



18 January 2006

Mr. Larry Johnson  
Environmental Engineer Specialist  
New Mexico Oil Conservation Division  
1625 North French Drive  
Hobbs, NM 88240

WTR 7100  
CHECK SULFIDE

**RE: Remediation Proposal**  
**Duke Energy Field Services - Lynch Discharge Line Release Site (Ref. #130016)**  
**UL-H (SE $\frac{1}{4}$  of the NE  $\frac{1}{4}$ ) of Section 15, T19S, R34E**  
**Latitude N 32° 39' 49.9" and Longitude W 103° 32' 28.8"**

Dear Mr. Johnson:

On November 13, 2004, a release of approximately 8 barrels of natural gas liquids (NGL) occurred as a result of a line leak at the above-referenced site. No free liquids were recovered. Delineation activities commenced on February 21, 2005. The release occurred on the DEFS operated Lynch Booster discharge line which was excavated and the line replaced prior to delineation activities. DEFS retained Environmental Plus, Inc. (EPI) in February 2005 to delineate the extent of impacted soil at the site. This letter report documents the results of the delineation activities and recommends how to proceed with the remediation of the impacted soil.

### Site Background

The site is located in the SE $\frac{1}{4}$  of the NE $\frac{1}{4}$  of Section 15, Township 19 South, Range 34 East at an elevation of approximately 3,895 feet above mean sea level (reference *Figures 1 and 2*). The property is owned by the United States Federal Government and managed by the Bureau of Land Management (BLM). The leak site is located immediately west of Mescalero Ridge in the Querecho Plains, a vast sand dune area covering approximately 400 square miles (Nicholson and Clebsch, 1961). A search for area water wells was completed utilizing the *New Mexico Office of the State Engineers* website and a database maintained by the United States Geological Survey (USGS). No wells were found to be located in Section 15; however, a total of 5 wells were found to be located in one of the eight adjacent sections (i.e., sections 9, 10, 11, 14, 16, 21, 22 and 23 of Township 19 South, Range 34 East). The average depth to water in these wells was reported to be approximately 127 feet below ground surface (bgs) and ranged from 28.73 feet bgs to 231.18 feet bgs (reference *Table 2*).

No water supply wells or bodies of surface water were found to be located within a 1,000-foot radius of the release location (reference *Figure 2*). Although the average depth to water in wells located in the vicinity of the release is estimated to be approximately 127 feet bgs, well number *USGS #4* is located northwest of the site at approximately the same elevation. The water level in this well, as recorded in January 1996 was 28.73 feet bgs. Based on this information, remedial goals for groundwater less than 50-feet bgs was selected as a conservative measure due to similar topographic and elevation characteristics of the release site and well *USGS #4*. Therefore, the New Mexico Oil Conservation Division (NMOCD) Remedial Goals used are as follows:

Parameter	Remedial Goal
Benzene	10 parts per million
BTEX	50 parts per million
TPH	100 parts per million

Chloride residuals may not be capable of impacting groundwater above the  
New Mexico Water Quality Control Commission groundwater standard of 250 mg/L.

Facility - PPAC0613846794  
incident - PPAC0613846926  
application - PPAC0613847130

## **Field Work**

EPI was on site on February 21, 2005 to delineate the extent of NGL-impacted soil. Pipeline replacement activities impaired identification of the exact point of release. Using the location and area of the overspray and excavation of a trench parallel to the pipeline, the origin of the release was estimated and delineation of subsurface contamination commenced (reference *Figure 4*). During the excavation of the trench, samples were collected with a portion of the sample being placed in a laboratory provided container and the remainder placed in a self sealing polyethylene bag. The samples placed in laboratory provided containers were immediately placed on ice for potential transport to Environmental Lab of Texas in Odessa, Texas, for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX), gasoline range organics (GRO), diesel range organics (DRO) and chloride.

The portion of the samples placed in the self-sealing polyethylene bag were placed in a heated environment (i.e., cab of a truck) to allow the volatilization of organic vapors. After the samples had been allowed to equilibrate to  $\approx 70^{\circ}\text{F}$ , they were analyzed for the presence of organic vapors utilizing a MiniRae<sup>®</sup> photoionization detector (PID) equipped with a 9.8 electron-volt (eV) lamp. PID readings were used to delineate subsurface contamination levels along the trench.

The trench was excavated to depths of 5 to 10 feet below ground surface (bgs) and samples were collected at various depths. Field analyses of the samples collected during excavation activities indicated the presence of organic vapors at concentrations ranging from 6.1 parts per million (ppm) at 5 feet bgs approximately 80 feet from the point of release (POR) to 464 ppm at 5 feet bgs approximately 50 feet from the POR (reference *Table 1*).

On April 15, 2005, soil samples were collected from the test trench at locations LD-A and LD-B at 5-feet bgs which had previously exhibited the highest PID readings. The samples were placed in laboratory provided containers and submitted for quantification of TPH and BTEX constituents and chloride concentrations. Table 1 and Figure 4 summarize the PID readings, the results of the laboratory analyses and the sample locations.

During excavation activities, the lithology was defined as sand to a depth of at least 10 feet bgs.

## **Analytical Data**

Analytical results for the samples collected during delineation activities indicated soil impacted above the NMOCD remedial threshold does not extend past a depth of 5-feet bgs. (reference *Table 1*).

Chloride concentrations for the samples obtained during delineation were reported ranging from 24.4 mg/Kg to 65.8 mg/Kg. The reported concentrations are below the New Mexico Water Quality Control Commission's (NMWQCC) chloride standards for groundwater of 250 mg/L for all samples (reference *Table 2*).

## **Conclusions**

Based on field and laboratory analyses, soil impacted above the NMOCD remedial thresholds extends to a maximum depth of 5-feet bgs (reference *Table 2*). The release area is approximately 5,650 square feet in size. The volume of soil that is required to be treated is unknown; however, if the entire release area was excavated to a depth of 5-feet bgs, the volume of soil excavated would be approximately 1,050 cubic yards (*in situ*). Due to the fact that impacts above the NMOCD remedial thresholds are not expected to extend to a depth of 5 feet across the entire area, the volume of impacted soil is actually less than 1,050 cubic yards.

Chloride concentrations were reported below the NMWQCC standards for groundwater in all samples collected during delineation. Due to the fact that reported chloride levels were below the NMWQCC chloride standards for groundwater, groundwater would not be impacted by chloride.

## **Recommendations**

Based on field and analytical results, it is recommended that soil impacted above the NMOCD remedial limits be excavated. The final lateral and vertical extents will be determined via field analyses of soil samples collected during excavation activities. Upon completion of excavation activities, the excavation basin will be sampled (i.e., grab samples collected from the sidewalls and floor) and the samples submitted to an independent laboratory for quantification of TPH, BTEX and chlorides. ADD Sulfide

The excavated soil impacted above the NMOCD remedial thresholds will be treated via blending impacted soil with clean soil obtained from along the right-of-way until NMOCD remedial goals are achieved. Samples will be collected from the blended soil and analyzed in the field to ascertain when NMOCD guidelines had been achieved. At that point, soil samples will be collected from the blended soil and submitted to an independent laboratory to verify field analyzes. Upon receipt of analytical results verifying the blending of the soil to NMOCD remedial guidelines or below, the excavation will be backfilled, contoured to allow natural drainage and seeded with a seed blend approved by the BLM.

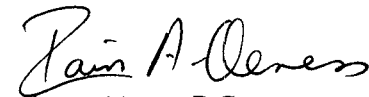
Should you have any questions or concerns, please feel free to contact me at (505) 394-3481 or via e-mail at [iolness@envplus.net](mailto:iolness@envplus.net). Upon your approval, EPI will initiate the next phase of the remediation. All official correspondence should be submitted to Ronnie Gilchrest at:

Ronnie Gilchrest  
Duke Energy Field Services  
1625 West Marland  
Hobbs, NM 88240

(505) 391-5705  
[rgilchrest@duke-energy.com](mailto:rgilchrest@duke-energy.com)

Sincerely,

ENVIRONMENTAL PLUS, INC.

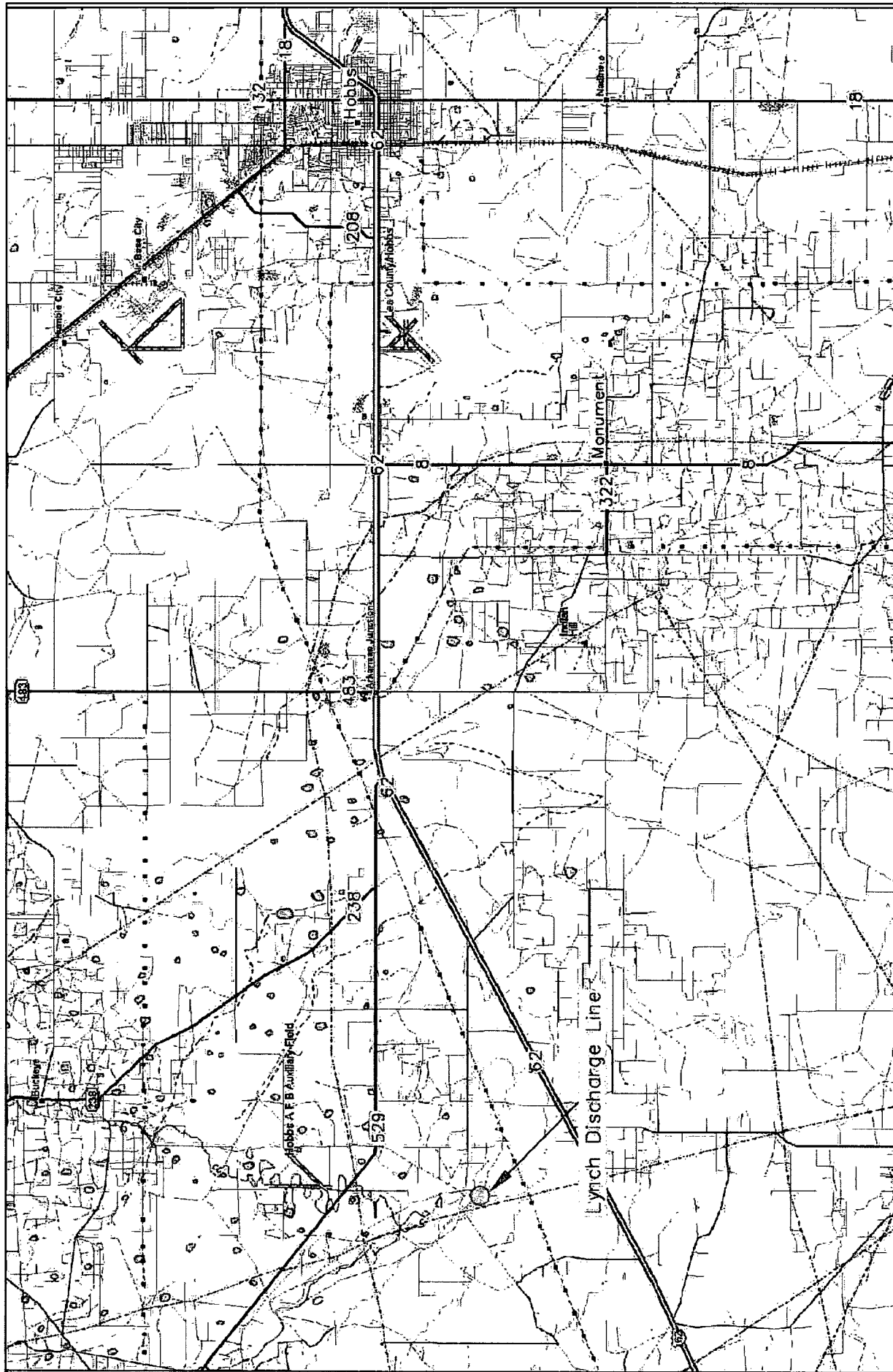


Iain A. Olness, P.G.  
Hydrogeologist

cc: Ronnie Gilchrest, DEFS – Hobbs, NM ([rgilchrest@duke-energy.com](mailto:rgilchrest@duke-energy.com))  
Mark Owens, DEFS – Hobbs, NM ([mrowens@duke-energy.com](mailto:mrowens@duke-energy.com))  
Lynn Ward, DEFS – Midland, TX ([lcward@Duke-Energy.com](mailto:lcward@Duke-Energy.com))  
Steve Weathers, DEFS – Denver, CO ([SWWeathers@Duke-Energy.com](mailto:SWWeathers@Duke-Energy.com))  
File

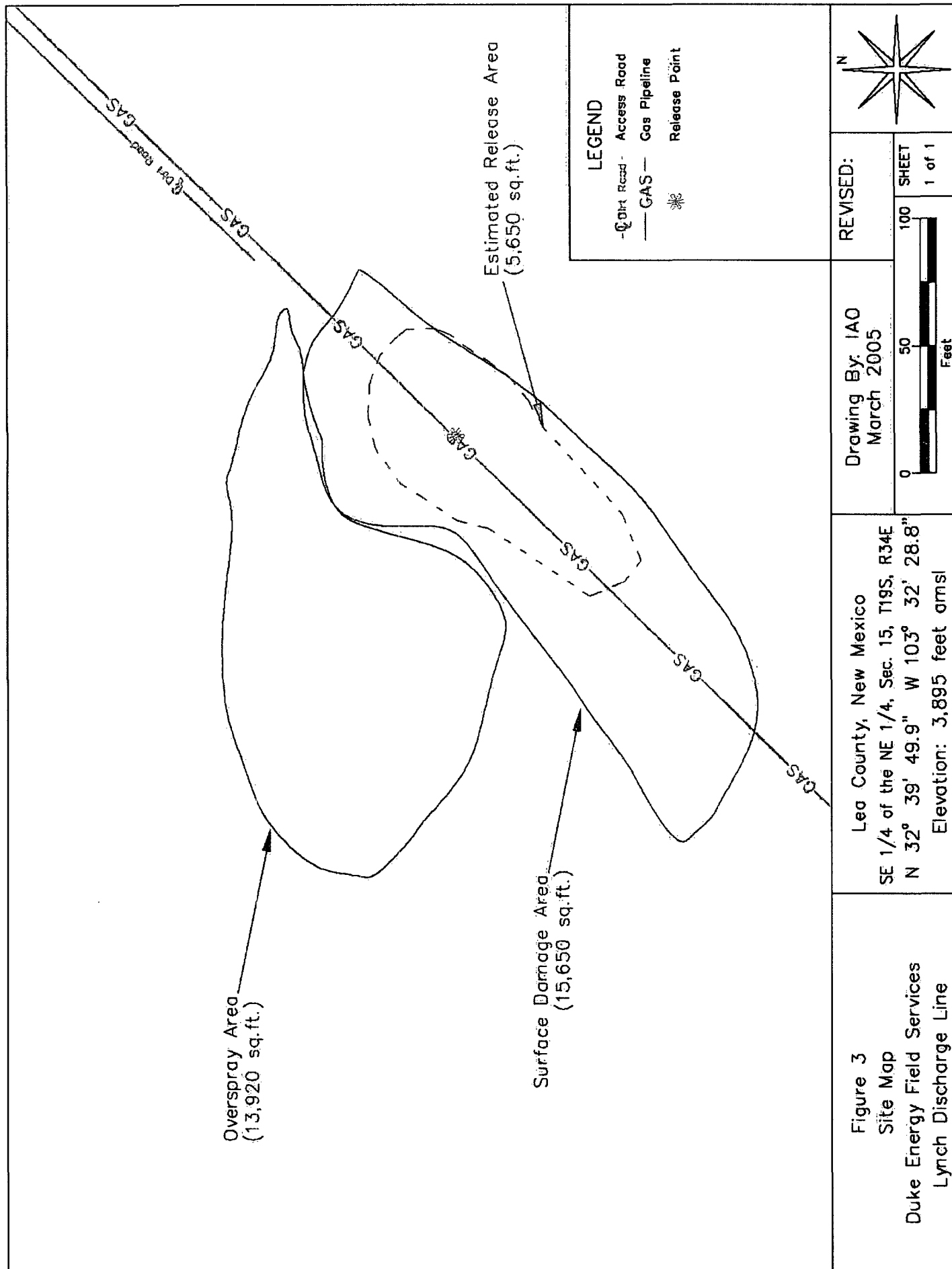
encl. Figure 1 – Area Map  
Figure 2 – Site Location Map  
Figure 3 – Site Map  
Figure 4 – Delineation Sampling Map  
Table 1 – Summary of Soil Field Analyses and Laboratory Analytical Results  
Table 2 – Well Information Report  
Attachment I – Laboratory Results and Chain-of-Custody Form  
Attachment II – Informational Copy of Initial C-141

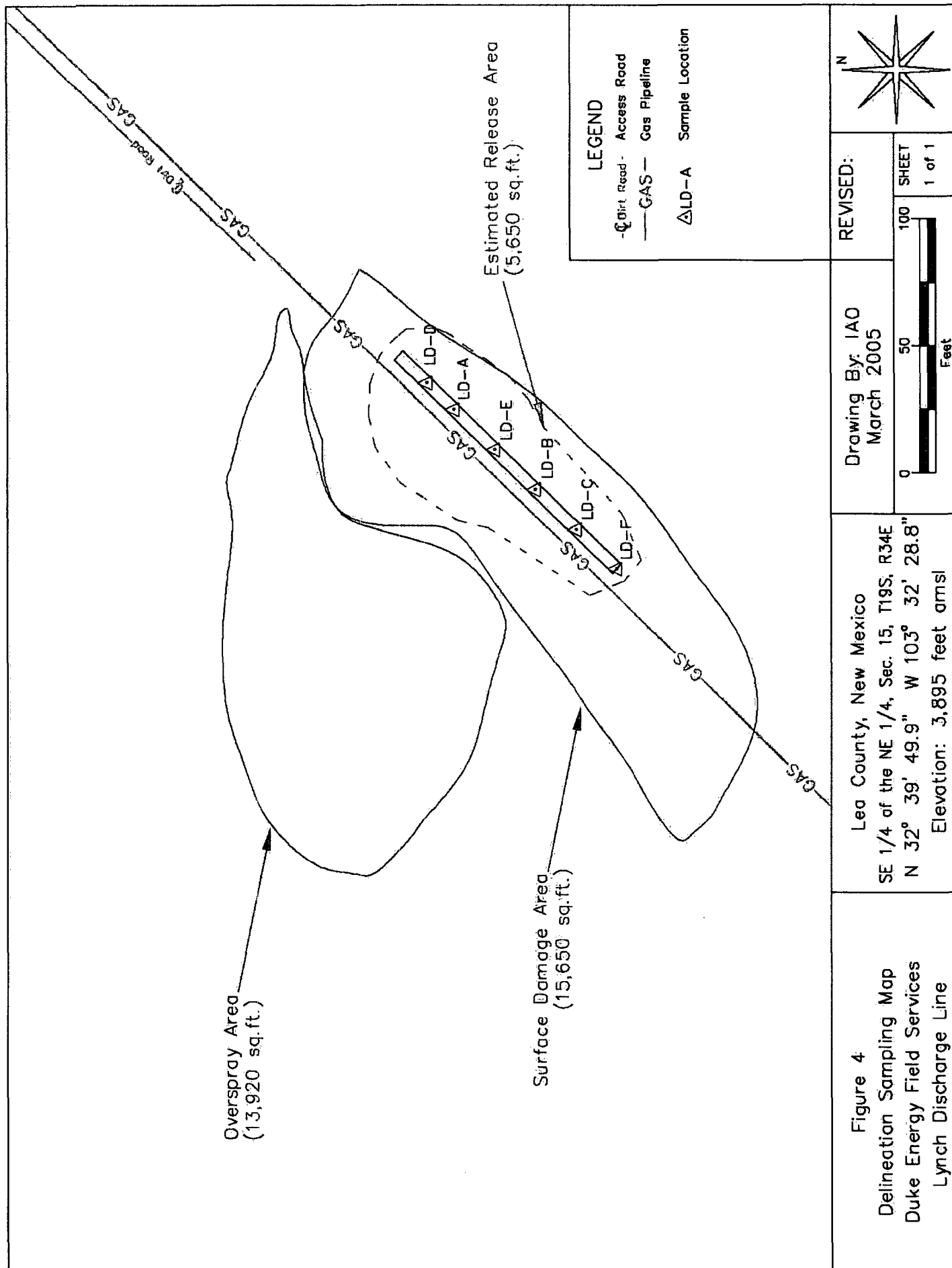
# FIGURES



<p>Figure 1 Area Map Duke Energy Field Services Lynch Discharge Line</p>	<p>Lea County, New Mexico SE 1/4 of the NE 1/4, Sec. 15, T19S, R34E N 32° 39' 49.9" W 103° 32' 28.8" Elevation: 3,895 feet amsl</p>	<p>DWG By: Iain Olness March 2005</p>	<p>REVISED:</p> <p>0 2.0 4.0 Miles</p> <p>SHEET 1 of 1</p> <p>N</p>
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# TABLES

**TABLE 1**  
**Summary of Soil Field Analyses and Laboratory Analytical Results**  
**DEFS Lynch Discharge Line (Ref. #130016)**

Soil Boring	Depth (feet)	Sample Date	PID Reading (ppm)	Field Chloride (mg/kg)	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)
LD-A	5	21-Feb-05	423	--	--	--	--	--	--	--	--	--	--
	5	15-Apr-05	12.5	--	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	48
	7	21-Feb-05	160	--	--	--	--	--	--	--	--	--	--
	10	21-Feb-05	122	--	<0.0250	0.0742	0.0690	0.262	0.405	<10.0	<10.0	<10.0	30.5
LD-B	5	21-Feb-05	464	--	--	--	--	--	--	--	--	--	--
	5	15-Apr-05	273	--	<0.005	<0.005	<0.005	<0.015	<0.030	<10.0	<10.0	<20.0	64
	10	21-Feb-05	114	--	<0.0250	0.0172 <sup>4</sup>	0.017	0.0603	0.077	<10.0	<10.0	<10.0	65.8
LD-C	5	21-Feb-05	151	--	<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	--	--	--	--	--	--	--	--	--	--
LD-E	5	21-Feb-05	275	--	--	--	--	--	--	--	--	--	--
LD-F	8	21-Feb-05	77.0	--	--	--	--	--	--	--	--	--	--
	5	21-Feb-05	6.1	--	--	--	--	--	--	--	--	--	--
<b>NMOCD Remedial Thresholds</b>			<b>100<sup>3</sup></b>		<b>10</b>				<b>50</b>			<b>100</b>	<b>250<sup>5</sup></b>

<sup>1</sup> Bolded values are in excess of the NMOCD Remediation Thresholds

<sup>2</sup> -- = Not Analyzed

<sup>3</sup> In lieu of laboratory analyses of benzene, toluene, ethylbenzene and total xylenes.

<sup>4</sup> Detected, but below the reporting limit; therefore the result is an estimated concentration (CLP J-Flag)

<sup>5</sup> Chloride residuals may not be capable of impacting local groundwater above the NAWQCS standard of 250 mg/L

TABLE 2

## WELL INFORMATION REPORT\*

Duke Energy Field Services Lynch Discharge Line - Ref #130016

Well Number	Diversions <sup>A</sup>	Owner	Use	Source	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation <sup>B</sup>	Depth to Water (ft bgs)
L10180	0	Charles B. Gillespie, Jr.	PRO	Shallow	19 S	34 E	02 4 4 3	N 32° 40' 35.42"	W 103° 31' 34.61"	11-Mar-84	3,973	100
USGS #1					19 S	34 E	03 4 1 2			28-Feb-81	3,883	104.9
CP 00806	0	Kenneth Smith	STK	Shallow	19 S	34 E	04 4 4	N 32° 40' 54.91"	W 103° 31' 38.15"		3,888	
CP 00875	0	Matador Petroleum, Inc.	PRO		19 S	34 E	05 3 4 3	N 32° 40' 54.68"	W 103° 35' 10.86"		3,806	
USGS #2					19 S	34 E	06 3 4 1			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 2 4 2			30-Jun-96	3,896	23.73
L10173	3	Cactus Drilling Company	PRO	Shallow	19 S	34 E	11 1 1 1	N 32° 40' 42.06"	W 103° 32' 20.81"	24-Sep-01	3,985	123
L 04059	3	Noble Drilling Company	PRO	Shallow	19 S	34 E	12 1 4			29-Jan-59	3,960	60
USGS #5					19 S	34 E	12 2 4 4			29-May-91	3,927	74.07
CP 00466 EXP	0	Gulf Oil Corporation	PRO		19 S	34 E	16 3 1 2	N 32° 39' 10.29"	W 103° 34' 24.43"		3,748	
CP 00466 (2) EXP	0	Pennell 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 3 3 4			7-Apr-86	3,762	231.18
CP 00680 EXP	0	C. W. Trainer	OBS		19 S	34 E	25 4 3 3	N 32° 37' 26.49"	W 103° 30' 48.18"		3,730	
CP 00863	3	C. W. Trainer	OBS	Shallow	19 S	34 E	25 4 3 3	N 32° 37' 26.49"	W 103° 30' 48.18"	20-Jul-85	3,730	28
USGS #7					19 S	34 E	31 1 3 1			14-Mar-68	3,616	53.14
USGS #8					19 S	34 E	31 1 3 2			17-Nov-65	3,620	58.60 P
										15-Dec-76		147.58 P
USGS #9					19 S	34 E	31 2 3 2			28-Jan-81	3,634	147.86 P

\* = Data obtained from the New Mexico Office of the State Engineer Website ([http://waters.ose.state.nm.us:7001/IWATERS/wr\\_RegisServlet](http://waters.ose.state.nm.us:7001/IWATERS/wr_RegisServlet)) and USGS Database.  
 Shaded well information indicates well location shown on Figure 2

<sup>A</sup> = in acre feet per annum

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

IND = Industrial

STK = Livestock Watering

CLW = Change Location of Well (Ground)

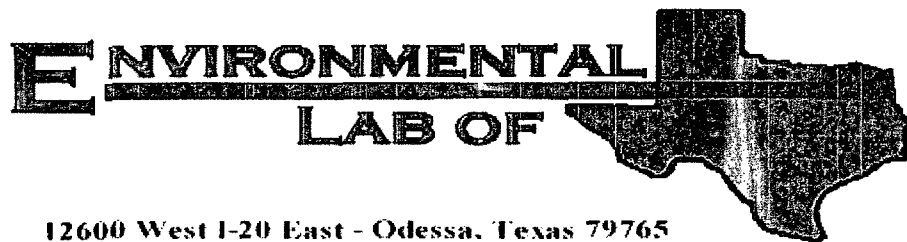
EXP = Expired

(quarters are 1=NW, 2=NE, 3=SW, 4=SE)

(quarters are biggest to smallest - X Y are in Feet - UTM are in Meters)

**ATTACHMENT I**

**LABORATORY RESULTS**  
**AND**  
**CHAIN-OF-CUSTODY FORM**



12600 West I-20 East - Odessa, Texas 79765

## 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

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

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

Fax: 505-394-2601

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

### 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

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

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

Fax: 505-394-2601

Reported:  
02/25/05 17:35

**Organics by GC**  
**Environmental Lab of Texas**

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

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

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

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

Fax: 505-394-2601

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

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LD-C (5') (5B23009-03) Soil</b>									
<i>Surrogate: 1-Chlorooctane</i>		93.8 %	70-130		EB52307	02/23/05	02/24/05	EPA 8015M	
<i>Surrogate: 1-Chlorooctadecane</i>		82.2 %	70-130		"	"	"	"	



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

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

Fax: 505-394-2601

Reported:  
02/25/05 17:35

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>LD-A (10') (5B23009-01) Soil</b>									
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	
<b>LD-B (10') (5B23009-02) Soil</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	
<b>LD-C (5') (5B23009-03) Soil</b>									
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 Plus, Incorporated  
P.O. Box 1558  
Eunice NM, 88231

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

Fax: 505-394-2601

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
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**Batch EB52307 - Solvent Extraction (GC)**

**Blank (EB52307-BLK1)**

Prepared: 02/23/05 Analyzed: 02/24/05

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	"							
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 Analyzed: 02/24/05

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	"	1000		91.3	75-125			
Surrogate: 1-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 Analyzed: 02/24/05

Gasoline Range Organics C6-C12	509		mg/kg	500		102	80-120			
Diesel Range Organics >C12-C35	565		"	500		113	80-120			
Total Hydrocarbon C6-C35	1070		"	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)**

Source: 5B23007-03

Prepared: 02/23/05 Analyzed: 02/24/05

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	"	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)**

Source: 5B23007-03

Prepared: 02/23/05 Analyzed: 02/24/05

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

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 5 of 10

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

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

Fax: 505-394-2601

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
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**Batch EB52408 - EPA 5030C (GC)**

**Blank (EB52408-BLK1)**

Prepared & Analyzed: 02/23/05

Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
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 & Analyzed: 02/23/05

Benzene	91.7		ug/kg	100		91.7	80-120			
Toluene	96.7		"	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 Analyzed: 02/24/05

Benzene	95.1		ug/kg	100		95.1	80-120			
Toluene	98.1		"	100		98.1	80-120			
Ethylbenzene	100		"	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)**

Source: 5B23009-03

Prepared & Analyzed: 02/23/05

Benzene	101		ug/kg	100	ND	101	80-120			
Toluene	104		"	100	ND	104	80-120			
Ethylbenzene	104		"	100	ND	104	80-120			
Xylene (p/m)	236		"	200	ND	118	80-120			
Xylene (o)	116		"	100	ND	116	80-120			
Surrogate: a,a,a-Trifluorotoluene	93.7		"	100		93.7	80-120			
Surrogate: 4-Bromofluorobenzene	113		"	100		113	80-120			

Environmental Lab of Texas

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Page 6 of 10

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

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

Fax: 505-394-2601

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
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**Batch EB52408 - EPA 5030C (GC)**

**Matrix Spike Dup (EB52408-MSD1)**

**Source: 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	
Xylenc (p/m)	235		"	200	ND	118	80-120	0.00	20	
Xylene (o)	117		"	100	ND	117	80-120	0.858	20	
Surrogate: a,a,a-Trifluorotoluene	82.4		"	100		82.4	80-120			
Surrogate: 4-Bromofluorobenzene	114		"	100		114	80-120			

Environmental Lab of Texas

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Page 7 of 10

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

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

Fax: 505-394-2601

Reported:  
02/25/05 17:35

**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
<b>Batch EB52401 - General Preparation (Prep)</b>										
<b>Blank (EB52401-BLK1)</b>				Prepared: 02/23/05 Analyzed: 02/24/05						
% Moisture	ND	0.1	%							
<b>Duplicate (EB52401-DUP1)</b>				Source: 5B23001-01 Prepared: 02/23/05 Analyzed: 02/24/05						
% Moisture	1.0	0.1	%		1.0			0.00	20	
<b>Batch EB52503 - Water Extraction</b>										
<b>Blank (EB52503-BLK1)</b>				Prepared & Analyzed: 02/24/05						
Chloride	ND	0.500	mg/kg							
<b>Blank (EB52503-BLK2)</b>				Prepared & Analyzed: 02/24/05						
Chloride	ND	0.500	mg/kg							
<b>LCS (EB52503-BS1)</b>				Prepared & Analyzed: 02/24/05						
Chloride	10.3		mg/L	10.0		103	80-120			
<b>LCS (EB52503-BS2)</b>				Prepared & Analyzed: 02/24/05						
Chloride	10.4		mg/L	10.0		104	80-120			
<b>Calibration Check (EB52503-CCV1)</b>				Prepared & Analyzed: 02/24/05						
Chloride	10.4		mg/L	10.0		104	80-120			
<b>Calibration Check (EB52503-CCV2)</b>				Prepared & Analyzed: 02/24/05						
Chloride	10.4		mg/L	10.0		104	80-120			
<b>Duplicate (EB52503-DUP1)</b>				Source: 5B22006-01 Prepared & Analyzed: 02/24/05						
Chloride	35.3	5.00	mg/kg		42.2			17.8	20	

Environmental Lab of Texas

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Page 8 of 10

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

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

Fax: 505-394-2601

Reported:  
02/25/05 17:35

## 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
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#### Batch EB52503 - Water Extraction

Duplicate (EB52503-DUP2)

Source: 5B24002-02

Prepared & Analyzed: 02/24/05

Chloride	17.2	5.00	mg/kg		17.1			0.583	20	
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Environmental Lab of Texas

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Page 9 of 10

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

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

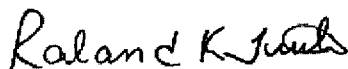
Fax: 505-394-2601

Reported:  
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

Report Approved By:



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**  
**Variance / Corrective Action Report – Sample Log-In**

Client: Environ. Plus, Inc.

Date/Time: 2/23/05 1:37

Order #: SB223009

Initials: CR

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	3.5 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/> Yes	No	Not present
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No	
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable

Other observations:

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**Variance Documentation:**

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

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Corrective Action Taken:

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# ARDINAL 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: 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

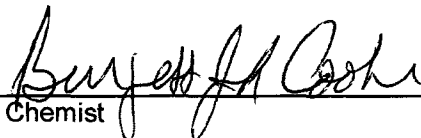
Sample Received By: AH

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)	CI* (mg/Kg)
		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: Std. Methods 4500-CI'B

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

  
Chemist

4/20/05  
Date

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



# ARDINAL LABORATORIES

PHONE (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: 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

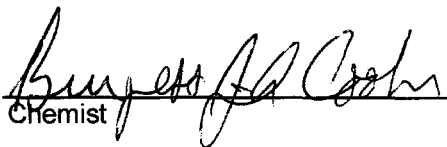
Sample Condition: COOL & INTACT

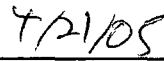
Sample Received By: AH

Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS 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 Control		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
Relative Percent Difference		3.5	7.2	3.9	5.3

METHOD: EPA SW-846 8260

  
Chemist

  
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. **Cardinal** shall not 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.

# Cardinal Laboratories


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

## Chain of Custody Form

H9715

Company Name: Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST									
EPI Project Manager: Iain Olness													
Mailing 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: Lynch Discharge Line (Ref.)													
Project Location: NE 1/4, Sec 15, T19S, R34E													
EPI Sampler Name: Felix Hernandez													



Attn: Ronnie Gilchrist  
1625 West Marland,  
Hobbs, NM 88240

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.			SAMPLING		TPH 8015M	BTEX 8021B	CHLORIDES (Cl <sup>-</sup> )	SULFATES (SO <sub>4</sub> <sup>2-</sup> )	PH	TCLP	OTHER >>>	PAH	
				GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE									TIME
H9715-1	LD-A (5')	G 1				X					X	X			X	X						
H9715-2	LD-B (5')	G 1		X		X					X	X			X	X						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished: <i>Felix Hernandez</i>	Date: 4/15/05	Received By:
	Time:	
Relinquished by:	Date: 4/15/05	Received By: (lab staff)
	Time: 10:50	<i>amy full</i>
Delivered by:	Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Checked By:		

E-mail results to: iolness@hotmail.com

REMARKS: If TPH concentrations are > 100ppm, do not run BTEX or chlorides

**ATTACHMENT II**

**INFORMATIONAL COPY OF**  
**INITIAL C-141**

JAN. 21 2005 12:39 4107523087

METALS USA 14107523087

#3895 P.002/002

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 South First, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
2040 South Pacheco  
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, LP	Contact Lynn Ward/Ronnie Gilchrest
Address 10 Desta Dr., Suite 10, Midland, TX 79705	Telephone No. 432/620-4207
Facility Name Lynch Discharge Line/7" MM Line	Facility Type Compressor Station Discharge Line
Surface Owner Bureau of Land Management	Mineral Owner Bureau of Land Management
Lease No. <input type="checkbox"/>	

#### LOCATION OF RELEASE

Unit Letter	Section NE/4 of 15	Township 19S	Range 34E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea County
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#### NATURE OF RELEASE

Type of Release Pipeline Liquids	Volume of Release 8 bbls	Volume Recovered 0
Source of Release High Pressure 7" Steel Pipeline	Date and Hour of Occurrence 11/13/04 @ 9:00 am MST	Date and Hour of Discovery 11/13/04 @ 11:00 am MST
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes    No    Not Required	If YES, To Whom? Gary Wink, Hobbs District Office, OCD	
By Whom? Lynn Ward <input type="checkbox"/>	Date and Hour 11/13/04 @ 11:30 am MST	
Was a Watercourse Reached? Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* <input type="checkbox"/> At 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 shut in 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.		
Describe Area Affected and Cleanup Action Taken.* 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 soils. 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 NMOC 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 NMOC 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, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: <i>Lynn Ward</i>		<u>OIL CONSERVATION DIVISION</u>
Printed Name: Lynn Ward		Approved by District Supervisor:
Title: Sr. Environmental Specialist		Approval Date:      Expiration Date:
Date: 11/23/04	Phone: 432/620-4207	Conditions of Approval:      Attached

\* Attach Additional Sheets If Necessary

Regional Environmental: Perch 2.1.1.1