## **CLOSURE PROPOSAL**

LYNCH DISCHARGE LINE

1RP # 885 Company No. 36785 EPI REF: 130016

UL-H (SE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub>) of Section 15 T19S R34E ~16.6 Miles west-northwest of Monument Lea County, New Mexico Latitude: N 32° 39' 49.9" Longitude: W 103° 32' 28.8"

## **JANUARY 2007**

**PREPARED BY:** 

ENVIRONMENTAL PLUS, INC. 2100 AVENUE O EUNICE, NEW MEXICO 88231

**PREPARED FOR:** 





## LETTER OF TRANSMITTAL



January 8, 2007
Larry Johnson
New Mexico Oil Conservation Division – Hobbs
1625 French Drive
Hobbs, New Mexico 88240
Jason Stegemoller
Paul Evans, BLM – Carlsbad, NM; Steve Weathers, DEFS – Denver, CO;
Lynn Ward, DEFS – Midland, TX
<b>1RP# 885</b> ; EPI Ref. 130016
DCP Midstream, LLC – Lynch Discharge Line
Closure Proposal

# of originals	# of copies	Description
	1	Copy of the DCP Midstream, LLC – Lynch Discharge Line Closure Proposal
	•	

## Remarks

Dear Mr. Johnson:

Enclosed is a copy of the Closure Proposal for the above-referenced site. A copy of the proposal was sent to the Bureau of Land Management and appropriate DCP Midstream personnel. Should you have any questions or concerns, please contact Cody Miller or me at (505) 394-3481.

Sincerely,

Environmental Plus, Inc.

Javon Alegemote

Jason Stegemoller Environmental Scientist





4S),

P. O. Box 1558 Eunice, NM 88240 (505) 394-3481 Fax: (505) 394-2601 

## **Distribution** List

# DCP Midstream, LLC – Lynch Discharge Line

## NMOCD 1RP #885; EPI Ref: 130016

Name	Title	Company or Agency	Mailing Address	e-mail
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## **STANDARD OF CARE**

## **Closure Proposal**

## Lynch Discharge Line (NMOCD 1RP#885; EPI Ref. #130016)

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 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 derived using currently accepted geologic, hydrogeologic and engineering practices at this time and location. The report was prepared or reviewed by a certified or registered professional with a background in engineering, environmental and/or natural sciences.

This report was prepared by:

e scmill Jason Stegemoller, M.S.

Jason Stegemoller, M.S. Environmental Scientist

January 8, 2007

This report was reviewed by:

David Duncan Civil Engineer

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## 1.0 **PROJECT SYNOPSIS**

## Site Specific:

- *Company Name:* DCP Midstream, LLC (formerly Duke Energy Field Services)
- *Facility Name*: Lynch Discharge Line
- Project Reference: NMOCD 1RP#885; EPI Ref. #130016
- Company Contacts: Lynn Ward
- Site Location: WGS84 N32° 39' 49.9"; W103° 32' 28.8"
- Legal Description: Unit Letter-H, (SE<sup>1</sup>/<sub>4</sub> of the NE<sup>1</sup>/<sub>4</sub>), Section 15, T 19 S, R 34 E
- General Description: Approximately 16.6-miles west-northwest of Monument, New Mexico
- *Elevation:* 3,895-ft amsl
- Land Ownership: United States Government; administered by the Department of Interior Bureau of Land Management
- EPI Personnel: Project Consultant Jason Stegemoller Project Foreman – Sebastian Romero

## **Release Specific:**

- **Product Released:** Natural Gas and Natural Gas Liquids (NGL)
- Volume Released: 8 barrels Volume Recovered: none
- Time of Occurrence: November 13, 2004 @ 09:00 hrs
- Time of Discovery: November 13, 2004 @ 11:00 hrs
- *Release Source:* 7-inch high pressure steel natural gas pipeline
- ♦ Initial Surface Area Affected: ~ 1,400 square feet

## **Remediation Specific:**

- *Final Vertical extent of contamination:* 5-feet bgs at maximum depth
- Depth to Ground Water: ~29-ft bgs
- Water wells within 1,000-ft: None
- Private domestic water sources within 200-ft: None
- Surface water bodies within 1,000-ft: None
- NMOCD Site Ranking Index: 20 points
- Remedial goals for Soil: TPH 100 mg/Kg; BTEX 50 mg/Kg; Benzene 10 mg/Kg; Chloride and sulfate residuals may not be capable of impacting groundwater above NMWQCC groundwater standards of 250 mg/L and 600 mg/L, respectively.
- RCRA Waste Classification: Exempt
- *Remediation Option Selected:* a) Trench to delineate extent of contamination; b) excavate suspected contaminated soils; c) sample sidewalls and floor of excavation; e) blend excavated soils on site; f) sample stockpiled (blended) soil to determine TPH, BTEX constituent and chloride concentrations; g) backfill the excavation with blended soil; h) seed remediation area with a blend approved by the BLM.
- Disposal Facility: Not Applicable
- *Volume disposed:* Not Applicable
- Project Completion Date: Ongoing

## 2.0 SITE AND RELEASE INFORMATION

- 2.1 Describe the land use and pertinent geographic features within 1,000 feet of the site. In addition to oilfield activities, land surrounding the area is rangeland and utilized for livestock grazing.
- 2.2 Identify and describe the source or suspected source(s) of the release. Corrosion of 7-inch diameter steel natural gas pipeline.
- 2.3 What is the volume of the release? (if known): <u>8</u> barrels of <u>natural gas and natural gas</u> <u>liquids</u>
- 2.4 What is the volume recovered? (if any) <u>0</u> barrels
- 2.5 When did the release occur? (if known): November 13, 2004

## 2.6 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 an area that is "stable or semi-stable over most of the area, but which locally drifts. The surface is very irregular and has no drainage features except at the edges of several playas."

## 2.7 Ecological Description

Typical vegetation consists primarily of an intergrade of High Plains and Northern Chihuahuan Desert grasses. Vegetation includes perennial grasses (eg. blue grama, buffalograss) and annual and perennial forbs (eg. broad-leafed milkweed and Russian thistle). Degraded/disturbed areas will consist primarily of annual grasses and forbs and mesquite exhibiting shrubby growth forms. 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 the area. A survey of Listed, Threatened or Endangered species was not conducted.

## 2.8 Area Groundwater

The unconfined groundwater aquifer at this site is projected to be  $\sim 29$  feet below ground surface (bgs) based on water depth data obtained from the New Mexico State Engineers Office and the United States Geological Survey data base (reference *Table 1*).

## 2.9 Area Water Wells

No public water supply wells are located within 1,000-feet of the release site. In addition, no private domestic fresh water wells or springs used by less than five households for domestic or stock watering purposes exist within 200-feet of the release site (reference *Table 1* and *Figure 2*).

## 2.10 Area Surface Water Features

No surface water features exist within 1,000 feet of the release site (reference Figure 2).

## 3.0 <u>NMOCD SITE RANKING</u>

Contaminant delineation and remedial work done at this site indicate chemical parameters of the soil and 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)
- ♦ Pit and Below-Grade Tank Guidelines (November, 2004)

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 groundwater);
- 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 groundwater from the lower most contamination, the NMOCD ranking score for the site is twenty (20) points with the soil remedial goals highlighted in the Site Ranking table presented below:

1. GROU	NDWATER	2. WELLHEAD	PROTECTION AREA	3. DISTANCE TO SURFACE WATER
Depth to GW < 50	Difeet: 20 points	If <b>.</b> 1.000_from wat	er source, or ⊲200_from	< 200 horizontal feet: 20 points
Depth to GW 50 10 points	to 99 feet:	private domestic w	vater source: 20 points	200-1,000 horizontal feet: 10 points
Depth to GW >10	00 feet: <b>0 points</b>	If >1,000 <sup>°</sup> from wat private domestic w	er source, or >200' from vater source: <i>0 points</i>	>1,000 horizontal feet: <i>0 points</i>
Site Rank (1+2+3	(3) = 20 + 0 + 0 = 2	0 points		
	Total Site	Ranking Score and	Acceptable Remedial Goa	I Concentrations
Parameter	20 0	Dr >	10	0
Benzene <sup>1</sup>	10 p	opm	10 ppm	10 ppm
BTEX <sup>1</sup>	50 p	opm	50 ppm	50 ppm
ТРН	100	ppm	1,000 ppm	5,000 ppm

<sup>1</sup> A field soil vapor headspace measurement of 100 ppm can be substituted in lieu of laboratory analyses for benzene and BTEX.

## 4.0 **EXCAVATED SOIL INFORMATION**

## 4.1 Was soil excavated for off-site treatment or disposal? Yes No Date excavated: August 8, 2006 through August 11, 2006 Total volume removed: Approximately 400-cubic yards of NGL impacted soil were excavated to a maximum depth of 6-feet bgs from a 1,600-square foot area and stockpiled on site After excavation activities were completed, the stockpiled soil was blended with clean soil obtained from the pipeline right-of-way.

4.2 Indicated soil treatment type:

Disposal Land Treatement Composting/Biopiling  $\boxtimes$ **Other** (blending)

Name and location of treatment/disposal facility: Not Applicable

## 5.0 SAMPLING INFORMATION

## 5.1 Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil.

Organic Vapor Concentrations – A portion of each soil sample collected was inserted into a self-sealing polyethylene bag to allow volatilization of organic vapors. After the samples equilibrated to  $\sim 70^{\circ}$  F, they were analyzed for organic vapors utilizing a MiniRae® Photoionization Detector (PID) equipped with a 10.6 electron volt (eV) lamp and calibrated for benzene response.

Chloride Concentrations – A LaMotte Chloride Test Kit was utilized for field analyses of chloride concentration.

## 5.2 Briefly describe the soil analytical sampling and handling procedures used.

Soil samples were collected from the test trench and excavation utilizing hand and/or mechanical excavation equipment to gather the sample from at least 6-inches below/within the surface of the excavation.

Upon collection of each sample, a portion was immediately placed in a laboratory provided container, labeled and set on ice for transport to an independent laboratory for quantification of total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene and total xylenes (BTEX) and chloride concentrations.

## 5.3 Discuss sample locations and provide rationale for their locations.

On February 21, 2005, a test trench was excavated parallel to the pipeline to a maximum depth of approximately 10-feet below ground surface (bgs). A series of six soil samples (i.e., LD-A, LD-B, LD-C, LD-D, LD-E and LD-F) were collected at depths ranging from 5 to 10-ft bgs to delineate the horizontal extent of contamination (reference *Figure 4*).

On April 15, 2005, two soil samples were collected from the test trench at 5-feet bgs in locations LD-A and LD-B to provide additional delineation data (reference *Figure 4*).

On August 9, 2006, the site was excavated to remove hydrocarbon contaminated soils with soil samples collected from the excavation sidewalls at 4-feet bgs and the floor at 5-feet bgs. Soil sample locations were chosen to provide the best representative soil sample within the excavation floor and sidewalls (reference *Figure 5*).

On August 11, 2006, five soil samples were collected from the blended, stockpiled soil. Soil sample locations were chosen to provide the best representative soil sample within the blended stockpile.

## 6.0 ANALYTICAL RESULTS

## 6.1 Describe the vertical and horizontal extent and magnitude of soil contamination.

Laboratory analyses of the soil sample collected on February 21, 2005 from the test trench indicated BTEX constituent concentrations were non-detectable (ND) to low. Benzene and TPH concentrations were ND at or above laboratory method detection limits (MDL). Chloride concentrations ranged from 24.4 to 65.8 mg/Kg (reference *Table 2* and *Figure 4*).

Laboratory analyses of the soil sample collected on April 15, 2005 from the test trench indicated TPH and BTEX constituent concentrations were ND at or above laboratory MDL. Chloride concentrations ranged from 48 to 64 mg/Kg (reference *Table 2* and *Figure 4*).

Laboratory analyses of soil samples collected on August 9, 2006 from the excavation sidewalls and floor indicated TPH, BTEX constituent and chloride concentrations were ND at or above laboratory MDL (reference *Table 2* and *Figure 5*).

Laboratory analyses of soil samples collected on August 11, 2006 from the stockpiled soil indicated BTEX constituent and chloride concentrations were ND at or above laboratory MDL. TPH concentrations were below NMOCD Recommended Remedial Action Levels (reference *Table 2* and *Figure 5*).

## 6.2 Is surface soil contamination present at the site (i.e., soil in the uppermost two feet that is visibly stained, contaminated at greater than 10 ppm (PID) or hydrocarbon saturated)?

🗌 yes 🛛 🖾 no

## If yes, attach a site map identifying extent(s) of surface soil contamination.

Visibly stained soil has been excavated and blended with soil obtained from the pipeline right-of-way. Blended soil is currently stockpiled adjacent to the excavation.

## 7.0 **DISCUSSION**

## 7.1 Discuss the risks associated with the remaining soil contamination:

NGL impacted soil been excavated and blended with clean soil obtained from the pipeline right-of-way. Laboratory analyses of soil samples collected from the excavation sidewalls and floor indicated TPH and BTEX constituent and chloride concentrations were ND at or above laboratory MDL. Additionally, laboratory analyses of soil samples collected from the blended stockpile indicated TPH, BTEX constituent and chloride concentrations were ND at or above laboratory MDL.

## 7.2 Discuss the risks associated with the impacted groundwater: Not Applicable

## 7.3 Discuss other concerns not mentioned above:

The initial site assessment performed by EPI on January 28, 2005 indicated approximately 15,650-square feet of surface damage. The majority of this damage was attributed to prior back-dragging the area of concern with a backhoe. The back-dragged soil was stockpiled adjacent to the excavation and later utilized during blending activities.

Additionally, the initial site assessment indicated the release overspray lightly misted vegetation within an area of approximately 13,920-square feet. As of August 2006, there was no visible impact upon vegetation within the overspray area.

## 8.0 <u>CONCLUSIONS AND RECOMMENDATIONS</u>

8.1 Recommendation for the site:

➢ Site Closure
☐ Additional Groundwater Monitoring
☐ Corrective Action

8.2 Base the recommendation above on <u>Guidelines for Remediation of Leaks, Spills and</u> <u>Releases (August 13, 1993)</u>. Describe below how you applied the policy to support your recommendation. If closure is recommended, please summarize significant site investigative events and describe how site specific risk issues have been adequately addressed or minimized to acceptable low risk levels.

Approximately 400-cubic yards of NGL impacted soil were excavated to a maximum depth of 6-ft bgs from a surface area of approximately 1,600 square feet. The excavated soil was then blended with soil obtained from the pipeline right-of-way. Soil samples were collected from the excavation sidewalls and floor and the blended stockpile and submitted to an independent laboratory for quantification of TPH, BTEX constituent and chloride concentrations.

Laboratory analytical results of soil samples collected by EPI personnel from the excavation sidewalls and floor on August 9, 2006 indicate TPH, BTEX constituents and chloride concentrations were ND at or above laboratory MDL. Laboratory analytical results of soil samples collected on August 11, 2006 from the blended soil indicate TPH, BTEX constituent and chloride concentrations were ND at or above laboratory MDL.

- 8.3 If additional groundwater monitoring is recommended, indicate the proposed monitoring schedule and frequency. Conduct quarterly monitoring until the NMOCD responds to this report. Not Applicable
- 8.4 *If corrective action is recommended, provide a conceptual approach.* Environmental Plus, Inc. recommends the following actions be taken:
  - a) backfill the excavation utilizing the blended, stockpiled soil; and
  - b) contour/grade the area to ensure natural drainage; and
  - c) seed the area with a blend preferred by the Bureau of Land Management (BLM).

Upon completion of remedial activities, a Closure Report will be provided to the NMOCD, BLM and appropriate DCP Midstream personnel.

**FIGURES** 





![](_page_16_Figure_0.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_18_Figure_0.jpeg)

**TABLES** 

**TABLE 1** 

2

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## WELL INFORMATION REPORT\*

# DEFS Lynch Discharge Line - (NMOCD 1RP #885; EPI Ref #130016)

Well Number	Diversion <sup>A</sup>	Оwner	Use	Source	Twsp	Rng	Sec q q q	Latitude	Longitude	Date	Surface	Depth to Water
										MICABULCU	Elevation	(ft bgs)
L 10380	0	Charles B. Gillespie, Jr.	PRO	Shallow	19 S	34 E	02 443	N 32º 40' 55.32"	W 103° 31' 34.61"	11-Mar-94	3,973	100
USGS #1				-	19.S	34 E	03 412			28-Feb-81	3,883	104.9
CP 00806	0	Kenneth Smith	STK	Shallow	19 S	34 E	04 44	N 32° 40' 54.91"	W 103° 33' 38.15"		3,888	
CP 00875	0	Matador Petroleum, Inc.	PRO		19 S	34 E	05 343	N 32° 40' 54.68"	W 103° 35' 10.86"	- N. J. 	3,806	-
USGS #2					19 S	34 E	06 3.41			30-Jan-96	3,776	239.06
USGS #3					19 S	34 E	09 1 1 4				3,840	
USGS #4					19 S	34 E	09 242			30-Jan-96	3,896	28.73
L 04723	3	Cactus Drilling Company	PRO	Shallow	19 S	34 E	11 111	N 32° 40' 42.06"	W 103° 32' 20.82"	24-Sep-61	3,985	123
L 04059	3	Noble Drilling Company	PRO	Shallow	19 S	34 E	12 14			29-Jan-59	3,960	60
USGS #5			-		19 S	34 E	12 244			29-May-91	3,927	74.07
CP 00466 EXP	0	Gulf Oil Corporation	PRO		19 S	34 E	16 332	N 32° 39' 10.29"	W 103° 34' 24.43"		3,748	
CP 00466 (2) E EXP	0	Penzoil United, Inc.	PRO		19 S	34 E	16 3 3 2	N 32° 39' 10.29"	W 103° 34' 24.43"		3,748	
USGS #6					19 S	34 E	16 334			7-Apr-86	3,762	231.18
CP 00680 EXP	0	C. W. Trainer	OBS	· · · . · ·	19 S	34 E	25 433	N 32° 37' 26.49"	W 103° 30' 48.18"		3,730	
CP 00863	Ŕ	C. W. Trainer	OBS	Shallow	19 S	34 E	25 433	N 32° 37' 26.49"	W 103° 30' 48.18"	20-Jul-85	3,730	28
USGS #7	-		- 		19 S	34 E	31 131	· · · · · · · · · · · · · · · · · · ·		14-Mar-68	3,616	53.14
USGS #8					19: S	34 E	31 132			17-Nov-65	3,620	58.60 P
										15-Dec-76		147.58 P
OSGS #9					19 S	34 E	31 232				3,634	
				· · · · ·						28-Jan-81		147.86 P

\* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr\_RegisServlet1) and USGS Database. Shaded well information indicates well location not shown on Figure 2

 $^{A}$  = in acre feet per annum

<sup>B</sup> = Interpolated from USGS Topographical Map

IND = Industrial STK = Livestock Watering CLW = Change Location of Well (Ground) EXP = Expired

(quarters are 1=NW, 2=NE, 3=SW, 4=SE) (quarters are biggest to smallest - X Y are in Feet - UTM are in Meters)

**TABLE 2** 

## Summary of Test Trench Analytical Results

# DEFS Lynch Discharge Line (NMOCD 1RP #885; EPI Ref. #130016)

Soil Sample	Depth	Sample Date	PID Reading	Field Chloride	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH (as pasoline)	TPH (as diesel)	Total TPH	Chloride
	(1001)		(uidd)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
	5	21-Feb-05	423	1		1	1	1	1		1	1	;
	5	15-Apr-05	12.5		<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	48
4	7	21-Feb-05	160	1	1	1	1	1	1	ł	1	1	1
	10	21-Feb-05	122	1	<0.0250	0.0742	0.0690	0.262	0.405	<10.0	<10.0	<10.0	30.5
	5	21-Feb-05	464	1	1	1	1	1	1	1	1	1	1
LD-B	5	15-Apr-05	273	1	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	64
	10	21-Feb-05	114	1	<0.0250	0.0172 <sup>C</sup>	0.0165 <sup>C</sup>	0.0603	0.0603	<10.0	<10.0	<10.0	65.8
LD-C	5	21-Feb-05	151	1	<0.0250	<0.0250	<0.0250	<0.0250	<0.125	<10.0	<10.0	<10.0	24.4
LD-D	5	21-Feb-05	19.8	1	1	1	1	3	1		1	1	1
3 ( 1	5	21-Feb-05	275	1	1	1	1	;	1	-	;	1	1
-1-711	8	21-Feb-05	77.0	1		1	1	-	1	1	1	1	1
LD-F	5	21-Feb-05	6.1	-	1	1	1	1			1	1	1
NMOCI	D Remedia	l Thresholds	100 <sup>A</sup>		10				50			100	250 <sup>B</sup>
	.												

Bolded values are in excess of the NMOCD Remediation Thresholds

-- = Not Analyzed

<sup>A</sup>In lieu of laboratory analyes of benzene, toluene, ethylbenzene and total xylenes. <sup>B</sup>Chloride residuals may not be capable of impacting local groundwaterabove the NMWQCCstandard of 250 mg/L <sup>C</sup> Estimated concentration - analyte detected below reporting limits

**TABLE 3** 

.

## Summary of Excavation Analytical Results

# DEFS Lynch Discharge Line (NMOCD 1RP #885; EPI Ref. #130016)

Sample	Soil Sample	Depth	Soil Status	Sample Date	PID Reading	Field Chloride	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	TPH (as gasoline)	TPH (as diesel)	Total TPH	Chloride
TOCANOU		(Icer)			(wdd)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
	SP-1 (4')	4	In Situ	00-Aug-06	;	480	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-2 (4')	4	In Situ	09-Aug-06	ł	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-3 (4')	4	In Situ	09-Aug-06	1	240	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-4 (4')	4	In Situ	09-Aug-06	ł	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
noii	SP-5 (4')	4	In Situ	09-Aug-06	1	260	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
eve	SP-6 (4')	4	In Situ	00-Aug-06	;	260	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
эхд	SP-7 (4')	4	In Situ	09-Aug-06	1	340	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-8 (4')	4	In Situ	09-Aug-06	1	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	BH-1 (5')	5	In Situ	00-Aug-06	1	320	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	BH-2 (5')	5	In Situ	00-Aug-06	1	240	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	BH-3 (5')	5	In Situ	09-Aug-06	;	380	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-1	1	Excavated	11-Aug-06	1	240	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	11.1	<21.1	<16
b9 9lie	SP-2	-	Excavated	11-Aug-06	1	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
dyoo Gyog Gyog	SP-3	-	Excavated	11-Aug-06	1	380	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
BI B	SP-4	-	Excavated	11-Aug-06	:	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	<16
	SP-5	-	Excavated	11-Aug-06	1	280	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	24.4	<34.4	<16
	NMO	CD Remedia	I Thresholds		$100^{\text{A}}$		10				50			100	250 <sup>B</sup>

Bolded values are in excess of the NMOCD Remediation Thresholds -- = Not Analyzed ^ In lieu of laboratory analyse of benzeue, toluene, ethylbenzeue and total xylenes. <sup>B</sup> Chloride residuals may not be capable of impacting local groundwaterabove the NMWQCCstandard of 250 mg/L

## **APPENDICES**

## **APPENDIX I**

## LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORM

![](_page_25_Picture_0.jpeg)

## Analytical Report

## **Prepared for:**

Iain Olness Environmental Plus, Incorporated P.O. Box 1558 Eunice, NM 88231

Project: Duke Energy- Lynch Discharge Line Project Number: None Given Location: NE 1/4, Sec 15, T19S, R34E

Lab Order Number: 5B23009

Report Date: 02/25/05

Project:Duke Energy- Lynch Discharge LineProject Number:None GivenProject Manager:Iain Olness

## Fax: 505-394-2601

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LD-A (10')	5B23009-01	Soil	02/21/05 09:40	02/23/05 13:35
LD-B (10')	5B23009-02	Soil	02/21/05 10:22	02/23/05 13:35
LD-C (5')	5B23009-03	Soil	02/21/05 10:40	02/23/05 13:35

Project: Duke Energy- Lynch Discharge Line Project Number: None Given Project Manager: Iain Olness

## Organics by GC

## Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LD-A (10') (5B23009-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB52408	02/23/05	02/23/05	EPA 8021B	
Toluene	0.0742	0.0250	"	"		"	н	"	
Ethylbenzene	0.0690	0.0250		н	н		"	11	
Xylene (p/m)	0.211	0.0250	н	"		"	"	11	
Xylene (0)	0.0507	0.0250			"		n 		
Surrogate: a,a,a-Trifluorotoluene		81.8 %	80-1	120	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		94.0 %	80-1	120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB52307	02/23/05	02/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0		"	**	**	"	н	
Total Hydrocarbon C6-C35	ND	10.0	u 	"	<b>"</b>	<b>1</b> 1	"	n 	
Surrogate: 1-Chlorooctane		79.8 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		79.0 %	70-1	130	"	"	"	"	
LD-B (10') (5B23009-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB52408	02/23/05	02/23/05	EPA 8021B	
Toluene	J [0.0172]	0.0250	"	н		"	"	"	J
Ethylbenzene	J [0.0165]	0.0250	п	"		н		"	1
Xylene (p/m)	0.0603	0.0250	"	"	п	"	н	н	
Xylene (0)	J [0.0192]	0.0250	"	11		n 			J
Surrogate: a,a,a-Trifluorotoluene		82.5 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.6 %	80-1	120	"	"	"	n	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB52307	02/23/05	02/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	н	"	н	"	н	11	
Total Hydrocarbon C6-C35	ND	10.0	11			"		"	
Surrogate: 1-Chlorooctane		89.8 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		85.0 %	70-1	130	"	"	"	"	
LD-C (5') (5B23009-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EB52408	02/23/05	02/24/05	EPA 8021B	
Toluene	ND	0.0250	н	"	*1	н	"	n	
Ethylbenzene	ND	0.0250			"	"			
Xylene (p/m)	ND	0.0250	н	"	u	"	"	n	
Xylene (o)	ND	0.0250	11	"	"			n	
Surrogate: a,a,a-Trifluorotoluene		86.7 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.4 %	80-1	120	"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EB52307	02/23/05	02/24/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	н	"	11	ii.	
Total Hydrocarbon C6-C35	ND	10.0	n	u 	"		n 		

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples

received in the laboratory. This analytical report must be reproduced in its entirety,

with written approval of Environmental Lab of Texas.

Page 2 of 10

Surrogate: 1-Chlorooctane	93.8 %	70-130	EB52307	02/23/05	02/24/05	EPA 8015M	
Surrogate: 1-Chlorooctadecane	82.2 %	70-130	"	"	"	"	

Environmental Lab of Texas

LD-C (5') (5B23009-03) Soil

## General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
LD-A (10') (5B23009-01) Soil									
Chloride	30.5	5.00	mg/kg	10	EB52503	02/24/05	02/24/05	EPA 300.0	
% Moisture	1.6	0.1	%	1	EB52401	02/23/05	02/24/05	% calculation	
LD-B (10') (5B23009-02) Soil		<b>-</b>							
Chloride	65.8	5.00	mg/kg	10	EB52503	02/24/05	02/24/05	EPA 300.0	
% Moisture	2.0	0.1	%	1	EB52401	02/23/05	02/24/05	% calculation	
LD-C (5') (5B23009-03) Soil									
Chloride	24.4	5.00	mg/kg	10	EB52503	02/24/05	02/24/05	EPA 300.0	
% Moisture	8.7	0.1	%	1	EB52401	02/23/05	02/24/05	% calculation	

Environmental Lab of Texas

Project:Duke Energy- Lynch Discharge LineProject Number:None GivenProject Manager:Iain Olness

**Reported:** 02/25/05 17:35

## **Organics by GC - Quality Control**

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB52307 - Solvent Extraction (GC)										
Blank (EB52307-BLK1)		-		Prepared: (	02/23/05 A	nalyzed: 02	2/24/05			10.2
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet						-	
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	и							
Surrogate: 1-Chlorooctane	44.9		mg/kg	50.0		89.8	70-130			
Surrogate: 1-Chlorooctadecane	41.1		"	50.0		82.2	70-130			
LCS (EB52307-BS1)				Prepared: (	02/23/05 A	nalyzed: 02	2/24/05			
Gasoline Range Organics C6-C12	453	10.0	mg/kg wet	500		90.6	75-125			
Diesel Range Organics >C12-C35	460	10.0	"	500		92.0	75-125			
Total Hydrocarbon C6-C35	913	10.0	н	1000		91.3	75-125			
Surrogate: I-Chlorooctane	46.7		mg/kg	50.0		93.4	70-130			· ·
Surrogate: 1-Chlorooctadecane	36.7		"	50.0		73.4	70-130			
Calibration Check (EB52307-CCV1)				Prepared: (	02/23/05 A	nalyzed: 02	2/24/05			
Gasoline Range Organics C6-C12	509		mg/kg	500		102	80-120			· · = ·
Dicsel Range Organics >C12-C35	565		н	500		113	80-120			
Total Hydrocarbon C6-C35	1070		н	1000		107	80-120			
Surrogate: 1-Chlorooctane	48.6		. "	50.0		97.2	70-130			
Surrogate: 1-Chlorooctadecane	47.8		"	50.0		95.6	70-130			
Matrix Spike (EB52307-MS1)	Sou	rce: 5B23007	7-03	Prepared: (	02/23/05 A	nalyzed: 02	2/24/05			
Gasoline Range Organics C6-C12	530	10.0	mg/kg dry	602	ND	88.0	75-125			
Diesel Range Organics >C12-C35	579	10.0	н	602	ND	96.2	75-125			
Total Hydrocarbon C6-C35	1110	10.0	"	1200	ND	92.5	75-125			
Surrogate: 1-Chlorooctane	37.3		mg/kg	50.0		74.6	70-130	-	• •	
Surrogate: 1-Chlorooctadecane	39.3		"	50.0		78.6	70-130			
Matrix Spike Dup (EB52307-MSD1)	Sou	rce: 5B23007	7-03	Prepared: (	)2/23/05 A	nalyzed: 02	2/24/05			
Gasoline Range Organics C6-C12	516	10.0	mg/kg dry	602	ND	85.7	75-125	2.68	20	
Diesel Range Organics >C12-C35	600	10.0	**	602	ND	99.7	75-125	3.56	20	
Total Hydrocarbon C6-C35	1120	10.0	"	1200	ND	93.3	75-125	0.897	20	
Surrogate: 1-Chlorooctane	41.4		mg/kg	50.0		82.8	70-130			
Surrogate: 1-Chlorooctadecane	38.0		"	50.0		76.0	70-130			

Environmental Lab of Texas

Project: Duke Energy- Lynch Discharge Line Project Number: None Given Project Manager: Iain Olness

## **Organics by GC - Quality Control**

**Environmental Lab of Texas** 

Analyta	Pacult	Reporting	Unito	Spike	Source	% DEC	%REC	רופס	RPD Limit	Notas
Analyc	Kesun		Units	Level	Result	70KEU	Limits	KĽU	Limit	inotes
Batch EB52408 - EPA 5030C (GC)										
Blank (EB52408-BLK1)				Prepared 8	Analyzed:	02/23/05				
Benzene	ND	0.0250	mg/kg wet							
Tolucne	ND	0.0250	"							
Ethylbenzene	ND	0.0250	**							
Xylene (p/m)	ND	0.0250								
Xylene (0)	ND	0.0250	н							
Surrogate: a,a,a-Trifluorotoluene	84.0		ug/kg	100		84.0	80-120			
Surrogate: 4-Bromofluorobenzene	97.1		"	100		97.1	80-120			
LCS (EB52408-BS1)				Prepared 8	Analyzed:	02/23/05				
Benzene	91.7		ug/kg	100	•	91.7	80-120			
Toluene	96.7		и	100		96.7	80-120			
Ethylbenzene	105			100		105	80-120			
Xylene (p/m)	237		"	200		118	80-120			
Xylene (o)	119		"	100		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	89.5		"	100		89.5	80-120		- · · ·	
Surrogate: 4-Bromofluorobenzene	104		"	100		104	80-120			
Calibration Check (EB52408-CCV1)				Prepared: (	02/23/05 A	nalyzed: 02	/24/05			
Benzene	95.1		ug/kg	100		95.1	80-120			
Toluene	98.1		11	100		98.1	80-120			
Ethylbenzene	100		н	100		100	80-120			
Xylene (p/m)	229		"	200		114	80-120			
Xylene (o)	117		**	100		117	80-120			
Surrogate: a,a,a-Trifluorotoluene	90.3		"	100		90.3	80-120			
Surrogate: 4-Bromofluorobenzene	99.0		"	100		99.0	80-120			
Matrix Spike (EB52408-MS1)	Sou	rce: 5B23009	9-03	Prepared &	Analyzed:	02/23/05				
Benzene	101		ug/kg	100	ND	101	80-120			
Toluene	104		10	100	ND	104	80-120			
Ethylbenzene	104			100	ND	104	80-120			
Xylene (p/m)	236			200	ND	118	80-120			
Xylene (0)	116		11	100	ND	116	80-120			
Surrogate: a,a,a-Trifluorotoluene	93.7		"	100		<i>93.7</i>	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

Environmental Lab of Texas

Surrogate: 4-Bromofluorobenzene

Project:Duke Energy- Lynch Discharge LineProject Number:None GivenProject Manager:Iain Olness

## **Reported:** 02/25/05 17:35

## **Organics by GC - Quality Control**

## **Environmental Lab of Texas**

Analyte	Result	Reporting Limit Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB52408 - EPA 5030C (GC)									
Matrix Spike Dup (EB52408-MSD1)	Sour	ce: 5B23009-03	Prepared &	Analyzed:	02/23/05				
Benzene	90.4	ug/kg	100	ND	90.4	80-120	11.1	20	
Toluene	94.5	"	100	ND	94.5	80-120	9.57	20	
Ethylbenzene	102	"	100	ND	102	80-120	1.94	20	
Xylene (p/m)	235	"	200	ND	118	80-120	0.00	20	
Xylene (0)	117	"	100	ND	117	80-120	0.858	20	
Surrogate: a,a,a-Trifluorotoluene	82.4		100		82.4	80-120			

"

100

114

80-120

114

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

## **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB52401 - General Preparation (P	rep)									
Blank (EB52401-BLK1)				Prepared: (	)2/23/05 A	nalyzed: 02	!/24/05			
% Moisture	ND	0.1	%							
Duplicate (EB52401-DUP1)	Sour	-ce: 5B23001-	01	Prepared: (	)2/23/05 A	nalyzed: 02	2/24/05			
% Moisture	1.0	0.1	%	·	1.0	-		0.00	20	
Batch EB52503 - Water Extraction										
Blank (EB52503-BLK1)		_		Prepared &	Analyzed:	: 02/24/05				
Chloride	ND	0.500	mg/kg							
Blank (EB52503-BLK2)				Prepared &	Analyzed:	02/24/05				
Chloride	ND	0.500	mg/kg							
LCS (EB52503-BS1)				Prepared &	: Analyzed:	02/24/05				
Chloride	10.3		mg/L	10.0		103	80-120			
LCS (EB52503-BS2)				Prepared &	Analyzed:	02/24/05				
Chloride	10.4		mg/L	10.0		104	80-120			
Calibration Check (EB52503-CCV1)				Prepared &	: Analyzed:	02/24/05				
Chloride	10.4		mg/L	10.0		104	80-120			
Calibration Check (EB52503-CCV2)				Prepared &	: Analyzed:	02/24/05				
Chloride	10.4		mg/L	10.0		104	80-120			
Duplicate (EB52503-DUP1)	Sour	-ce: 5B22006-	01	Prepared &	Analyzed:	02/24/05				
Chloride	35.3	5.00	mg/kg		42.2			17.8	20	

Environmental Lab of Texas

Environmental Plus, Incorporated	Project:	Duke Energy- Lynch Discharge Line	Fax: 505-394-2601
P.O. Box 1558	Project Number:	None Given	Reported:
Eunice NM, 88231	Project Manager:	Iain Olness	02/25/05 17:35

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab	10	Texas
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB52503 - Water Extraction										
Duplicate (EB52503-DUP2)	Sour	ce: 5B24002-0	02	Prepared &	Analyzed:	02/24/05				
Chloride	17.2	5.00	mg/kg		17.1			0.583	20	

Environmental Lab of Texas

Environmental Plus, Incorporated	Project: Duke Energy- Lynch Discharge Line	Fax: 505-394-2601
P.O. Box 1558	Project Number: None Given	Reported:
Eunice NM, 88231	Project Manager: Iain Olness	02/25/05 17:35

## **Notes and Definitions**

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Raland K Just

Date: 2/25/2005

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

Report Approved By:

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

# Environmental Lab of Texas, Inc. 12600 West I-20 East, Odessa Texas 79763 432-563-1800 FAX: 432-563-1713

## Chain of Custody Form

+	Delivered by Line 22005 Rent yes	Clesson Charles marked and the second	Slat the State and Slat State	Sampler Reinquished:		10	9	8	7	6		4	~033[LD-C (5')	-67 2[LD-B (10') ] G	~ໆ( 1[LD-A (10') [G	GRAB OR (C)OM	P.	EPI Sampler Name: Felix Hernandez	Project Location: NE ¼, Sec 15, T19S, R3	Facility Name: Lynch Discharge Line	Client Company: Duke Energy Field Servic	EPI Phone#/Fax#: 505-394-3481 / 505-394	City, State, Zip: Eunice New Mexico 88	Mailing Address: P.O. BOX 1558	EPI Project Manager: lain Olness	Company Name: Environmental Plus, in
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					朝鮮											SULFATES (SO4")										12.5
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## Environmental Lab of Texas Variance / Corrective Action Report - Sample Log-In

Client:	viron, Plus	S, Inc.
Date/Time:	2/23/05	1:37
Order #:	5 323009	
Initials:	<u> </u>	

Sample Receipt Checklist

Sample Receipt	Checkl	ist	
Temperature of container/cooler?	Yes	No	3,5 0
Shipping container/cooler in good condition?	(Tes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present>
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Kes	No	
Sample Instructions complete on Chain of Custody?	(AB)	No	
Chain of Custody signed when relinquished and received?	(Xes)	No	
Chain of custody agrees with sample label(s)	1 XED	No	
Container labels legible and intact?	Yes)	No	
Sample Matrix and properties same as on chain of custody?	63	No	
Samples in proper container/bottle?	Tes	No	
Samples properly preserved?	(735)	No	
Sample bottles intact?	TES	No	
Preservations documented on Chain of Custody?	(es)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	TES	No	
All samples received within sufficient hold time?	(Nes)	No	}
VOC samples have zero headspace?	Res	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: -\_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Regarding:

Corrective Action Taken:

![](_page_38_Picture_0.jpeg)

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: 04/15/05 Reporting Date: 04/20/05 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: LYNCH DISCHARGE LINE Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 04/15/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC/AH

LAB NUMBER SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/Kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE	04/18/05	04/18/05	04/19/05
H9715-1 LD-A (5')	<10.0	<10.0	48
H9715-2 LD-B (5')	<10.0	<10.0	64
Quality Control	771	771	998
True Value QC	800	800	1000
% Recovery	96.3	96.4	99.8
Relative Percent Difference	6.0	4.0	0.2

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI<sup>-</sup>: Std. Methods 4500-CI<sup>-</sup>B \*Analyses performed on 1:4 w:v aqueous extracts.

et for Cook

4/20/05

## H9715A.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 an ityses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved 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 profils incurred by cleant, its aubsidances, 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

![](_page_39_Picture_0.jpeg)

PHONE (505) 393 2326 + 101 F 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: 04/15/05 Reporting Date: 04/21/05 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: LYNCH DISCHARGE LINE Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 04/15/05 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

LAB NUMBE	ER SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS I	DATE	04/20/05	04/20/05	04/20/05	04/20/05
H9715-1	LD-A (5')	<0.005	<0.005	< 0.005	< 0.015
H9715-2	LD-B (5')	<0.005	<0.005	<0.005	<0.015
Quality Cont	rol	0.091	0.088	0.094	0.298
True Value (	QC	0.100	0.100	0.100	0.300
% Recovery		90.7	87.6	94.4	99.2
<b>Relative</b> Per	cent Difference	3.5	7.2	3.9	5.3

METHOD: EPA SW-846 8260

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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 these 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. If and every shall be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, atfiniates 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

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Chain of Custody Form

101 East Marland, Hobbs, NM 88240 (505) 303-2326

## **Cardinal Laboratories**

101 East Marland, Hobbs, NM 88240

(505) 393-2326					ł																				
Company Name:	Environmental	Plus, Inc	.:		922				атақа <i>қа</i> мтақа <i>қа</i>	ō		0			۲۹. معین		NA	LYS	10	E E E E E E E E E E E E E E E E E E E	<b>NUE</b>	ST	5	5.0 -	
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EPI Phone#/Fax#	:: 505-394-3481 / 5	05-394-	260			1		4	0	Ŀ	S	ervič	es S												
<b>Client Company:</b>	Duke Energy Fiel	d Service	S																						
Facility Name:	Lynch Discharg	e Line (I	Ref.					At	i.	2on	nie	Gilchrist													
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Chain of Custody Form

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

![](_page_43_Picture_1.jpeg)

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

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

Receiving Date: 08/11/06 Reporting Date: 08/16/06 Project Number: NOT GIVEN Project Name: LYNCH DISCHARGE LINE (REF.) Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 08/09/06 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: NF Analyzed By: BC/AB

	GRO	DRO		
	(C <sub>6</sub> -C <sub>10</sub> )	(>C <sub>10</sub> -C <sub>28</sub> )	CI*	
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)	
ANALYSIS DATE	08/15/06	08/15/06	08/14/06	
H11433-1 SP-1 (4')	<10.0	<10.0	<16	
H11433-2 SP-2 (4')	<10.0	<10.0	<16	
H11433-3 SP-3 (4')	<10.0	<10.0	<16	
H11433-4 SP-4 (4')	<10.0	<10.0	<16	
H11433-5 SP-5 (4')	<10.0	<10.0	<16	
H11433-6 SP-6 (4')	<10.0	<10.0	<16	
H11433-7 SP-7 (4')	<10.0	<10.0	<16	
H11433-8 SP-8 (4')	<10.0	<10.0	<16	
H11433-9 BH-1 (5')	<10.0	<10.0	<16	
H11433-10 BH-2 (5')	<10.0	<10.0	<16	
H11433-11 BH-3 (5')	<10.0	<10.0	<16	
Quality Control	781	783	1000	
True Value QC	800	800	1000	
% Recovery	97.6	97.9	100	
Relative Percent Difference	1.0	6.4	3.0	

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI<sup>-</sup>: Std. Methods 4500-CI<sup>-</sup>B \*Analyses performed on 1:4 w:v aqueous extracts.

## H11433

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.

![](_page_44_Picture_0.jpeg)

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

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

Receiving Date: 08/11/06 Reporting Date: 08/16/06 Project Number: NOT GIVEN Project Name: LYNCH DISCHARGE LINE (REF.) Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 08/09/06 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: NF Analyzed By: BC

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS DA	TE	08/15/06	08/15/06	08/15/06	08/15/06
H11433-1	SP-1 (4')	<0.005	<0.005	<0.005	<0.015
H11433-2	SP-2 (4')	<0,005	<0.005	<0.005	<0.015
H11433-3	SP-3 (4')	<0.005	<0.005	<0.005	<0.015
H11433-4	SP-4 (4')	<0.005	<0.005	<0.005	<0.015
H11433-5	SP-5 (4')	< 0.005	<0.005	<0.005	<0.015
H11433-6	SP-6 (4')	<0.005	<0.005	<0.005	<0.015
H11433-7	SP-7 (4')	< 0.005	<0.005	<0.005	< 0.015
H11433-8	SP-8 (4')	<0.005	<0.005	<0.005	<0.015
H11433-9	BH-1 (5')	< 0.005	<0.005	<0.005	< 0.015
H11433-10	BH-2 (5')	<0.005	<0.005	<0.005	<0.015
H11433-11	BH-3 (5')	< 0.005	<0.005	<0.005	<0.015
Quality Control		0.093	0.099	0.099	0.296
True Value QC		0.100	0.100	0.100	0.300
% Recovery		93.0	99.1	99.4	98.8
<b>Relative Percer</b>	nt Difference	7.9	5.4	5.1	3.1

METHOD: EPA SW-846 8260

8/16/06

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## **Cardinal Laboratories**

101 East Marland, Hobbs, NM 88240 (505) 393-2326

Company Name:	Environmental	Plus. In	<u>ن</u>							<b>6</b>					5 6 6 K	ية : <sub>1</sub>	<b>NNA</b>	X	U U U	Ц Ц Ц	ЦЦ	F	1	1.14	_
EPI Project Mana	ager: Jason Stegeme	oller						a::#									┢	<u>}</u>	s⊢	<u>'</u>  -	Í-	-			
<b>Mailing Address</b>	: P.O. BOX 1558					ں 																			
City, State, Zip:	Eunice New Me	exico 88	231					18	R	Ľ									-						
EPI Phone#/Fax	#: 505-394-3481 /	505-394	-26	5		T			Ľ	5	4	<b>ETWIK</b>	S									_			
<b>Client Company</b>	Duke Energy Fie	Id Servic	ŝ			-				1	ł									_		_			_
Facility Name:	Lynch Dischar	ge Lìne	(B	ļ				Ā	ttn:	Ron	nie	Gilchrist													
<b>Project Location</b>	:: NE ¼, Sec 15, <sup>7</sup>	119S, R	34E			<b>-</b>			1625	Ne Ne	st	Marland,					<u> </u>								
<b>EPI Sampler Nar</b>	ne: Sebastian Ron	lero				<b>,</b>			РH	bbs,	Ž	188240										_			
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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 08/15/06 Reporting Date: 08/17/06 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: LYNCH DISCHARGE LINE (REF.) Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 08/11/06 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AB Analyzed By: BC/HM

	GRO	DRO	
	(C <sub>6</sub> -C <sub>10</sub> )	(>C <sub>10</sub> -C <sub>28</sub> )	CI*
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS DATE	08/16/06	08/16/06	08/16/06
H11448-1 SP-1	<10.0	11.1	<16
H11448-2 SP-2	<10.0	<10.0	<16
H11448-3 SP-3	<10.0	<10.0	<16
H11448-4 SP-4	<10.0	<10.0	<16
H11448-5 SP-5	<10.0	24.4	<16
Quality Control	786	782	1000
True Value QC	800	800	1000
% Recovery	98.3	97.8	100
Relative Percent Difference	<0.1	11.1	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB \*Analyses performed on 1:4 w:v aqueous extracts.

spff Cooli

Date

H11448

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.

![](_page_47_Picture_0.jpeg)

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

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

Receiving Date: 08/15/06 Reporting Date: 08/17/06 Project Owner: DUKE ENERGY FIELD SERVICES Project Name: LYNCH DISCHARGE LINE (REF.) Project Location: NE 1/4, SEC 15, T19S, R34E Sampling Date: 08/11/06 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: AB Analyzed By: BC

			ETHYL	TOTAL
	BENZENE	TOLUENE	BENZENE	XYLENES
LAB NUMBER SAMPLE ID	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
ANALYSIS DATE	08/16/06	08/16/06	08/16/06	08/16/06
H11448-1 SP-1	<0.005	<0.005	<0.005	<0.015
H11448-2 SP-2	< 0.005	<0.005	<0.005	<0.015
H11448-3 SP-3	< 0.005	<0.005	<0.005	<0.015
H11448-4 SP-4	<0.005	<0.005	<0.005	<0.015
H11448-5 SP-5	<0.005	<0.005	<0.005	<0.015
	<0.005	<0.005	<0.005	<0.015
Quality Control	0.103	0.103	0.100	0.300
True Value QC	0.100	0.100	0.100	0.300
% Recovery	103	103	99.5	100
Relative Percent Difference	<0.1	0.7	0.8	0.2

METHOD: EPA SW-846 8260

BHA Coh

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. If a perpendicular the 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.

## **APPENDIX II**

## **PROJECT PHOTOGRAPHS**

![](_page_49_Picture_0.jpeg)

Photo #1: Looking northeasterly across release area.

![](_page_49_Picture_2.jpeg)

*Photo #2*: Looking northwesterly across release and overspray areas.

![](_page_50_Picture_0.jpeg)

Photo #3: Excavation area current status, looking southwesterly.

![](_page_50_Picture_2.jpeg)

## **APPENDIX III**

## INFORMATIONAL COPY OF INITIAL NMOCD C-141 FORM

JAN. 21. 2005 12:39 4107523087 METALS USA 14107523087 #3895 P.002/002 505/390 - 7307 MULLING 002/002 State of New Mexico Energy Minerals and Natural R District 1 1625 N. French Dr., Hobbs, NM 88240 Form C-141 Resources Revised March 17, 1999 District II 811 South First, Artesia, NM 88210 Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 2040 South Pacheco, Santa Fe, NM 87505 with Rule 116 on back side of form **Release Notification and Corrective Action OPERATOR** & Initial Report Final Report Contact Name of Company Lynn Ward/Ronnie Gilchrest Duke Energy Field Services, LP Telephone No. Address 10 Desta Dr., Suite 10, Midland, TX 79705 432/620-4207 Facility Name Facility Type **Compressor Station Discharge Line** Lynch Discharge Line/7" MM Line Mineral Owner Lease No. Surface Owner Bureau of Land Management Bureau of Land Management LOCATION OF RELEASE Unit Letter Section Township Range Feet from the North/South Line | Feet from the East/West Line County Lea County NF/4 of 195 34E 15 NATURE OF RELEASE Volume of Release Volume Recovered Type of Release 8 bbis 0 **Pipeline Liquids** Date and Hour of Occurrence Date and Hour of Discovery Source of Release High Pressure 7" Steel Pipeline 11/13/04 @ 9:00 am MST 11/13/04 @ 11:00 am MST Was Immediate Notice Given? If YES, To Whom? Gary Wink, Hobbs District Office, OCD X Yes No Not Required Date and Hour By Whom? 11/13/04 @ 11:30 am MST Lynn WardO If YES, Volume Impacting the Watercourse. Was a Watercourse Reached? Yes KNo NA

If a Watercourse was Impacted, Describe Fully.\* NA

Describe Cause of Problem and Remedial Action Taken.\* IAt approximately 9:00 am on 11/13/04, the DEFS Lynch Booster shutdown automatically indicating low discharge pressure. Field Operators were dispatched to investigate. The Operators found a leak on the discharge line (7" MM Line) of the booster in the NE/4 of Section 15, T19S, R34E. The line volume is normally approximately 8 MMscfd. The volume of liquids lost is unknown but estimated at 8 bbls which caused a spray of pipeline liquids over approximately 3 acres. The line was shutin and allowed to depressurize. The gas was re-routed in order to restart the booster. DEFS was in the process of replacing the line prior to the failure and anticipates completion the first week of December. Remediation activities/delineation has been delayed due to recent weather conditions. DEFS anticipates delineation will be conducted by a 3<sup>rd</sup> party and will provide additional information at that time.

The affected line was depressurized. Gas volume was re-routed. DEFS is currently replacing the MM Line. Cleanup activities are delayed due to recent weather conditions and reducing impact of vehicle traffic to solls. Work proposal will be provided as soon as possible. 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 leport 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 coropliance with any other federal, state, or local have and/or regulations.

Simplure: Varan Waked	OIL CONSERVATION DIVISION
Printed Name: Lynn Ward	Approved by En R.L.N.G.T.
Title: Sr. Environmental Specialist	Approval Date: 54.07 Expiration Date:
Date: 11/23/04 Phone: 432/620-4207	Conditions of Approval: Attached
Attach Additional Sheets If Necessary	Revional Environmental : Turch 2.1.1.1