This report was reviewed by:

Iain A. Olness, P.G.
Hydrogeologist

1 July 2005
Date

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FIGURES

TABLES

APPENDICES

Project Summary

Site Specific:

- **Company Name**: Duke Energy Field Services
- **Facility Name**: C-Line Header Natural Gas Gathering Pipeline
- **Project Reference** 130005
- **Company Contacts**: Mark Owens
- **Site Location:** WGS84 N32° 47' 44.426"; W103° 40' 56.357"
- **Legal Description**: Unit Letter B (NW¼ of the NE¼), Section 32, T17S, R33E
- **General Description**: approximately 6.25-miles southeast of Maljamar, New Mexico
- **Elevation**: 4,055-ft amsl **Depth to Ground Water**: ≈160-ft
- **Land Ownership**: Caviness Family Trust
- **EPI Personnel**: Project Consultant – Iain Olness
  Site Foreman – Eddie Joe Harper

Release Specific:

- **Product Released**: Natural Gas & NGL
- **Volume Released**: ≈60-bbl reported **Volume Recovered**: 50-bbl
- **Time of Occurrence**: 28-June-04 **Time of Discovery**: 28-June-04
- **Release Source**: 8" steel NG pipeline; structural integrity compromised; repaired by clamping.
- **Initial Surface Area Affected**: ≈9,205-ft^2

Remediation Specific:

- **Final Vertical extent of contamination**: 18-ft bgs; Remaining depth to ground water: >100-ft
- **Water wells within 1,000-ft**: 0 **Surface water bodies within 1,000-ft**: 0
- **NMOCD Site Ranking Index**: 0 points
- **Remedial goals for Soil**: TPH – 5,000 mg/kg; BTEX – 10 mg/kg; Benzene – 50 mg/kg.
- **RCRA Waste Classification**: Exempt
- **Remediation Option Selected**: a) Excavation of contaminated soil above NMOCD remedial goals; b) laboratory analyses to confirm removal of soil impacted above NMOCD remedial thresholds; c) blend excavated soil with surrounding clean soil and backfill the excavation.
- **Disposal Facility**: Artesia Aeration **Volume disposed of**: 332-yd^3
- **Project Completion Date**: 13 July, 2004
- **Additional Commentary**: None

1.0 Introduction & Background

This report addresses the site investigation and remediation of the Duke Energy Field Services (DEFS) C-Line Header eight-inch natural gas header and pipeline remediation site. On June 28, 2004, Environmental Plus, Inc. (EPI) was notified by DEFS regarding a recently discovered natural gas and associated natural gas liquid (NGL) release along the C-Line Header and pipeline. This site is located approximately 6.25 miles southeast of Maljamar, Lea County, New Mexico (*reference Figure 1*). The initial C-141 Form submitted to the New Mexico Oil Conservation Division (NMOCD) on July 7, 2004, reports the release volume as approximately 60-barrels with approximately 50-barrels recovered. EPI performed GPS surveying, photography and characterization of the site on June 28, 2004. The initial site consisted of an approximate 9,205 square feet (ft^2) visibly affected surface area (*reference Figure 3*).

Initial activities at the site consisted of excavating visibly NGL saturated soil from the flowpath area north of the header (*reference Figure 3*). On June 30, 2004, soil samples were collected from the excavation and analyzed in the field for the presence of organic vapors utilizing an UltraRae photoionization detector (PID) equipped with a 9.8 electron-volt (eV) lamp. In addition, samples were submitted for laboratory confirmation that hydrocarbon, chloride and sulfate impacted soil had been removed from the flowpath area. Analytical results confirmed remedial goals (as outlined in the Project Summary and Section 3.0) at the flowpath area were achieved.

Remediation of this site continued at the header area with the excavation of approximately 1,400 cubic yards (yds^3) of NGL impacted soil from what was ultimately a 2,700-ft^2 excavation, to a maximum depth of 14-feet below ground surface (bgs). Approximately 332 yds^3 of contaminated soil was transported to the Artesia Aeration landfarm for treatment. The remaining NGL impacted soil was blended on site with clean soil purchased from Caviness Family Trust and obtained from the right-of-way. On July 1, 2004, during excavation activities, the header was punctured approximately eight-feet south of the original point of release. The line was repaired and excavation activities resumed. On July 7, 2004, samples were collected from the excavation sidewalls and from a soil boring advanced into the floor of the excavation. A portion of each sample was analyzed in the field for the presence of organic vapors utilizing an UltraRae PIDequipped with a 9.8 eV lamp, the remaining portion of each sample was submitted for laboratory quantification of benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons (TPH), chloride and sulfate. Analytical results indicated that hydrocarbon concentrations were below the NMOCD remedial thresholds (*reference Table 1*). On July 12, 2004, a soil sample was collected from the blended soil with a portion of the sample field analyzed and the remainder of the sample submitted for laboratory analyses. Reported TPH and BTEX constituent concentrations were below NMOCD remedial goals, as stated in the Project Summary above and outlined in Section 3.0. Analytical results indicated chloride and sulfate concentrations in the majority of the soil samples were below remedial goals (*reference Table 1*). The excavation phase of the site remediation commenced on June 30, 2004 and was completed with backfilling and contouring on July 13, 2004.

This release site is located in Unit Letter B (NW¼ of the NE¼), Section 32, T17S, R33E, at a latitude of N32° 47' 44.42" and a longitude of W103° 40' 56.35". The site is approximately 6.25-miles southeast of Maljamar, New Mexico. The property is owned by Snyder Ranches *(reference Figures 1 through 3).*

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 Quercho Plains physiographic subdivision, described by Nicholson & Clebsch as a "vast sand dune area; which is stable or semi-stable over most of the area, but which locally drifts."

2.2 Ecological Description

The site is located in the Quercho Plains, a vast dunal area. Vegetation consists primarily of semi-desert grasslands interspersed with Honey Mesquite (*Prosopis glandulosa*) and, annual and perennial forbs. Mammals represented, include Orrd's and Merriam's Kangaroo Rats, 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 groundwater aquifer at this site is projected to be >100-ft bgs based on limited water depth data obtained from the New Mexico State Engineers Office data base. Ground water gradient in this area is generally to the east-southeast.

2.4 Area Water Wells

All recorded wells are greater than 1,000 horizontal feet from the site.

2.5 Area Surface Water Features

No surface water bodies exist within 1,000 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 groundwater 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 (CoC), were determined based on the NMOCD Ranking Criteria as follows:

- *Depth to Groundwater (i.e., distance from the lower most acceptable concentration to the ground water);*

- *Wellhead Protection Area (i.e., distance from fresh water supply wells); and*
- *Distance to Surface Water Bodies (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 groundwater from the lower most contamination, the NMOCD ranking score for the site is 0 points with the soil remedial goals highlighted in the Site Ranking table presented below.

1. Ground Water	2. Wellhead Protection Area	3. Distance to Surface Water
Depth to GW <50 feet: *20 points*	**If <1,000' 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*		**200-1,000 horizontal feet: *10 points***
Depth to GW >100 feet: 0 points	**If >1,000' from water source, or; >200' from private domestic water source: *0 points***	**>1,000 horizontal feet: *0 points***
Ground Water Score = 0	**Wellhead Protection Score= 0**	**Surface Water Score= 0**
Site Rank (1+2+3) = 20 + 0 + 0 = 0 points		

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	1,000 ppm	**5,000 ppm**

[1] A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the benzene and BTEX concentration limits.

4.0 Subsurface Soil Investigation

Initial excavation activities consisted of excavating/scraping NGL saturated topsoil in the flowpath area north of the point of release (POR) (*reference Figure 3*). To confirm removal of NGL contaminated soil, four-point composite soil samples were collected on July 30, 2004. A portion of each sample was analyzed in the field for organic vapor concentrations utilizing an UltraRae PID equipped with a 9.8 eV lamp. Organic vapor concentrations ranged from 107 to 126 ppm, with an average of 111 ppm. The remaining portion of each sample was placed in a jar, set on ice for transport and submitted to an independent laboratory for analyses. Reported concentrations for benzene were <0.005; BTEX concentrations ranged from <0.03 to 0.04 mg/Kg; and TPH concentrations ranged from <20 to 228 mg/Kg. All hydrocarbon concentrations were below NMOCD remedial thresholds as outlined in Section 3.0. Analytical results indicated chloride concentrations ranged from 48 to 80 mg/Kg and sulfate concentrations ranged from <1 to 103 mg/Kg, below NMWQCC groundwater standards.

The vertical and lateral extents of contamination at the header and POR were determined with measurements of organic vapor concentrations as the excavation progressed outwardly from the POR. To verify removal of NGL contaminated soil, soil samples were collected on July 7, 2004 from the excavation sidewalls at 14-feet bgs, as well as from the bottom hole at 18-feet bgs (*reference Figure 4*). A portion of each sample was field analyzed for organic vapor concentrations

utilizing a PID; the remainder of each sample was submitted for laboratory analyses. Organic vapor concentrations ranged from 198 to 1,920 ppm. Analytical results indicated that TPH concentrations ranged from <20.0 to 481 mg/ Kg. Reported benzene concentrations were <0.002 and BTEX concentrations ranged from <0.03 to <0.022 mg/Kg. All hydrocarbon concentrations were below NMOCD remedial thresholds. Reported chloride concentrations were below NMWQCC groundwater standards of 250 mg/L, except for the samples collected from the north sidewall (SDECLH7704NSW) and the bottom hole (SDECLH7704BH). Reported chloride concentrations for the north sidewall sample was 720 mg/Kg and for the bottom hole was 352 mg/Kg. Sulfate concentrations ranged from <1 to 334 mg/Kg, all samples were below NMWQCC groundwater standards of 650 mg/L (*reference Table 1*).

On July 12, 2004, a soil sample was collected from the excavated NGL contaminated soil after blending with clean soil obtained from the right-of-way. A portion of the sample was analyzed in the field for organic vapor concentrations utilizing a PID. The remainder of the sample was submitted to an independent laboratory for quantification of TPH, BTEX constituents, chloride and sulfate concentrations. Analytical results indicated hydrocarbon concentrations were below NMOCD remedial thresholds for all samples. Reported chloride concentrations were 304 mg/Kg and sulfate concentrations were 1,002 mg/kg. (*reference Table 1*).

5.0 Ground Water Investigation

The projected depth to ground water at this site is >100-ft bgs. Excavation of the site was to a maximum depth of 18-feet bgs. Final field analyses for soil samples collected from the sidewalls and soil boring in the excavation indicated organic vapor concentrations ranged from 198 to 1,920 ppm. In addition, analytical results for samples collected from the sidewalls and base of the excavation indicated that hydrocarbon concentrations were below NMOCD remedial thresholds (*reference Table 1*).

The excavation was backfilled with the excavated material after it had been blended with clean soil purchased from the property owner and obtained from the right-of-way. Based on the treatment of impacted soil hydrocarbon concentrations to below NMOCD remedial threshold adequate depth to ground water (>100-feet bgs), there is no need for further groundwater investigation at this site.

6.0 Remediation Process

Remediation of the site commenced on June 30, 2004 and continued through July 13, 2004. Remedial activities at the site consisted of the excavation of approximately 1,400 yd^3 of NGL contaminated soil from the site. Approximately 332 yd^3 of NGL impacted soil was transported to the Artesia Aeration landfarm for treatment. The remaining contaminated soil was blended with clean soil purchased from the property owner and obtained from the right-of-way. After laboratory analyses of the excavation sidewalls, floor, soil boring and blending cell sample indicated TPH and BTEX constituent concentrations were below NMOCD remedial thresholds the excavation was backfilled with the blended soil. (*reference Table 1 and Appendix 1*).The backfilling and contouring of the site was completed on July 13, 2004.

7.0 Closure Justification

This report documents successful treatment of impacted soil above the NMOCD remedial thresholds discussed in Section 3.0 above and confirmed via laboratory analyses for this release site. Due to the depth to groundwater (i.e., >100-feet), it is suggested that the remaining chloride and

sulfate residuals in the soil will not impact the groundwater and can be left in place. The NGL impacted soil was excavated with a portion transported to the Artesia Aeration landfarm for treatment. The remaining NGL impacted soil was blended with clean soil purchased from the property owner and obtained from the right-of-way and returned to the excavation. 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 and issue a *Site Closure Letter.*

FIGURES

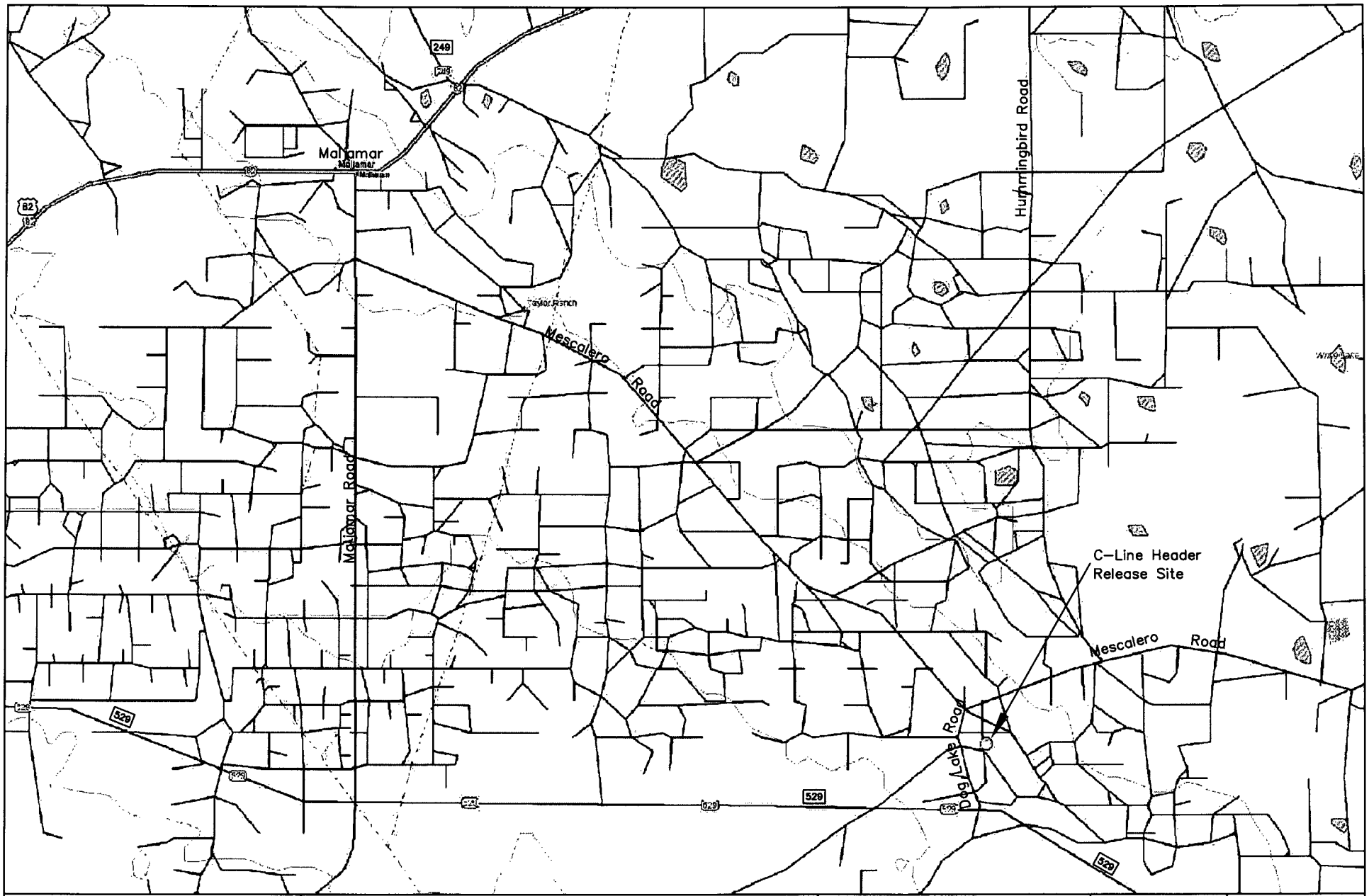


Figure 1 Area Map Duke Energy Field Services C-Line Header	Lea County, New Mexico NW 1/4 of the NE 1/4, Sec. 32, T17S, R33E N 32 °47' 44.4" W 103 40' 56.3" Elevation: 4,055 feet amsl	DWG By: Iain Olness June 2004	REVISED: JCS, June 2005
		0 1.0 2.0 Miles	SHEET 1 of 1

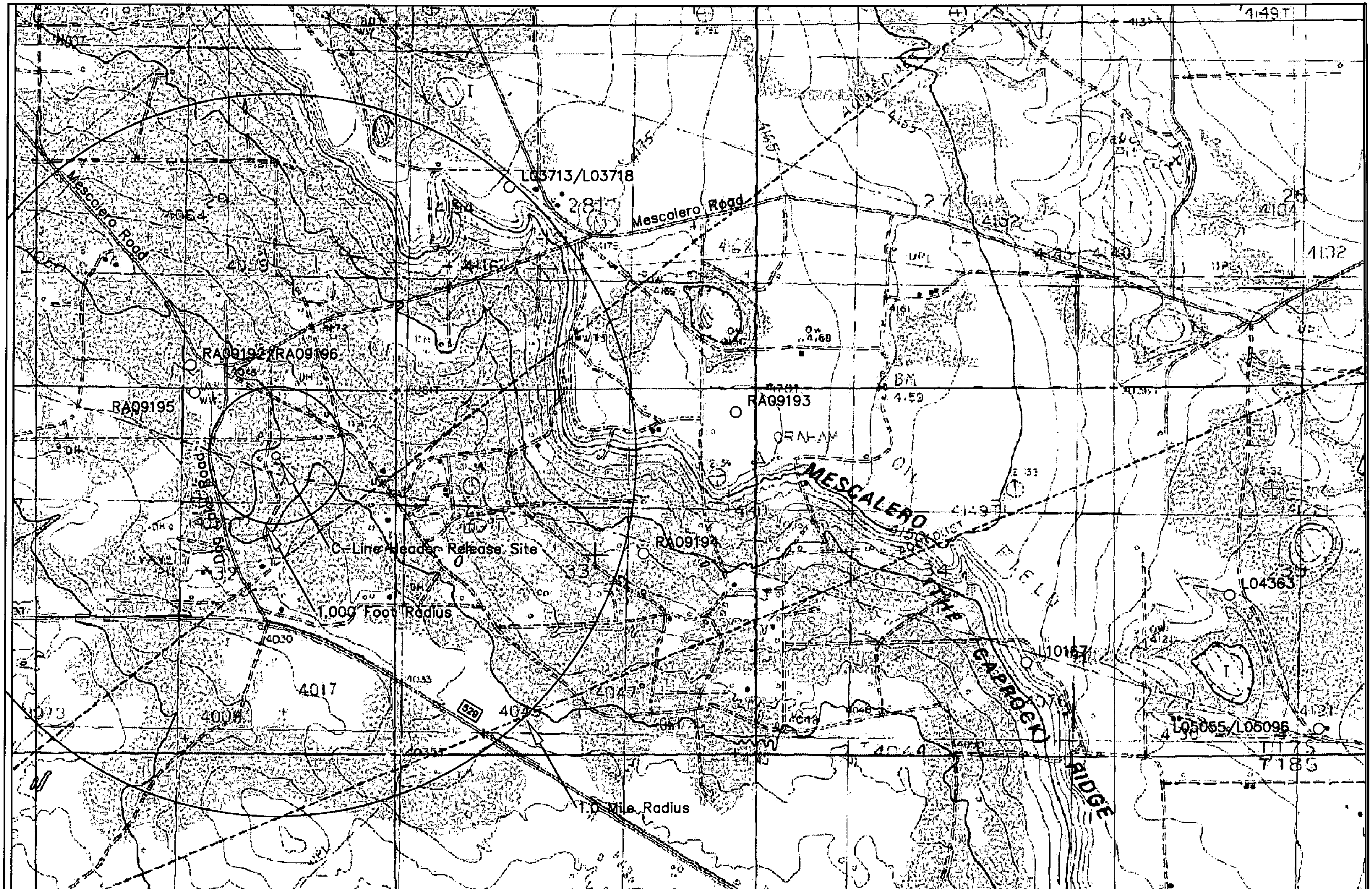


Figure 2 Site Location Map Duke Energy Field Services C-Line Header	Lea County, New Mexico NW 1/4 of the NE 1/4, Sec. 32, T17S, R33E N 32° 47' 44.4" W 103° 40' 56.3" Elevation: 4,055 feet amsl	DWG By: Iain Olness June 2004	REVISED: JCS, June 2005
		0 2,000 4,000 Feet	SHEET 1 of 1

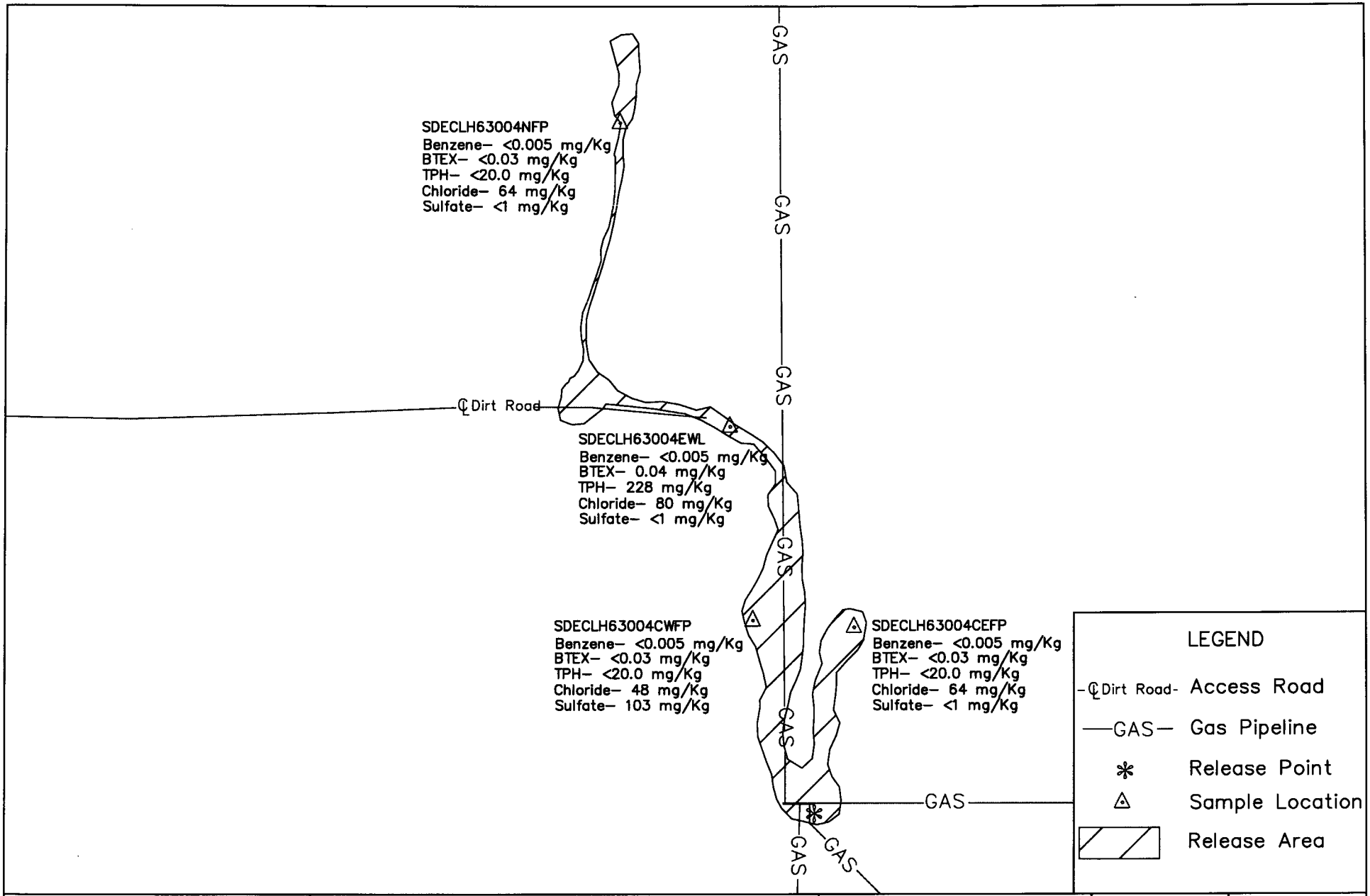


Figure 3
Site and North Flowpath
Sample Location Map
Duke Energy Field Services
C–Line Header

Lea County, New Mexico
NW 1/4 of the NE 1/4, Sec. 32, T17S, R33E
N 32° 47' 44.4" W 103° 40' 56.3"
Elevation: 4,055 feet amsl

DWG By: Iain Olness
June 2004

REVISED:
JCS, June 2005

0 90 180
Feet

SHEET
1 of 1

N

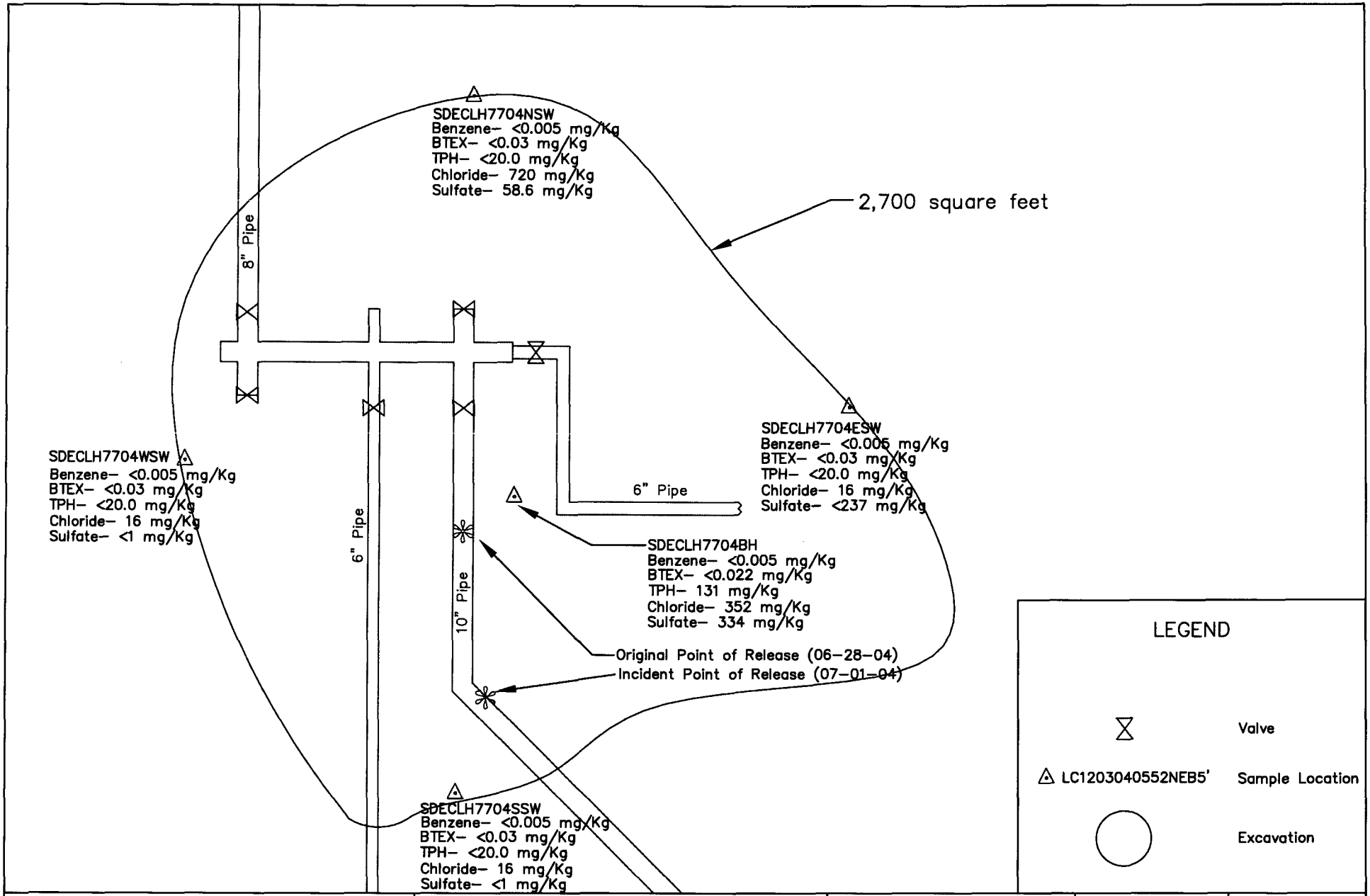


Figure 4
Header Sample Location Map
DEFS
C–Line Header

Lea County, New Mexico
NW 1/4 of the NE 1/4, Sec. 32, T17S, R33E
N 32° 47' 44.42" W 103° 40' 56.35"
Elevation: 4,055 feet amsl

DWG By: Iain Olness
June 2004

REVISED:
JCS, June 2005

0 5 10
Feet

SHEET
1 of 1

N

TABLES

TABLE 1

Summary of Excavation Soil Field Analyses and Laboratory Analytical Results

DEFS C-Line Header (Ref.# 130005)

Soil Boring	Depth (feet)	Sample Date	PID Reading (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	TPH (as gasoline) (mg/Kg)	TPH (as diesel) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	Sulfate (mg/Kg)
SDECLH63004NFP	5	06/30/04	116	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	64	<1
SDECLH63004EWL	5	06/30/04	124	<0.005	0.017	0.018	<0.015	0.04	<10.0	228	228	80	<1
SDECLH63004CWFP	5	06/30/04	126	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	48	103
SDECLH63004CEFP	5	06/30/04	107	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	64	<1
SDECLH7704NSW	14	07/07/04	780	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	720	58.6
SDECLH7704WSW	14	07/07/04	820	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	16	<1
SDECLH7704SSW	14	07/07/04	198	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	16	<1
SDECLH7704ESW	14	07/07/04	1920	<0.005	<0.005	<0.005	<0.015	<0.03	<10.0	<10.0	<20.0	16	237
SDECLH7704BH	18	07/07/04	920	<0.005	<0.005	0.007	0.015	0.022	<10.0	131	131	352	334
SDECLH71204BCN	Surface	07/12/04	353	<0.005	0.047	0.189	0.668	0.904	<10.0	481	481	304	1,002
NMOCD Remedial Thresholds			**100**	**10**				**50**			**1,000**	**250[3]**	**650[3]**

[1] *Bolded values are in excess of NMOCD Remediation Thresholds*

[2] *NA=Not Analyzed*

[3] *Chloride and Sulfate residuals may not be capable of impacting local groundwater above the NMWQCC standards of 250 mg/L and 650 mg/L respectively.*

APPENDIX I

LABORATORY ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY FORMS

CARDINAL LABORATORIES

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

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

Receiving Date: 07/08/04
Reporting Date: 07/09/04
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: C LINE HEADER
Project Location: NOT GIVEN

Sampling Date: 06/30/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
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:		07/08/04	07/08/04	07/09/04	07/09/04	07/09/04	07/09/04
H8888-1	SDECLH63004NFP	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8888-2	SDECLH63004EWL	<10.0	228	<0.005	0.017	0.018	0.054
H8888-3	SDECLH63004CWFP	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8888-4	SDECLH63004CEFP	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
Quality Control		768	848	0.105	0.103	0.096	0.280
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		95.9	106	105	103	96.3	93.2
Relative Percent Difference		2.6	3.7	0.8	1.4	5.3	3.0

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

Burgess J. A. Cooke, Ph. D.

7/9/04
Date

H8888A.XLS

CARDINAL LABORATORIES

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

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

Receiving Date: 07/08/04
Reporting Date: 07/09/04
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: C LINE HEADER
Project Location: NOT GIVEN

Sampling Date: 06/30/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Sulfate (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		07/09/04	07/09/04
H8888-1	SDECLH63004NFP	<1	64
H8888-2	SDECLH63004EWL	<1	80
H8888-3	SDECLH63004CWFP	103	48
H8888-4	SDECLH63004CEFP	<1	64
Quality Control		48.21	1000
True Value QC		50.00	1000
% Recovery		96.4	100
Relative Percent Difference		6.2	2.0

METHODS: EPA 600/4-79-02	375.4	SM 4500-Cl⁻ B

Amy Hill
Chemist

7/9/04
Date

H8888

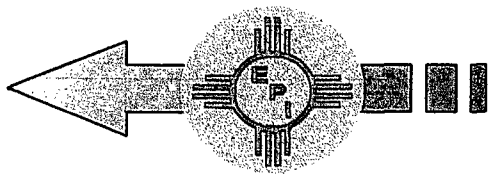
Cardinal Laboratories Inc.

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

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

Company Name:	Environmental Plus, Inc.
EPI Project Manager:	Iain Olness
Billing Address:	P.O. BOX 1558
City, State, Zip:	Eunice New Mexico 88231
EPI Phone#/Fax#:	505-394-3481 / 505-394-2601
Client Company:	Duke Energy Field Services
Facility Name:	C-Line Header
Project Reference:	130005
EPI Sampler Name:	Eddie Joe Harper

Bill To



ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO_4^{-2})	pH	TCLP	OTHER >>>
H8888 – 1	SDECLH63004NFP	G	1			X					X		30-Jun	13:05	X	X	X	X			
– 2	SDECLH63004EWL	G	1			X					X		30-Jun	14:10	X	X	X	X			
– 3	SDECLH63004CWFP	G	1			X					X		30-Jun	14:25	X	X	X	X			
– 4	SDECLH63004CEFP	G	1			X					X		30-Jun	14:40	X	X	X	X			
5																					
6																					
7																					
8																					
9																					
10																					

Sampler Relinquished:	Date	Received By:	**Fax Results To Iain Olness @ 505-394-2601**
	Time		**REMARKS:**
Relinquished by:	Date 07-08-04	Received By: (lab staff)	Analyze samples for chloride and sulfates if TPH <5,000 ppm, BTEX <50 ppm and Benzene<10 ppm
	Time 2:18		
Delivered by:	Sample Cool & Intact: Yes / No	Checked By:	

CARDINAL LABORATORIES

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

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

Receiving Date: 07/07/04
Reporting Date: 07/08/04
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: C LINE HEADER
Project Location: NOT GIVEN

Sampling Date: 07/07/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Sulfate (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		07/08/04	07/08/04
H8883-1	SDECLH7704NSW	58.6	720
H8883-2	SDECLH7704WSW	<1	16
H8883-3	SDECLH7704SSW	<1	16
H8883-4	SDECLH7704ESW	237	16
H8883-5	SDECLH7704BH	334	352
Quality Control		48.21	1000
True Value QC		50.00	1000
% Recovery		96.4	100
Relative Percent Difference		6.2	2.0

METHODS: EPA 600/4-79-02	375.4	SM 4500-Cl⁻ B

Amy Hill
Chemist

7/8/04
Date

H8883

CARDINAL LABORATORIES

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

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

Receiving Date: 07/07/04
Reporting Date: 07/08/04
Project Owner: DUKE ENERGY FIELD SERVICES
Project Name: C LINE HEADER
Project Location: NOT GIVEN

Sampling Date: 07/07/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: HM
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:	07/07/04	07/07/04	07/08/04	07/08/04	07/08/04	07/08/04
H8883-1 SDECLH7704NSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8883-2 SDECLH7704WSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8883-3 SDECLH7704SSW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8883-4 SDECLH7704ESW	<10.0	<10.0	<0.005	<0.005	<0.005	<0.015
H8883-5 SDECLH7704BH	<10.0	131	<0.005	<0.005	0.007	0.015
Quality Control	778	819	0.106	0.102	0.091	0.091
True Value QC	800	800	0.100	0.100	0.100	0.300
% Recovery	97.3	102	106	102	91.2	90.5
Relative Percent Difference	12.4	10.8	2.0	3.9	3.1	1.5

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

Burgess J. A. Cooke, Ph. D.

7/8/04
Date

H8883A.XLS

Cardinal Laboratories Inc.

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

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

Company Name	Environmental Plus, Inc.
EPI Project Manager	Iain Olness
Billing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	505-394-3481 / 505-394-2601
Client Company	Duke Energy Field Service
Facility Name	C-Line Header
Project Reference	
EPI Sampler Name	Eddie Joe Harper

Bill To

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	Sulfate	Chloride
H8883 - 1	SDECLH7704 NSW					X					X		7-7-04	1:PM	X	X						X	X
- 2	SDECLH7704 WSW													1:10									
- 3	SDECLH7704 SSW													1:15									
- 4	SDECLH7704 ESW													1:25									
- 5	SDECLH7704 BH													1:30									
6																							
7																							
8																							
9																							
10																							

Sampler Relinquished: Eddie J Harper	Date: 7-7-04 Time:	Received By:	Fax Results To Iain Olness 505-394-2601
Relinquished by:	Date: 07-07-04 Time: 3:46	Received By: (lab staff) Jose S. Moreno	REMARKS: Run Sulfate & Chlorides if TPH less than 5000 ppm & BTEX < than 50ppm & Benzene < 10ppm
Delivered by:	Sample Cool & Intact: (Yes) No	Checked By:	

CARDINAL LABORATORIES

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

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

Receiving Date: 07/12/04
Reporting Date: 07/13/04
Project Number: 1300005
Project Name: DUKE ENERGY
Project Location: C-LINE HEADER

Sampling Date: 07/12/04
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:	07/12/04	07/12/04	07/12/04	07/12/04	07/12/04	07/12/04
H8899-1 SDECLH71204BCN	<10.0	481	<0.005	0.047	0.189	0.668
Quality Control	787	738	0.091	0.091	0.087	0.264
True Value QC	800	800	0.100	0.100	0.100	0.300
% Recovery	98.4	92.2	91.2	94.3	86.9	88.0
Relative Percent Difference	6.6	3.3	8.5	3.8	3.3	<0.1

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

Burgess J. A. Cooke. Ph. D.

7/13/04
Date

H8899A.XLS

CARDINAL LABORATORIES

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

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

Receiving Date: 07/12/04
Reporting Date: 07/14/04
Project Number: 1300005
Project Name: DUKE ENERGY FIELD SERVICES
Project Location: C-LINE HEADER

Sampling Date: 07/12/04
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Sulfate (mg/Kg)	Cl (mg/Kg)
ANALYSIS DATE:		07/09/04	07/09/04
H8899-1	SDECLH71204BCN	1002	304
Quality Control		48.21	990
True Value QC		50.00	1000
% Recovery		96.4	99.0
Relative Percent Difference		6.2	1.0
METHODS: EPA 600/4-79-02		375.4	SM 4500-Cl B

Amy Hill
Chemist

7/14/04
Date

h8899

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page ____ of ____

Company Name:	Duke Energy	BILL TO	
Project Manager:	Paul Mulkey	P.O. #:	
Address:		Company:	EPE
City:	Hobbs	State: NM Zip:	Attn: Iain
Phone #:		Fax #: 394-2601	Address:
Project #:	130005	Project Owner:	City: Eunice
Project Name:			State: NM Zip: 88231
Project Location:	C-Line Header		Phone #: 394-3481
Sampler Name:	Eddie Harper		Fax #:

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST							
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	B-TEX	TPH	5+1 PAH	Chlorides				
H8879-1	SDECLH71204BCN	G	1			✓					✓		7-12-04	9AM	✓	✓	✓	✓				

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 the client for the 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 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.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Eddie Harper	Date: 7/12/04 Time: 530	Received By: Iain Oeress	Phone Result: ☐ Yes ☐ No
Relinquished By: Iain Oeress	Date: 7/12/04 Time: 1740	Received By: (Lab Staff) Burgess W. Cook	Fax Result: ☐ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Temp, °C: cool; Intact? ☒ Yes ☐ No	Checked By: (Initials)	REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to (915) 673-7020.

APPENDIX II

PROJECT PHOTOGRAPHS

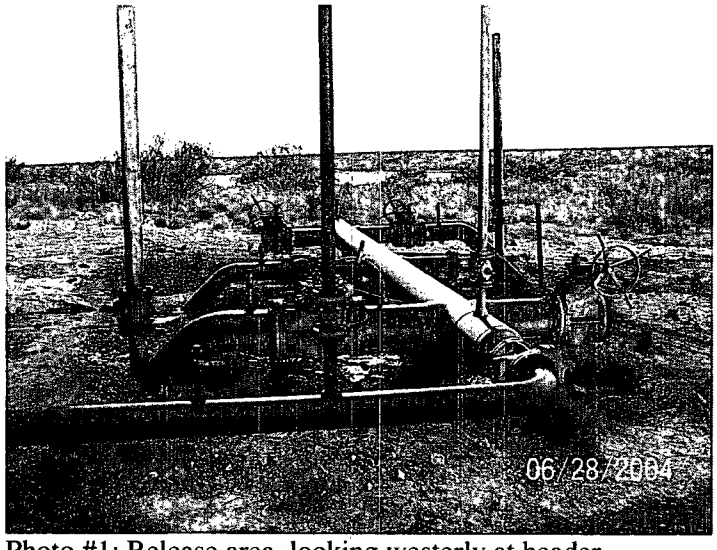


Photo #1: Release area, looking westerly at header. Dark soil indicates contamination.

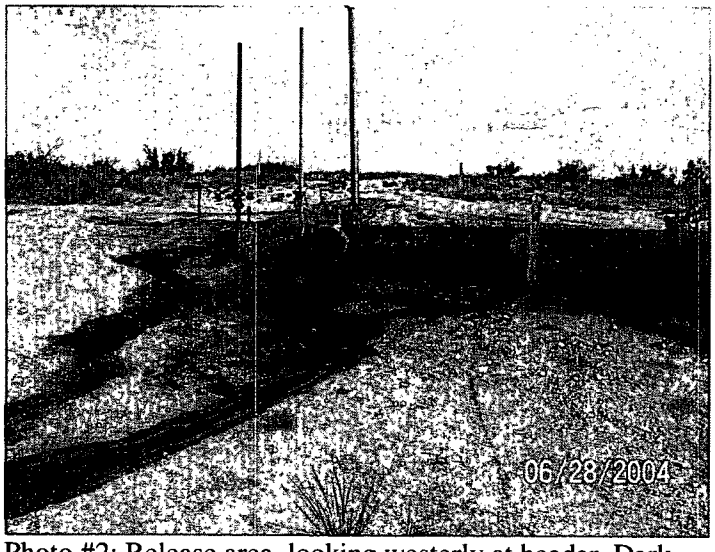


Photo #2: Release area, looking westerly at header. Dark soil indicates contamination

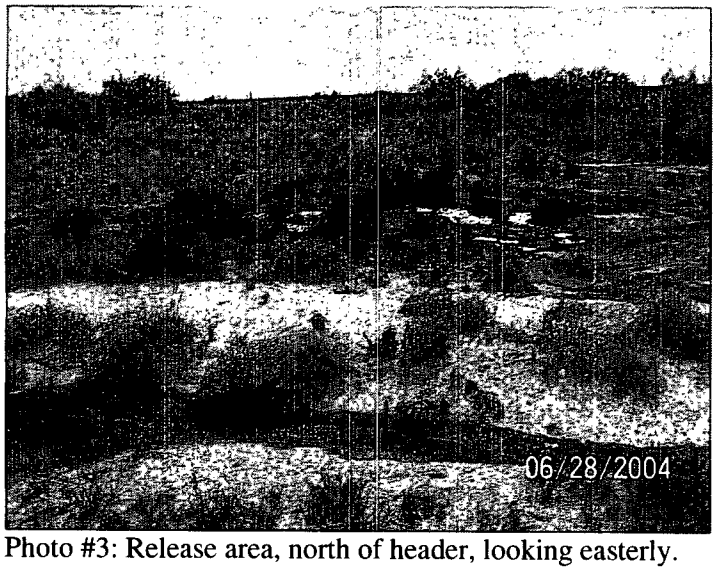


Photo #3: Release area, north of header, looking easterly. Dark soil indicates contamination.

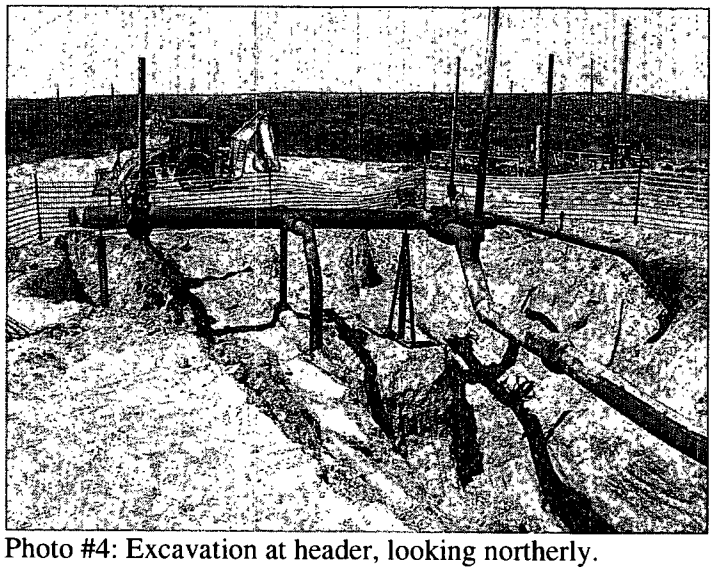


Photo #4: Excavation at header, looking northerly.

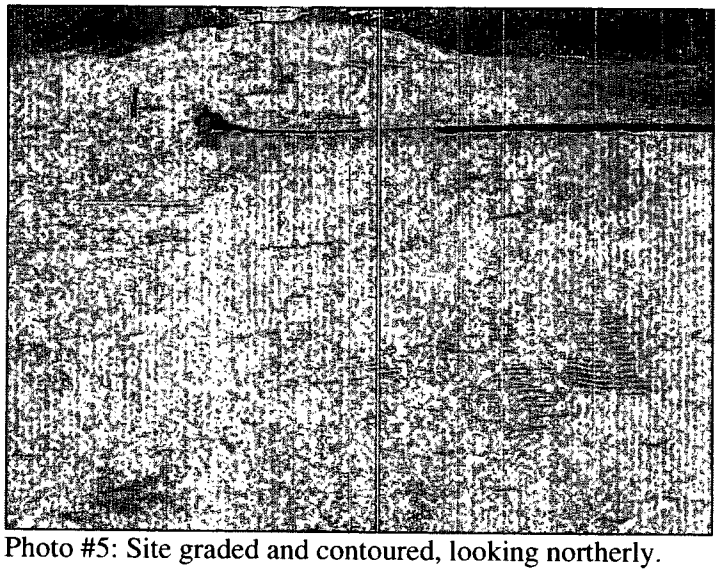


Photo #5: Site graded and contoured, looking northerly.

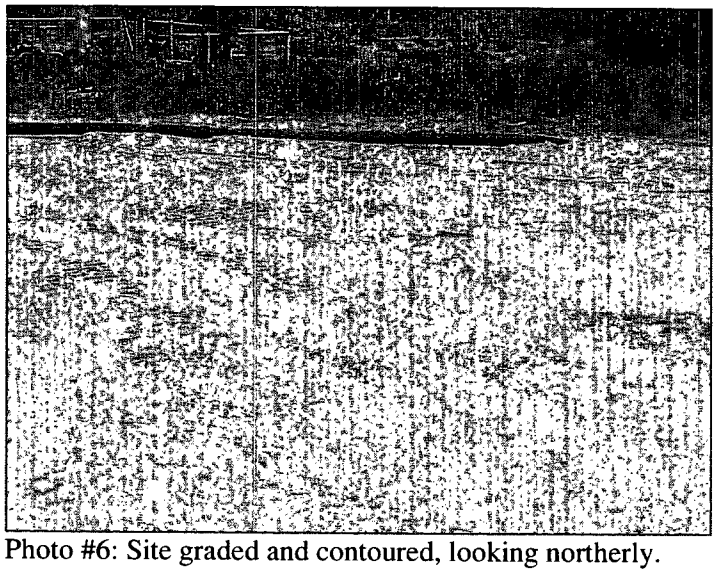


Photo #6: Site graded and contoured, looking northerly.

APPENDIX III

SITE INFORMATION AND METRICS FORM
AND
FINAL NMOCD C-141 FORM

Duke Energy Field Services Site Information and Metrics	**Incident Date:** June 28, 2004 @ 1000	**NMOCD Notified:** June 28, 2004 @ 1355

Site: C-Line Header	**Assigned Site Reference #:** 130005
Company: Duke Energy Field Services	
Street Address:	
Mailing Address: 11525 West Carlsbad Highway	
City, State, Zip: Hobbs, New Mexico 88240	
Representative: Paul Mulkey	
Representative Telephone: (505) 397-5716	
Telephone:	
Fluid volume released (bbls): ≈ 60 barrels	**Recovered (bbls):** 50 barrels
>25 bbls: Notify NMOCD verbally within 24 hrs and submit form C-141 within 15 days. (Also applies to unauthorized releases >500 mcf Natural Gas)	
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: C-Line Header	
Source of contamination: 8" Steel Pipeline	
Land Owner, i.e., BLM, ST, Fee, Other: Caviness Family Trust	
LSP Dimensions: 590 feet by 15.5 feet	
LSP Area: ≈9,205 ft^2	
Location of Reference Point (RP):	
Location distance and direction from RP:	
Latitude: N 32° 47' 44.42636"	
Longitude: W 103° 40' 56.35762"	
Elevation above mean sea level: 4,055	
Feet from South Section Line:	
Feet from West Section Line:	
Location- Unit or ¼¼: NW¼ of the NE¼	Unit Letter: B
Location- Section: 32	
Location- Township: T17S	
Location- Range: R33E	
Surface water body within 1000 ' radius of site: none	
Domestic water wells within 1000' radius of site: none	
Agricultural water wells within 1000' radius of site: none	
Public water supply wells within 1000' radius of site: none	
Depth from land surface to ground water (DG): ≈ 160' below ground surface	
Depth of contamination (DC): Unknown	
Depth to ground water (DG – DC = DtGW): > 100'	

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 Score= 0*	*Surface Water Score= 0*

Site Rank (1+2+3) = 0

Total Site Ranking Score and Acceptable Concentrations

Parameter	>19	10-19	0-9
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

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** Mark Owens
Address 1625 West Marland, Hobbs, New Mexico 88240	**Telephone No.** 505-397-5541
Facility Name C-Line Header	**Facility Type** 8" Steel Pipeline

Surface Owner	**Mineral Owner**	**Lease No.**
Caviness Family Trust		

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the North/South Line	Feet from the East/West Line	County: Lea
B	32	T17S	R33E			Lat. N 32° 47' 44.426" Lon. W 103° 40' 56.357"

NATURE OF RELEASE

Type of Release Natural Gas Pipeline Fluids	**Volume of Release** 60 barrels	**Volume Recovered** 50 barrels
Source of Release 8" steel pipeline operating at 20 lbs with a normal daily flow rate of 2.5 million gallons per day	**Date and Hour of Occurrence** June 28, 2004 @ 1000	**Date and Hour of Discovery** June 28, 2004 @ 1330
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	**If YES, To Whom?** Larry Johnson	
By Whom? Lynn Ward of DEFS	**Date and Hour** June 28, 2004 @ 1355	
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.*
Steel line began leaking. Clamp Installed.

Describe Area Affected and Cleanup Action Taken.*
≈332 yd^3 soil contaminated above the NMOCD Remedial Guidelines was disposed of at a state approved landfarm, the remaining soil was remediated on site. Remedial Goals: TPH = 5,000 mg/Kg, benzene = 10 mg/Kg, and BTEX = 50 mg/Kg.

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: Mark Owens	**OIL CONSERVATION DIVISION**
Printed Name: Mark Owens **E-mail Address:** mrowens@duke-energy.com	**Approved by District Supervisor:**
Title: Construction Maintenance Supervisor	**Approval Date:** / **Expiration Date:**
Date: 7-1-05 **Phone:** 505-397-5541	**Conditions of Approval:** / **Attached** ☐

* Attach Additional Sheets If Necessary